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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

SENIOR AND DISABILITY
ACTION, on behalf of its members and
all others similarly situated;
INDEPENDENT LIVING
RESOURCE CENTER OF SAN
FRANCISCO; PI RA, on behalf of
himself and all others similarly
situated; and IAN SMITH, on behalf of
himself and all others similarly
situated,

Plaintiffs,

v.

SAN FRANCISCO BAY AREA
RAPID TRANSIT DISTRICT and
GRACE CRUNICAN, in her official
capacity as General Manager of the San
Francisco Bay Area Rapid Transit
District,

Defendants.

Case No.: 3:17-cv-01876-LB

SETTLEMENT AGREEMENT AND
RELEASE OF CLAIMS

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SETTLEMENT AGREEMENT AND RELEASE OF CLAIMS

1. This Settlement Agreement and Release of Claims (“Settlement Agreement”) is made and entered into by and between Plaintiffs and Defendants, as a means of resolving all claims in the underlying Action.

I. DEFINITIONS

2. Except to the extent expressly stated to the contrary, any term not defined in this section or elsewhere in this Settlement Agreement shall have the meaning ascribed to it, if any, by Accessibility Laws. All other terms shall be interpreted according to their plain and ordinary meanings. When used in this Settlement Agreement or any of its Exhibits, the following terms should be read to have the following meanings:

A. Accessible Features

“Accessible Features” means those features of San Francisco Bay Area Rapid Transit District (“BART”)’s facilities that are required in order to make those facilities readily accessible to and usable by people with disabilities including (but not limited to) elevators, escalators, accessible fare gates, call boxes, communication systems, and signage.

B. Accessibility Laws

“Accessibility Laws” means all California and federal laws and regulations applicable to BART that require equal or improved access to people with disabilities, including the Americans with Disabilities Act, 42 U.S.C. §§ 12101, *et seq.* and its implementing regulations; the Rehabilitation Act of 1973, 29 U.S.C. §§ 790, *et seq.* and its implementing regulations; California Civil Code § 51, *et seq.*; California Government Code §§ 11135, *et seq.*; and Title 24 of the California Code of Regulations.

C. Action

The term “Action,” as used in this Settlement Agreement, means and refers to the case entitled *Senior and Disability Action, et al. v. Bay Area Rapid Transit, et al.*, Case No. 3:17-cv-01876-LB.

1 **D. Class Counsel**

2 “Class Counsel” means and refers to the nonprofit corporations Disability Rights
3 Advocates and Legal Aid at Work, and all duly-licensed attorneys who are employees thereof.

4 **E. Defendants**

5 “Defendants” means and refers to BART, including through its General Manager.

6 **F. Dispute**

7 “Dispute” means and refers to each and every dispute that may arise out of this
8 Settlement Agreement and/or its Exhibits, including, but not limited to, disputes concerning the
9 interpretation, implementation, monitoring, and modification of this Settlement Agreement, or
10 the Parties’ compliance with its terms. All Disputes shall be resolved using the Dispute
11 Resolution Procedure outlined in Section IX.

12 **G. Delayed Implementation Date**

13 “Delayed Implementation Date” means the date when certain specified terms and
14 conditions of the Settlement Agreement become effective. As a result of the exigent
15 circumstances caused by COVID-19, BART sustained a significant drop in ridership and
16 significant financial losses directly impacting its ability to proceed in accordance with certain
17 terms of this Agreement. Accordingly, the Delayed Implementation Date shall be the earlier of
18 (1) June 1, 2024; or (2) 90 days after BART ridership reaches an average of 1.82 million weekly
19 paid exits; average weekly paid exits for each month will be determined by dividing the total
20 trips reported in BART’s Monthly Ridership Reports published on its website by four.

21 **H. Effective Date**

22 “Effective Date” means the date when those terms of the Settlement Agreement which
23 are not specified as delayed shall become effective. The date of Final Approval shall be the
24 “Effective Date.”

25 **I. Fairness Hearing**

26 “Fairness Hearing” means the hearing to be held by the District Court, pursuant to Rule
27 23(e) of the Federal Rules of Civil Procedure, to determine whether the settlement set forth in
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1 this Settlement Agreement should be approved.

2 **J. Final**

3 “Final,” as applied to the term “Judgment,” means that (i) the time for appeal or writ has
4 expired and no appeal or petition for review has been taken, or (ii) if an appeal or petition for
5 review is taken and the settlement set forth in this Settlement Agreement has been affirmed in
6 full, the time period during which any further appeal or review can be sought (including through
7 any appeal, petition for review, writ of certiorari or otherwise) has expired and no such further
8 appeal or review has been sought. In the event that no objections to this Settlement Agreement
9 are raised prior to or at the Fairness Hearing, that any objections that have been raised have been
10 fully and formally withdrawn, or that no valid objections otherwise exist at the time of the
11 Fairness Hearing, the Judgment will become “Final” as of the District Court’s issuance of the
12 Judgment. If the Judgment is set aside, materially modified, disapproved or overturned by any
13 court, and is not fully reinstated on further appeal or review, the Judgment will not become or be
14 “Final.”

15 **K. Final Approval**

16 “Final Approval” means the order by the District Court, after notice and the holding of
17 the Fairness Hearing, granting approval of this Settlement Agreement under Rule 23(e) of the
18 Federal Rules of Civil Procedure. The hearing at which such Final Approval is considered or
19 granted, should a hearing be held, will be called the “Final Approval Hearing.”

20 **L. Judgment**

21 “Judgment” means a judgment entered by the District Court in the Action, substantially
22 in the form attached to this Settlement Agreement as Exhibit A.

23 **M. Mobility Disability**

24 “Mobility Disability” or “Mobility Disabilities” means and refers to any impairment or
25 condition that limits a person’s ability to use their body or a portion of their body, including, but
26 not limited to, conditions that limit a person’s ability to walk, stand, maneuver around objects,
27 operate controls, and ascend or descend steps or slopes, and that is a qualifying disability under
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1 Accessibility Laws. A person with a Mobility Disability may or may not use a wheelchair,
2 scooter, crutches, walker, cane, braces, or similar equipment to enable them to move from place
3 to place.

4 **N. Notice of Settlement**

5 “Notice of Settlement” means the notice substantially in the form attached to this
6 Settlement Agreement as Exhibit B.

7 **O. Parties or Party**

8 “Parties” refers to Plaintiffs and Defendants. “Party” may refer to either Plaintiffs or
9 Defendants.

10 **P. Plaintiff(s)**

11 “Plaintiffs” means and refers to organizational plaintiffs Senior and Disability Action
12 (“SDA”) and the Independent Living Resource Center of San Francisco (“ILRCSF”); individual
13 plaintiffs Ian Smith and Pi Ra; and all members of the Settlement Class.

14 **Q. Preliminary Approval**

15 “Preliminary Approval” means the preliminary approval of this Settlement Agreement by
16 the District Court.

17 **R. Reasonable Best Efforts**

18 “Reasonable Best Efforts” means efforts that are reasonable under the circumstances,
19 taking into account BART’s status as a publicly-funded government entity and the interests of
20 Plaintiffs and the Settlement Class. “Reasonable Best Efforts” shall not require BART to engage
21 in actions that would result in a fundamental alteration in the nature of its services, programs, or
22 activities, or that would impose undue financial or administrative burdens.

23 **S. Released Claims**

24 “Released Claims” means and refers to all claims released in Section VIII.

25 **T. Settlement Class**

26 “Settlement Class” means the class of all people with Mobility Disabilities who, at any
27 time between April 5, 2014 and the end of this Settlement’s Term, have needed to use or will
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1 need to use the Accessible Features of BART's facilities.

2 **U. WCAG**

3 "WCAG" means version 2.0 Levels A and AA of the "Web Content Accessibility
4 Guidelines" published by the Web Accessibility Initiative (WAI) of the World Wide Web
5 Consortium (W3C), or any subsequent version(s) that are published during the Term.

6 **II. BACKGROUND**

7 3. On April 5, 2017, Plaintiffs filed a putative class action against Defendants in the
8 United States District Court for the Northern District of California (the "District Court"), Case
9 No. 3:17-cv-01876. In their Complaint, Plaintiffs alleged claims under Accessibility Laws.

10 4. During the pendency of this Action, Plaintiffs and Defendants negotiated a
11 resolution of the alleged claims, including through multiple settlement conferences before
12 Magistrate Judge Laurel Beeler. The Parties now wish to settle the Action under the terms set
13 forth in this Settlement Agreement.

14 **III. NATURE AND EFFECT OF SETTLEMENT**

15 **A. Settlement Purpose and Scope**

16 5. By entering into this Settlement Agreement, the Parties intend to resolve any and
17 all claims for declaratory and/or injunctive relief that either were or could have been asserted in
18 this Action. This Agreement is expressly intended to ensure that no further declaratory and/or
19 injunctive relief lawsuits regarding Released Claims may be maintained at any time during the
20 term of the Settlement Agreement.

21 6. The Parties intend this Settlement Agreement to bind and apply to Defendants,
22 Plaintiffs (individually and in their capacity as representatives of the Settlement Class) and all
23 members of the Settlement Class. This Settlement Agreement will extinguish all Released
24 Claims, and constitutes the final and complete resolution of all issues addressed herein.

25 **B. No Admission**

26 7. This Agreement reflects the Parties' desire to avoid the cost, time, and uncertainty
27 involved in protracted litigation, and to resolve the claims alleged in this Action under mutually-

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1 acceptable terms. Nothing in this Settlement Agreement shall in any way be construed as an
2 admission of fault or liability on the part of any Party. For example, BART contends that before
3 being contacted by Plaintiffs, it was already actively engaged in planning, funding and
4 implementing many of the measures covered in this Agreement. Plaintiffs dispute those
5 contentions in their entirety and specifically reserve the right to contest any and all such
6 contentions, including in the context of Plaintiffs' potential application for attorneys' fees and
7 costs.

8 **IV. SETTLEMENT TERM AND ENFORCEMENT**

9 8. With the exception of Section VI(A) ("Elevator Repairs"), the Settlement
10 Agreement shall be in effect from the Effective Date until ten (10) years from the Delayed
11 Implementation Date (the "Term"). Section VI(A) ("Elevator Repairs") of the Settlement
12 Agreement shall be in effect from the Delayed Implementation Date until fifteen (15) years from
13 the Delayed Implementation Date. Magistrate Judge Beeler will have continuing jurisdiction to
14 enforce this Settlement Agreement and to mediate disputes throughout the Term. Either Party
15 may seek an extension of the Term for good cause shown.

16 **V. PROCEDURES FOR CLASS SETTLEMENT**

17 **A. Conditions Precedent**

18 9. Prior to Final Approval, the Parties' only obligations under this Settlement
19 Agreement will be those set forth in Section V.

20 **B. Court Approval**

21 10. This Settlement Agreement will be subject to approval by the District Court.
22 However, nothing in this Settlement Agreement will be deemed to authorize the District Court to
23 change or modify any of its terms. The Parties agree that any change, modification or rejection
24 of any of the provisions of this Settlement Agreement by the District Court or any other court
25 will constitute a material modification of this Settlement Agreement, will prevent the Judgment
26 from becoming Final, and will give any Party the right to terminate this Settlement Agreement in
27 its entirety.

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1 **C. Preliminary Approval**

2 11. Within thirty (30) days of execution of the Settlement Agreement, the Parties will
3 jointly submit a request to the District Court for Preliminary Approval of this Settlement
4 Agreement.

5 **D. Conditional Certification of the Settlement Class**

6 12. The Parties agree that the Settlement Class will be conditionally certified, in
7 accordance with the terms of this Settlement Agreement, solely for purposes of effectuating this
8 Settlement Agreement. BART does not consent, and Class Counsel and Plaintiffs agree that
9 BART will not be deemed to have consented to, the certification of the Settlement Class for any
10 other purpose. In the event the Settlement Agreement is terminated pursuant to its terms, or if
11 for any reason this Settlement Agreement is not approved or the Judgment does not become
12 Final, the certification of the Settlement Class will be vacated.

13 **E. No Opt-Out**

14 13. The Parties agree that the Settlement Class will be certified in accordance with the
15 standards applicable under Rule 23(b)(2) of the Federal Rules of Civil Procedure and that,
16 accordingly, no Settlement Class member may opt out of any of the provisions of this Settlement
17 Agreement. The Parties further agree that any order, ruling, or determination by or of the
18 District Court or any other court that permits or allows any Settlement Class member to opt out
19 of any of the provisions of this Settlement Agreement will constitute a material modification of
20 this Settlement Agreement, will prevent the Judgment from becoming Final, and will give any
21 Party the right to terminate this Settlement Agreement in its entirety.

22 **F. Notice to the Settlement Class**

23 14. The Parties will jointly request approval by the District Court of notice to the
24 Settlement Class consistent with this Section. Following the District Court's issuance of the
25 Preliminary Approval Order, the Parties will provide notice of the proposed Settlement
26 Agreement, advising the members of the Settlement Class of the terms of the proposed
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1 Settlement Agreement and their right to object to the proposed Settlement Agreement. This
2 Notice of Settlement will be provided as follows:

- 3 a. Within thirty (30) days after the District Court has issued the Preliminary
4 Approval Order, BART will at its own cost begin publishing the Notice of
5 Settlement (Short Form) listed in Exhibit B-1 to this Settlement
6 Agreement for four (4) consecutive weeks in the following newspapers:
7 the *San Francisco Chronicle*, the *San Francisco Examiner*, and the
8 *Oakland Tribune*, in English; Sing Tao Daily in Chinese; and El
9 Observador in Spanish.
- 10 b. Within twenty (20) days after the District Court has issued the Preliminary
11 Approval Order, BART will at its own cost post the Notice of Settlement
12 on BART's website (www.bart.gov) for four (4) consecutive weeks.
13 BART's website will also make a copy of the Notice of Settlement
14 available in English, Chinese and Spanish. Such website notice, and all
15 pages or content on BART's website that are part of the process for
16 accessing the information in the Notice of Settlement, will comply with
17 WCAG.
- 18 c. Within twenty (20) days after the District Court has issued the Preliminary
19 Approval Order, BART will post a link to the Notice of Settlement on
20 BART's official website through email alerts, BART's Facebook
21 (www.facebook.com/bartssf) page and BART's Twitter
22 (<https://twitter.com/sfbart>) account.
- 23 d. Within ten (10) days after the District Court has issued the Preliminary
24 Approval Order, BART will provide a copy of the Notice of Settlement to
25 the organizations listed in Exhibit C to this Settlement Agreement.
- 26 e. Within twenty (20) days after the District Court has issued the Preliminary
27 Approval Order, Class Counsel will at their own cost post on their
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1 websites a copy of the Notice of Settlement in English, Chinese and
2 Spanish. Such notice, and all pages or content on these websites that are
3 part of the process for accessing the information in the Notice of
4 Settlement will comply with WCAG.

5 **G. Fairness Hearing**

6 15. The Parties will jointly request that the District Court schedule and conduct a
7 Fairness Hearing to decide whether Final Approval of the Settlement Agreement will be granted.
8 At the Fairness Hearing, the Parties will jointly move for entry of the Judgment (substantially in
9 the form attached as Exhibit A.

10 16. The Parties agree to take any additional procedural steps regarding the Fairness
11 Hearing and Final Approval that may be requested by the District Court, and will otherwise use
12 their respective Reasonable Best Efforts to obtain approval of this Settlement Agreement and
13 entry of the Judgment.

14 **H. Objections to the Settlement Agreement**

15 17. Members of the Settlement Class will have an opportunity to object to the
16 proposed Settlement Agreement, but may not opt-out. The Parties will request that the District
17 Court order the following objection procedure:

18 a. Any Settlement Class member may object to this Settlement Agreement
19 by filing, within seventy-five (75) days after the District Court has issued
20 the Preliminary Approval Order, written objections with the District
21 Court. Any Settlement Class member may also appear at the Court's
22 Fairness Hearing.

23 b. With respect to any and all objections to this Settlement Agreement
24 received by Class Counsel, Class Counsel will provide a copy of each
25 objection to counsel of record for BART, by electronic-mail delivery,
26 within two (2) court days after receipt of such objection. Class Counsel
27 will also promptly file any such objections with the Court.

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1 c. Responses by Class Counsel and/or BART to any timely-filed objections
2 will be filed with the District Court no less than five (5) days before the
3 Fairness Hearing, or as otherwise ordered by the Court.

4 **I. Final Approval**

5 18. The Parties agree that, upon Final Approval, the District Court will enter the
6 Judgment under Rule 54(b) of the Federal Rules of Civil Procedure (substantially in the form
7 attached to this Settlement Agreement as Exhibit A) dismissing the Action with prejudice,
8 subject to Magistrate Judge Beeler retaining jurisdiction to resolve any Dispute regarding
9 compliance with this Settlement Agreement that cannot be resolved through the process
10 described in Section IX.

11 19. BART will not assert, after the Judgment has become Final, that Judge Beeler
12 lacks jurisdiction to enforce the terms of this Settlement Agreement or to rule on Plaintiffs'
13 motion for fees and costs, nor will it raise any jurisdictional defense to any enforcement
14 proceedings permitted under the terms of this Settlement Agreement.

15 20. If the District Court denies the Parties' request to enter the Judgment and this
16 Settlement Agreement does not receive Final Approval, or if this Settlement Agreement does not
17 become Final for any reason in accordance with its terms: (i) this Settlement Agreement will be
18 null and void and of no force and effect; (ii) nothing in this Settlement Agreement will be
19 deemed to prejudice the position of any of the Parties with respect to any matter; and (iii) neither
20 the existence of this Settlement Agreement, nor its contents, will be admissible in evidence,
21 referred to for any purpose in any litigation or proceeding, or be deemed an admission by BART
22 of any fault, wrongdoing or liability.

23 **J. Effect of Final Approval Order**

24 21. This Settlement Agreement, upon Final Approval, will be binding upon all Parties
25 and, to the extent specifically set forth in this Settlement Agreement, upon Class Counsel; will
26 extinguish all Released Claims; and will constitute the final and complete resolution of all issues
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1 addressed herein. This Settlement Agreement is the complete and final disposition and
2 settlement of any and all Released Claims, as detailed in Section VIII.

3 **VI. SUBSTANTIVE TERMS**

4 22. The Parties have drafted a proposed Judgment and Final Order, which adopts the
5 substantive terms set forth in this Section, and which is attached as Exhibit A. The Parties will
6 request, as part of the settlement approval process, that the District Court issue this proposed
7 Judgment and Final Order as an order of the Court.

8 **A. Elevator Repairs**

9 23. Following a November 2017 study of BART station elevators conducted by
10 consultant Vertical Transportation Excellence (“VTX”), and its own internal assessment, BART
11 developed a “Strategic Maintenance Plan” to renovate its station elevators. This plan and its
12 appendices are attached as Exhibit D, and are fully incorporated by reference herein.

13 24. The Strategic Maintenance Plan identified 40 elevators as being most in need of
14 renovation. Since the Strategic Maintenance Plan was developed, BART has developed and
15 maintains a list of completed and planned elevator renovations, which is attached as Exhibit E.
16 This document is updated as renovations are planned, progress, and are completed. Throughout
17 the monitoring period described below in Section VII, BART will provide the most up to date
18 version of this document to Class Counsel every six months.

19 25. BART will use Reasonable Best Efforts to seek funding and qualified contractors
20 for and renovate elevators under the “Strategic Maintenance Plan” such that the 40 elevators
21 identified in Exhibit D will be renovated within 15 years of the Delayed Implementation Date. If
22 funding or contractor constraints threaten that schedule, BART will notify Class Counsel
23 pursuant to Section VII(B). The Parties agree that BART is not obligated under this paragraph to
24 renovate more elevators than it has available funding or qualified contractors to do the work.

25 26. Subject to adequate funding and the availability of qualified contractors as
26 discussed in paragraph 25, BART will continue to make Reasonable Best Efforts to renovate
27 additional elevators each year, until all elevators in need of such work have been renovated.

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1 27. In addition to the renovation work discussed in paragraphs 23 through 26 of this
2 Agreement, BART will make prompt repairs of out of service station elevators. This requires, at
3 minimum, that BART dispatch a repair person or crew to the site of an out of service station
4 elevator within one hour of the elevator being reported out of service, except on Saturdays,
5 Sundays and holidays, in which case BART will dispatch a repair person or crew to the site
6 within two hours. BART will make Reasonable Best Efforts to achieve this standard; however,
7 compliance is heavily dependent on availability of qualified mechanics. If BART, due to
8 financial constraints, is unable to maintain staffing necessary to achieve this standard or fails to
9 meet this standard two times in any consecutive seven-day span, BART will promptly notify
10 Class Counsel. In addition, BART will track response time to out-of-service elevators on a
11 monthly basis, and will make those data available upon request.

12 **B. Elevator Preventative Maintenance**

13 28. BART has designed an elevator preventative maintenance plan with the objective
14 of providing continuous, uninterrupted elevator service during all passenger service hours,
15 subject only to temporary and isolated elevator outages for repairs, maintenance, or inspections.

16 29. BART will make Reasonable Best Efforts to ensure that station elevators are
17 operational system wide at least 98% of the time that BART is open to passengers, and that each
18 individual elevator is operational at least 95% of the time that BART is open to passengers.
19 These objectives will be assessed every six months, and will exclude all planned outages for
20 maintenance, repairs and renovations. BART will track elevator uptime on a monthly basis, and
21 will make those data available upon request.

22 30. BART has developed a maintenance schedule for the elevators in its system,
23 which differs from original equipment manufacturers (“OEM”) recommendations, and which is
24 intended to maximize elevator uptime and reliability. A copy of this maintenance schedule is
25 attached as Exhibit F. This maintenance schedule cannot be modified during the term of the
26 Settlement Agreement to provide for maintenance less than what is provided by OEM
27 recommendations. If BART seeks to modify the maintenance schedule to provide less than
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1 OEM recommendations, BART must provide Plaintiff's counsel one-months' notice of the
2 proposed changes and reasoning.

3 31. BART will perform work pursuant to the maintenance schedule during the
4 graveyard shift, when trains are not in service. Should circumstances change such that BART
5 must schedule such regular preventative maintenance during operating hours, BART will notify
6 Class Counsel. If BART needs to perform regular preventative maintenance during operating
7 hours, it will comply with the elevator mitigation requirements outlined in Section VI(H).

8 **C. Escalator Repairs**

9 32. Based on a study conducted by consultant VTX ("Escalator Investigation Report
10 - Phase 1 Final"), BART developed a plan to replace or "truss up" 40 downtown San Francisco
11 station escalators and to add one additional escalator, using funds from bond Measure RR.
12 BART refers to this as "Phase One" of its escalator renovation plan, which is attached as Exhibit
13 G. It has also identified 38 escalators in Downtown Oakland and along Mission Street in San
14 Francisco to be renovated as part of "Phase Two," and 96 remaining escalators to be renovated
15 as part of "Future Phases."

16 33. Subject to qualified contractor availability, BART agrees to use Reasonable Best
17 Efforts to renovate six "Phase One" escalators per year such that all 40 "Phase One" escalators
18 are renovated within 10 years of the Delayed Implementation Date. A schedule as of the
19 settlement's Effective Date is attached as Exhibit H. If funding or contractor constraints
20 materially impact this schedule, BART will notify Class Counsel. BART will produce an
21 updated version of the Phase One escalator renovation schedule every six months as part of the
22 monitoring process described below in Section VII. The Parties agree that BART is not
23 obligated under this paragraph to renovate more escalators than it has available funding or
24 qualified contractors to do the work. If BART cannot meet the above schedule, BART will
25 report such as required by Section VII(B).

26 34. BART does not currently have a funding source to implement "Phase Two" or the
27 "Future Phases" of its escalator renovation plan. BART will use Reasonable Best Efforts to fund
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1 the renovation of its additional escalators, but the Parties recognize that BART will continue to
2 prioritize critical systems and elevator renovations and repairs over escalators.

3 35. In addition to the renovation work discussed in paragraphs 32 through 34 of this
4 Agreement, BART will make prompt repairs at out of service station escalators. This requires, at
5 minimum, that BART dispatch a repair person or crew to the site of an out of service station
6 escalator within four hours, except on Saturdays, Sundays and holidays, in which case BART
7 will dispatch a repair person or crew to the site within six hours after such escalator condition is
8 discovered. BART will make Reasonable Best Efforts to achieve this standard, but notes that it
9 is dependent on availability of qualified mechanics, and that elevator repairs must take priority
10 over escalator repairs.

11 **D. Escalator Preventative Maintenance**

12 36. BART has designed and implemented an escalator preventative maintenance plan
13 with the objective of providing continuous, uninterrupted escalator service in the daily commute
14 direction during all passenger service hours, subject only to temporary and isolated escalator
15 outages for repairs, maintenance, or inspections. Routine escalator maintenance shall not be
16 scheduled to be performed on escalators serving the commute direction during daily commute
17 hours, and shall not be performed at stations when the elevator serving the same platform is also
18 out of service. A copy is attached as Exhibit I. This maintenance schedule cannot be modified
19 during the term of the Settlement Agreement to provide for maintenance less than what is
20 provided by OEM recommendations. If BART seeks to modify the maintenance schedule to
21 provide less than OEM recommendations, BART must provide Class Counsel one-months'
22 notice of the proposed changes and reasoning.

23 37. Given the number of escalators in BART's system, the limited number of
24 qualified mechanics, and that elevator preventative maintenance takes place during the graveyard
25 shift, BART is unable to move escalator preventative maintenance to the graveyard shift.

26 38. BART will make Reasonable Best Efforts to ensure that station escalators system-
27 wide are operational at least 90% of the time that BART is open to passengers. This objective
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1 will be assessed every six months, and will exclude all planned outages for maintenance, repairs
2 and renovations. BART will track escalator uptime on a monthly basis and make those data
3 available upon request.

4 **E. Elevator Attendants**

5 39. In an effort to reduce elevator vandalism and soiling, in April 2018, BART and
6 San Francisco Municipal Transportation Agency (“SFMTA”) contracted with a third party to
7 provide elevator attendants at the Civic Center and Powell Street stations through November
8 2019. That program was subsequently expanded to Embarcadero and Montgomery Street
9 stations. BART has secured funding for the program through FY 2023. BART will use
10 Reasonable Best Efforts to fund the existing elevator attendant program at Civic Center, Powell
11 Street, Embarcadero, and Montgomery Street stations for the Settlement Term. In no event will
12 BART be obligated by this Agreement to fund SFMTA’s share of the elevator attendant
13 program.

14 40. BART will not discontinue or otherwise materially alter the elevator attendant
15 program during the Settlement Term without notifying Class Counsel at least three weeks
16 beforehand.

17 **F. System Service Workers**

18 41. In August 2017, BART modified its staffing schedules for System Service
19 Workers (“SSW”) to ensure adequate personnel are available during BART operating hours to
20 respond promptly when Accessible Features have been soiled. This modified schedule was
21 implemented in 2018. BART believes that these staffing changes have had a beneficial impact
22 on station cleanliness. The modified staffing schedule is currently subject to a labor grievance,
23 which is subject to arbitration. BART plans to vigorously defend the grievance, but were the
24 grievance sustained, BART could be unable to continue the revised staffing schedule. In the
25 event that this occurs, BART will notify Class Counsel.

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1 42. As part of its SSW efforts, BART has also modified its management structure to
2 provide increased management personnel, including foreworkers, supervisors, and a
3 superintendent to oversee the most heavily used and soiled stations.

4 43. BART will continue to re-evaluate system needs and modify the SSW staffing
5 schedule as needed to ensure that staffing is responsive to the changing needs of its stations.
6 Subject to the grievance proceeding noted above, BART will make Reasonable Best Efforts to
7 maintain a staffing schedule that will allow SSW to be present in the downtown San Francisco
8 and downtown Oakland stations during regular business hours, so that they may promptly
9 respond to instances of Accessible Feature soiling in those stations.

10 44. Under the current staffing plan, BART seeks to ensure that SSW will be able to
11 respond to instances of soiling of Accessible Features in Level One stations within 30 minutes of
12 the soiling being reported; and in Level Two stations within one hour of the soiling being
13 reported. Assuming BART is not required as the result of union grievances to modify its
14 staffing, it will continue to use its Reasonable Best Efforts to achieve these response times.

15 a. Level One stations include 12th Street Oakland, 19th Street Oakland,
16 Ashby, Civic Center, Downtown Berkeley, Embarcadero, Montgomery
17 and Powell.

18 b. Level Two stations include all other BART stations not identified as Level
19 One stations.

20 45. Starting no later than 90 days after the Effective Date, BART agrees that, with the
21 exception of soiling that poses an immediate risk to passenger or employee health or safety,
22 including disinfecting and other Covid-19 required procedures, addressing soiling that affects the
23 Accessible Features of BART's stations takes priority over all other janitorial tasks.

24 46. With the exception of paragraph 45, the terms of Section F (System Service
25 Workers) will not go into effect until the Delayed Implementation Date. However, starting no
26 later than 90 days after the Effective Date, BART will make Reasonable Best Efforts to achieve
27 the response times identified in paragraph 44 (i.e., 30 minutes for Level One stations and one
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1 hour for Level Two stations) from Monday to Saturday for soiling that is reported between 9:00
2 a.m. and 7:30 p.m. The remaining times (i.e., before 9:00 a.m. and after 7:30 p.m., and Sundays)
3 will not go into effect until the Delayed Implementation Date.

4 **G. Communication Regarding Outages**

5 47. The Communication Regarding Outages practices set forth in this section shall be
6 implemented no later than the Delayed Implementation Date.

7 48. BART will make Reasonable Best Efforts to promptly (i.e., within 15 minutes of
8 notification of an outage report) communicate elevator and escalator outages to the public
9 through a variety of media, including BART's email subscription, BART's on-demand text
10 messages, and BART's website.

11 49. To improve the timeliness of its elevator outage announcements and the response
12 time of maintenance staff, BART is investigating the cost and feasibility of installing remote
13 elevator monitoring technology in station elevators. BART has implemented this technology on
14 a pilot basis at 12th Street, 19th Street, Embarcadero, Montgomery, Powell and Civic Center
15 stations. BART currently lacks funding to continue this project, but agrees to use Reasonable
16 Best Efforts to seek the funding necessary. BART will notify Class Counsel if it locates funding
17 to move this project forward. If BART is able to locate funding, it will use Reasonable Best
18 Efforts to expand the technology throughout the BART system.

19 50. BART will continue to update its elevator hotline hourly, and ensure that hotline
20 messages are time-stamped.

21 51. BART will continue to update elevator outages on the Platform Destination Signs
22 as well as station agent booths. BART will continue to announce elevator outages on trains and
23 at platforms, at least once every fifteen minutes.

24 52. Where a planned elevator outage is known more than a week in advance, BART
25 will post signage on elevators and station agent booths at least one week before a planned
26 elevator outage. In all other circumstances, BART will post signage as soon as reasonably
27 possible. Such signage will have the ability to direct the customer to mitigation instructions.

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1 BART cannot be responsible if the signage is vandalized or removed by third-parties, but will
2 make Reasonable Best Efforts to ensure adequate signage is available.

3 53. BART will promptly communicate escalator outages to the public via on-demand
4 text messages and website postings.

5 **H. Access and Elevator Outage Mitigation Plan**

6 54. BART has prepared the Access and Elevator Outage Mitigation Plan attached as
7 Exhibit J.

8 55. Within one month of Final Approval, BART will disseminate and publicize the
9 Access and Elevator Outage Mitigation Plan through standard methods including, but not limited
10 to, email subscriptions, BART's website and BART's social media, and discussing the plan with
11 the BART Accessibility Task Force.

12 56. This plan includes a guide which details mitigation options available when a
13 given BART station elevator is out of service, and which will allow BART personnel to provide
14 people with disabilities with accurate and detailed information on alternative options to reach
15 their destination.

16 57. Mitigation options may include 1) using an alternative elevator in the same
17 station; 2) traveling to another station and then doubling back to use a parallel elevator on the
18 other side of the tracks ("backtracking"); 3) using a viable transit alternative (i.e., one that would
19 typically get the rider to their destination with an increased trip time of 45 minutes or less); 4)
20 requesting an on-demand accessible shuttle; or, in some instances; 5) using an accessible shuttle
21 that has been pre-staged to take riders to, from, or around stations with out-of-service elevators.

22 58. In conjunction with the Access and Elevator Outage Mitigation Plan, BART will
23 use Reasonable Best Efforts to seek funding to implement an Elevator Helpline ("Helpline")
24 pilot, which will provide a telephone line that will be staffed 7 days per week, during BART's
25 hours of operation. Through this Helpline, BART staff and/or third-party call center operators
26 will provide riders with detailed information regarding mitigation options, tailored to their
27 location, destination, and preferences, as well as directions to transit or shuttle pickup locations.

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1 Riders will also be able to use the Helpline to request and schedule on-demand shuttle pickup.
2 BART will use Reasonable Best Efforts to implement the helpline with “access language
3 translation services” and the California Relay Service and communications by email and text
4 messages.

5 59. The Helpline number will be included in all elevator outage texts and
6 announcements, space permitting. The relevant BART webpage will also be included in these
7 postings, texts, and announcements, if space permits. All elevators will also include non-Braille
8 signage that identifies the mitigation alternatives and elevator-specific information regarding
9 those alternatives, or directions to visit BART’s website, call BART’s helpline (depending on
10 complexity), or use the station agent call box which directs the passenger to a station agent or
11 Operations Control Center if a station agent is not available.

12 60. BART does not currently have funding to implement the Elevator Helpline pilot.
13 Once adequate funding is acquired, the pilot will be implemented no later than four months after
14 for a testing period of three months, and then based on the results of the testing period for an
15 additional six months. During this pilot period, BART will record calls and collect data regarding
16 Helpline usage, efficacy, and customer satisfaction. At the end of the pilot period, the Parties will
17 meet to review this data and determine whether BART’s Elevator Helpline service should be
18 made permanent, modified, or ended, depending on availability of funding.

19 61. In addition to on-demand elevator mitigation options that it currently provides in
20 the event of planned and unanticipated elevator outages, BART has developed a pilot program
21 which will test the usage, reliability and cost-effectiveness of on-demand and staged shuttle
22 service (the “Mitigation Shuttle” pilot). BART does not currently have funding to implement
23 this additional pilot program, but will use Reasonable Best Efforts to seek funding for
24 implementation.

25 62. The pilot program will be implemented at a minimum of 14 stations with the most
26 limited alternatives (i.e., where backtracking or other transit options would take longer than 45
27 minutes, on average). A full list of those stations is included as Exhibit K to this Agreement.

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1 63. For the seven stations with the most limited mitigation alternatives and which also
2 have the least on-demand availability and highest need, as listed in Exhibit L, BART will
3 provide staged accessible service vehicle as follows: if a BART technician will be unable to
4 evaluate the likely duration of an outage within one hour, or if the anticipated duration of an
5 outage is greater than two hours, an accessible service vehicle will be dispatched, and staged in
6 such a way that it can transport riders to and from the affected station. The staged accessible
7 service vehicle will be provided between the hours of 7 a.m. and 7 p.m. for the duration of the
8 outage, and an on-demand accessible service vehicle will be available for all other hours of
9 operation.

10 64. The remaining stations in the pilot program will be given priority for the
11 development of contracts to enhance service and minimize response times for on-demand
12 accessible service vehicles. At these stations, BART will provide on-demand, accessible service
13 vehicles that riders can request via the Helpline or a station agent. These accessible service
14 vehicles will transport riders from one BART station to another.

15 65. Riders may also request on-demand accessible vans as a mitigation option for
16 other stations experiencing elevator outages, regardless of whether the station is included in
17 either pilot program. BART will track how often such requests are made and fulfilled, along with
18 information regarding response time, and starting and ending destinations for each request, and
19 share this information with Class Counsel as part of its general Reporting requirements,
20 described in paragraphs 109 through 110, below.

21 66. For on-demand accessible service, BART's goal is to provide the most prompt
22 service possible, and accordingly, BART will revise its contracts to incentivize third party
23 contractors to have response times not to exceed 45 minutes if feasible and funding is available.

24 67. BART will ensure that all Helpline and accessible service vehicle operators
25 providing elevator mitigation services have training sufficient to meet the needs of passengers
26 with mobility disabilities.

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1 68. BART will also make Reasonable Best Efforts to communicate with passengers
2 regarding the existence of this pilot program throughout its Term. At the end of the 6-month
3 period, BART will evaluate the efficacy of the 6-month pilot program based on customer
4 satisfaction, utilization, response time, travel-time comparison, and cost and share the results
5 with Class Counsel.

6 69. Within forty-five days of the end of the 6-month pilot program, the parties will
7 subsequently meet and confer regarding BART's evaluation of the pilot program, and work
8 together to determine whether to continue, modify, or terminate the program based on the results
9 of the pilot.

10 70. BART will use Reasonable Best Efforts to secure funding to implement the
11 Elevator Helpline and Mitigation Shuttle pilot programs described in this section during each
12 annual budget cycle, and will keep Class Counsel apprised of these efforts, in accordance with
13 the Reporting schedule outlined in Paragraphs 109 through 110 below. BART will implement the
14 Elevator Helpline program 4 months after funding is acquired and the Mitigation Shuttle pilot
15 program 6 months after funding is acquired.

16 **I. Emergency Preparedness Plan**

17 71. The practices around the Emergency Preparedness Plan set forth in this section
18 shall be implemented no later than the Delayed Implementation Date.

19 1. Emergency Evacuation Training (Station Agents and Train Operators)

20 72. BART will provide station agents and train operators training regarding the
21 evacuation of people with disabilities during an emergency, with the understanding that such
22 employees will not be required to personally perform evacuations.

23 73. The training described in this section will be provided as part of the initial
24 certification and recertification classes for all station agents and train operators.

25 74. The training described in this section will be conducted by BART's Employee
26 Development Specialists. Topics will generally include the following:

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- a. The likely emergency needs of riders with various types of disabilities, and what station agents or train operators may be able to do to help;
- b. How to communicate with and assist people with disabilities in emergencies, including simply asking the person “what’s the best way for me to help you?”;
- c. How to identify and assess the needs of people who may need evacuation assistance, and procedures for reporting that information to first responders;
- d. The location and proper use of evacuation equipment and techniques using videos or other written instructions (no mandatory training will be done using the equipment, but BART will make evacuation devices available to personnel for optional “hands on” practice);
- e. Training on how and when to request the assistance of passengers or others to help with evacuation, including generally:
 - i. How many individuals may be necessary for each person needing assistance;
 - ii. How those individuals could provide assistance, including instructing generally on:
 - 1. The proper use of evacuation equipment or techniques;
 - 2. How to communicate with and assist people with disabilities, including the importance of keeping people with disabilities with their service animals, mobility devices and certain possessions (e.g., portable ventilators, essential medications).

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2. Emergency Evacuation Training (Police)

75. As part of its regular “toolbox” training of BART police officers, BART will inform officers that they may be requested to assist train operators in the event of emergencies, and that this could include the evacuation of people with disabilities.

3. Updates to Website and Print Materials Related To Emergency Evacuation

76. BART shall provide general information on its website about what to expect in the event of an emergency evacuation in the BART system, including but not limited to the types of emergencies that necessitate evacuation, BART’s methods for alerting passengers of the need to evacuate and BART’s procedures for the evacuation of riders with disabilities (for example, how and when they will be evacuated; who will perform the evacuation; the possible techniques and/or equipment that may be used in the evacuation; and information regarding how to retrieve their mobility device in the event that they are separated from it during an evacuation).

77. BART will provide Class Counsel with drafts of any materials to be used in the training described in paragraphs 72 through 75, as well as materials to be provided online described in paragraph 76, by no later than 90 days after the Effective Date. BART will work in good faith to incorporate any feedback from Plaintiffs into the training materials, as appropriate and feasible. BART will modify the poster entitled “BART Safety Card 2015 – Final” to replace the statement “Wait for assistance” and the translated versions thereof with the language “Rescue personnel will assist persons with disabilities. For more information go to: <https://www.bart.gov/guide/safety/safety#evac>.”

78. BART will add language directing the general public and riders with mobility disabilities to the website address for the emergency evacuation information BART has agreed to develop in paragraphs 76 and 77, above, to any current and future emergency evacuation posters or other evacuation-related written materials meant for public distribution, including but not limited to the “BART Safety Card 2015 – Final” and the “In Case of Emergency” poster.

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4. Evacuation Equipment

79. BART has purchased 40 “slings” to be used for evacuation of passengers who require such assistance. The slings are stored at each command post, which are generally at the portal of every BART structure, where BART trains enter a tunnel or go underground. These slings will be available for use by the Fire Departments in addition to their own evacuation equipment.

80. BART will ensure that evacuation chairs and other evacuation equipment are maintained in good working order, and all such equipment will be added to the agency’s annual station maintenance inspection checklist.

5. Emergency Drills

81. BART will request that emergency evacuation drills with the Fire Departments include practice in the evacuation of persons with disabilities, including the use of appropriate evacuation equipment. BART will make such requests as part of all emergency evacuation exercise planning efforts with the Fire Departments.

6. Mobility Device Reunification

82. The Mobility Device Reunification practices set forth in this section shall be implemented no later than the Delayed Implementation Date.

83. If a person with a disability is separated from their mobility device during an emergency and the person is taken to a different location than the other passengers (for example, to a local hospital), BART will store the mobility device in a locked room at the BART station to which the passengers were evacuated (the “evacuation station”). At the evacuation station, BART will tag the mobility device with the owner’s information (if it is reasonably possible to get that information during or shortly after the emergency) and will log the device through BART’s Operation Control Center. This shall in no way be construed to require train operators to tag or log devices on the train during an emergency. BART will make Reasonable Best Efforts to contact the owners of such mobility devices, or, if the owner’s contact information is not available, will hold devices at the evacuation station until the owner reaches out to BART.

1 BART will reasonably work with owners to coordinate device reunification at the evacuation
2 station during normal business hours. BART is under no obligation to hold the unclaimed
3 mobility devices for longer than a year.

4 84. BART shall communicate its mobility device reunification process to the public
5 as follows:

- 6 a. At the evacuation station, BART personnel will make Reasonable Best
7 Efforts to notify evacuated passengers with mobility devices that their
8 device will be returned to them as soon as it is safe to do so.
- 9 b. The BART customer service line shall include in its voicemail message an
10 explanation that if an individual is separated from their mobility device
11 during an evacuation, that device will be securely stored at the evacuation
12 station until they are able to retrieve it, and that they can either return to
13 pick it up or have an authorized representative pick it up. BART agrees to
14 release mobility devices to an authorized friend, relative, or agent of the
15 owner.
- 16 c. The Frequently Asked Questions, Emergency and Accessible Services
17 portions of BART's website shall be revised to include information about
18 mobility device and equipment reunification consistent with this section.
- 19 d. BART will make the changes to the customer service line and website by
20 no later than 90 Days after the Effective Date.

21 85. BART shall ensure that all station agents and other personnel responsible for
22 communicating with evacuated riders and/or securing mobility devices are trained on the above
23 practices and procedures.

24 7. Alerts

25 86. To the extent technologically practical, BART shall utilize the interactive display
26 screens available on the Fleet of the Future BART cars to textually communicate emergency
27 alerts that are otherwise being communicated audibly.

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J. Call Boxes

87. BART replaced all call boxes in BART stations in Fall 2017. Any calls made from a station elevator call box goes straight to the Station Agent booth first. After several rings, if the Station Agent does not pick up, the calls roll over to Central Control. Any calls made from the parking garage call box goes straight to BART Police Department. BART will maintain call boxes in working condition per the OEM maintenance schedule.

K. Signage/Path of Travel

88. The Signage/Path of Travel practices set forth in this section shall be implemented no later than the Delayed Implementation Date.

89. BART will notify Class Counsel (beforehand if possible) of any planned material changes to any aspect of a station’s path of travel, to ensure that such changes do not inadvertently create access barriers for people with disabilities. Class Counsel shall then have the opportunity to provide comments. Class Counsel may also notify BART of and provide comments on any material changes to any aspect of a station’s path of travel that they discover. BART agrees to consider any comments and requested modifications by Class Counsel, and BART will not unreasonably refuse to adopt Class Counsel’s requested revisions.

90. BART will use its Reasonable Best Efforts to install Clipper pods and/or BART fare gates at elevator entrances (e.g., North Berkeley and Ashby stations) where elevators are located outside of paid area in order to bring them inside of paid area.

91. Where the platform elevator is located outside of the paid area, BART will install signage stating that passengers should make use of the service gate, and describing the path to the platform and street elevators.

92. BART will work with staff and/or appropriate consultants, as needed, to improve signage related to the accessible path of travel, to determine the best locations for new accessible fare gates/Clipper pods, and to simplify paths of travel between fare gates and elevators.

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1 **L. Accessible Fare Gates**

2 93. The practices around Accessible Fare Gates set forth in this section shall be
3 implemented no later than 90 days following the Effective Date.

4 94. BART will maintain accessible fare gates in working condition per the OEM
5 maintenance schedule.

6 95. Where the accessible fare gate is out of order, BART will make Reasonable Best
7 Efforts to ensure the station agent is readily available to assist riders with Mobility Disabilities in
8 the tagging and processing of tickets.

9 **M. Locking Of Elevators and Service Gates**

10 96. The practices around the Locking of Elevators and Service Gates set forth in this
11 section shall be implemented no later than 90 days following the Effective Date.

12 97. BART will ensure that Station Agents do not lock or turn off elevators during
13 BART's operating hours, unless doing so is necessary to perform elevator maintenance or for
14 some legitimate safety-related reason. Such a legitimate safety-related reason may include a
15 fire/smoke emergency or police-related matter (e.g. bomb threats, weapons incident). Station
16 agents may not lock elevators in an effort to prevent fare evasion. Elevator emergency calls will,
17 if not answered within 30 seconds, roll over to Central Control.

18 98. BART will ensure that swing gates adjacent to the Station Agents' booths shall
19 not be locked during BART's operating hours, unless a Station Agent is immediately adjacent to
20 the gates and able to provide passenger assistance. BART will put up a sign at each swing gate
21 stating, "Gate is locked when station agent is present. Please ask station agent to unlock gate."
22 Each sign will include a wheelchair access icon.

23 99. Within 90 days from the Effective Date, BART's Station Agent trainings and
24 training materials will reflect the above policies in paragraphs 97 through 98.

25 100. Should a person with a disability discover that an elevator or emergency gate is
26 locked during operating hours, they may report the issue via the Complaint Procedure outlined in
27 paragraph 107 below.

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1 N. Training of BART Personnel

2 101. BART will continue to provide training for existing station agents, new station
3 agent hires and other BART employees involved in ensuring accessibility to people with
4 Mobility Disabilities, including managers, supervisors and staff who have direct contact with
5 customers. The training will discuss relevant federal and state requirements regarding the
6 accessibility of BART stations and service, and disability etiquette. BART will include this
7 training in its new hire orientation for employees involved in ensuring the accessibility of BART
8 stations.

9 102. BART will continue to supervise and review the performance of all staff coming
10 in direct contact with customers to ensure people with disabilities receive proper service.
11 Available disciplinary procedures will be used to ensure accountability for performance of all job
12 responsibilities related to accessibility. Such procedures shall be comparable to those used for
13 non-ADA rule or policy infractions. BART will record each instance of the use of disciplinary
14 procedures related to employee infractions of its accessibility policies.

15 1. BART Station Agent Training

16 103. BART will update its Station Agent training in accordance with this Agreement,
17 and will continue to provide station agents with training and refresher programs on accessibility
18 and the emergency preparedness and elevator mitigation plans, including training utilizing the
19 materials developed or made available pursuant to Section VI(I). Such training will be included
20 in all training courses scheduled to begin no later than the Delayed Implementation Date. BART
21 will provide further training to station agents when there is a relevant and material change in law,
22 policy or procedure related to this Agreement.

23 2. Train Operator Training

24 104. BART will update its Train Operator training in accordance with this Agreement,
25 and will continue to provide training to its train operators during new and refresher training
26 regarding its emergency preparedness plan and procedures for safely evacuating riders with
27 disabilities in the event of an emergency. Such training will be included in all training courses
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1 scheduled to begin no later than the Delayed Implementation Date. It shall remain the
2 responsibility of First Responders to evacuate riders with disabilities in the event of an
3 emergency.

4 3. System Service Worker Training

5 105. BART will continue to provide training to its system service workers regarding its
6 policy and procedures for responding to instances of soiling and vandalism in BART stations.
7 Such training will be included in all training courses scheduled to begin no later than the Delayed
8 Implementation Date.

9 4. Operation Control Center Worker Training

10 106. BART will provide Operation Control Center workers with training and refresher
11 programs, including on accessibility, and the emergency preparedness and elevator mitigation
12 plans. Such training will be included in all training courses scheduled to begin no later than the
13 Delayed Implementation Date.

14 O. Complaint Procedure

15 107. By no later than 90 days after the Effective Date, BART will update its
16 “Accessible Services” website (<https://www.bart.gov/guide/accessibility>) to provide a telephone
17 number and a link to BART’s online complaint form through which patrons can report
18 accessibility problems or speak to a staff person who has training on accessibility within the
19 BART system. Such phone line will be staffed Monday through Friday during regular business
20 hours. For times when the phone line is closed, the phone line will roll over to voicemail.
21 BART shall update its “Comments, Inquiries and Complaints” website
22 (<https://www.bart.gov/contact/comments>) to include the following sentence: “You can use the
23 form below to report accessibility concerns.” Copies of material complaints will be provided to
24 Class Counsel upon request.

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1 **VII. REPORTS AND MONITORING**

2 **A. Point Person**

3 108. By the Delayed Implementation Date, BART will designate a “Point Person” who
4 will serve as an administrative liaison to Class Counsel regarding BART’s compliance with this
5 Settlement Agreement, and for coordinating and providing all information or reports required by
6 this Settlement Agreement. BART’s Counsel will serve in this role until BART designates a
7 Point Person as described in this paragraph. The Point Person will have responsibility and
8 authority to take the following actions on behalf of BART: (1) collecting information concerning
9 BART’s efforts to comply with this Settlement Agreement; (2) responding to requests for
10 information or documents as provided for in this Settlement Agreement; and (3) disseminating
11 requests for information, documents, and/or requests by Class Counsel to the appropriate
12 personnel and departments at BART.

13 **B. Progress Monitoring**

14 1. Reports

15 109. BART will notify Class Counsel in writing within 120 days of the Effective Date
16 with an enumerated list of whether BART has completed each of the items in this Agreement
17 that have deadlines of the Effective Date or within 90 days of the Effective Date. If any items
18 with these deadlines are not completed on time, BART shall provide a written explanation for the
19 delay. BART will also notify Class Counsel in writing within 120 days of the Delayed
20 Implementation Date with an enumerated list of whether BART has completed each of the items
21 in this Agreement that have deadlines of the Delayed Implementation Date or within 90 days of
22 the Delayed Implementation Date. If any items with these deadlines are not completed on time,
23 BART shall provide a written explanation for the delay.

24 110. For five (5) years following the Delayed Implementation Date, BART will report
25 to Class Counsel, in writing, on February 15 and July 15 (subject to adjustment mutually agreed
26 by the Parties) regarding BART’s compliance with this Settlement Agreement. If either the
27 Parties or the Court determine that Defendant is not in substantial compliance with the
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1 Settlement Agreement at the end of this period, Defendants' obligation to issue biannual reports
2 will be extended for an additional year each year until it is substantially compliant. Barring such
3 a determination, BART will report to Class Counsel in writing once per year for the remainder of
4 the Term. Each report shall include the following information, and shall cover the time between
5 the issuance of the preceding Report and the issuance of the new report (the "Reporting Period"):

6 a. A detailed description of all efforts made to comply with the substantive
7 terms of this Settlement Agreement including but not limited to:

8 i. What facilities have been modified and in what manner.

9 ii. An updated version of the document attached to the Settlement
10 Agreement as Exhibit E.

11 iii. An updated version of the document attached to the Settlement
12 Agreement as Exhibit F.

13 iv. An updated version of the document attached to the Settlement
14 Agreement as Exhibit H.

15 v. An updated version of the document attached to the Settlement
16 Agreement as Exhibit I.

17 vi. Service availability metrics for station elevators, escalators, and
18 fare gates in BART's system.

19 1. Elevator availability metrics shall reflect both planned and
20 unplanned outages during BART's normal operating hours,
21 and BART shall calculate service-availability on a per-
22 elevator and per-station¹ basis, in addition to system-wide.

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25 ¹ This metric would capture situations where an elevator outage makes it impossible for a person
26 with a disability to access or leave a BART platform. So, at times when either the accessible
27 route between street and concourse was inoperable, the route between concourse and platform
28 was inoperable, or both were inoperable, an entire station would be considered "unavailable."
Conversely, at times when an elevator was out-of-service but the station was still accessible
(because of a redundant or parallel elevator) the station would be considered "available."

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BART will capture and report analogous information for its system escalators and fare gates system-wide.

2. BART will also reasonably make the above service-availability information publicly available for analysis and integration into applications by publishing the information in Excel or CSV format on its “Reports” website (<https://www.bart.gov/about/reports>). This information will include the reported reason for each outage, as stated in BART’s outage advisories.

vii. Whether all scheduled preventative maintenance work for elevators, escalators, and accessible fare gates has been conducted since the last report, and if not, an explanation for any scheduled maintenance work that was not performed.

viii. A discussion of any problems BART has encountered in complying with the terms of this Settlement Agreement, and what, if anything, BART intends to do to resolve such problems.

ix. Updates, if any, regarding BART’s compliance with Section VI.I. Emergency Preparedness Plan of this Agreement.

x. Updates, if any, regarding installing remote elevator technology in station elevators and efforts to secure funding and expand the technology throughout the BART system.

2. Response to Requests for Explanations Regarding Out-of-Service Elevators and Escalators

111. Throughout the term of the Settlement Agreement, whenever the BART point person receives reasonable requests from Class Counsel for explanations and/or information regarding particular elevator or escalator outages, BART will make Reasonable Best Efforts to provide prompt and accurate explanations of why particular elevators or escalators went out-of-service, how long such equipment was out-of-service or is expected to remain out-of-service,

1 what efforts were or have been made to return such equipment to service, and whether repairs are
2 being conducted by BART or by an outside contractor.

3 3. Communication Between the Parties

4 112. The Parties will endeavor to maintain open communication regarding
5 implementation of this Settlement Agreement. During the first five (5) years following the
6 Effective Date, the Parties shall meet at least once per year to discuss BART's efforts to
7 implement this Settlement Agreement and to attempt to resolve any disputes regarding its
8 implementation or enforcement. For the remainder of the Term, the Parties shall meet as needed
9 to discuss BART's efforts to implement this Settlement Agreement and to attempt to resolve any
10 disputes regarding its implementation or enforcement. Prior to requesting any meeting, Class
11 Counsel shall correspond with BART in writing outlining with specificity each issue it would
12 like to address at the meeting, so that the Parties can determine whether a meeting is necessary or
13 whether the issue can be resolved informally.

14 4. Monitoring Fees and Expenses

15 113. For fees and costs associated with monitoring compliance with this Settlement
16 Agreement, BART shall pay Class Counsel \$12,500 per year for years 1-5 of the Term, and
17 \$10,000 per year for the remainder of the Term. Payment shall be made annually on the
18 anniversary of the Effective Date.

19 **VIII. RELEASED AND UNRELEASED CLAIMS**

20 **A. Released Claims**

21 114. In consideration of this Settlement Agreement, on the date of Final Approval, all
22 Settlement Class members shall release BART and its officers, directors, employees, attorneys,
23 agents and insurers ("Released Parties") from any and all known or unknown liabilities,
24 obligations, demands, actions, and claims that were brought or could have been brought in the
25 Action against the Released Parties for injunctive or declaratory relief regarding the accessibility
26 of BART to people with Mobility Disabilities ("Released Claims"). This includes any such
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1 claims that Plaintiffs had or could have asserted against Defendants prior to Final Approval of
2 this Settlement Agreement, and all such claims that may accrue during its Term.

3 115. This release of claims will apply and be binding upon the Settlement Class
4 throughout the Term of this Settlement Agreement.

5 116. This release is valid only for the Settlement Term, and will not apply to any
6 claims that accrue after the expiration of the Term.

7 **B. Waiver of Rights Under Civil Code Section 1542**

8 117. In consideration of this Settlement Agreement, on the date of Final Approval, the
9 Settlement Class further expressly waives and relinquishes all rights and benefits afforded by
10 Section 1542 of the Civil Code of the State of California, which states that “A general release
11 does not extend to the claims which the creditor does not know or suspect to exist in his or her
12 favor at the time of executing the release, which if known by him or her must have materially
13 affected his or her settlement with the debtor.” The foregoing release is freely and voluntarily
14 given by the Settlement Class, who, in agreeing to the foregoing release, did not rely on any
15 inducements, promises or representations by BART or its representatives, other than as expressly
16 set forth in this Settlement Agreement.

17 **C. Unreleased Claims**

18 118. The above-described release does not apply to any claims to enforce the terms of
19 this Settlement Agreement, and nothing in this Settlement Agreement shall be interpreted as a
20 release of any claim for damages. Moreover, the Settlement Class does not release any claims
21 that could not have been brought by the Plaintiffs in this Action (such as those regarding access
22 barriers for people with visual impairments), or any claims that accrue after the Term and are
23 based on accessibility barriers in BART stations that remain in existence after the expiration of
24 the Term.

25 **D. Covenant Not to Sue**

26 119. The Parties agree that during the Term, the Settlement Class members will not
27 commence any lawsuit, action, or other proceeding, in law, equity or otherwise, against
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1 Defendants arising out of or relating to any of the Released Claims, including, without limitation,
2 an action claiming that this Settlement Agreement was fraudulently induced. The Parties agree
3 that monetary damages alone are inadequate to compensate for injury caused or threatened by a
4 breach of this covenant not to sue, and that an order of abatement or preliminary and permanent
5 injunctive relief restraining and prohibiting the prosecution of any action or proceeding brought
6 or instituted in violation hereof is a necessary and appropriate remedy in the event of such a
7 breach or threatened breach.

8 120. An action or proceeding brought to enforce (but not to rescind or reform) the
9 terms of this Settlement Agreement is expressly excepted from this covenant not to sue. An
10 action seeking damages stemming from Defendants' violation of Accessibility Laws is also
11 excepted from this covenant not to sue. The Parties agree that the sole remedy for either Party's
12 breach of this Settlement Agreement shall be injunctive or declaratory relief to enforce the terms
13 of the Settlement Agreement. This does not apply to attorneys' fees and costs for dispute
14 resolution pursuant to this Settlement Agreement.

15 121. With respect to any of the Parties' obligations set forth in this Settlement
16 Agreement, the Parties agree that no claim, action or proceeding alleging any violation of or
17 failure to perform any provision of this Settlement Agreement will be filed, commenced or
18 maintained unless and until the Parties have complied with all of the procedures set forth in
19 Section IX.

20 **IX. DISPUTE RESOLUTION PROCEDURE**

21 122. All disputes concerning the interpretation, implementation, monitoring,
22 compliance and modification of the Settlement Agreement shall be resolved as follows:

23 **A. Notification and Response in Writing**

24 123. Disputes shall be brought to the attention of the other Party as soon as practicable.
25 The Party alleged to have committed the violation or failure to perform shall provide a written
26 response within twenty (20) calendar days of receipt of such notice and shall have a period of
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1 sixty (60) calendar days from the date of notice to cure the alleged violation or failure to
2 perform.

3 **B. Meet and Confer**

4 124. If the Party alleging a violation or failure to perform maintains that the violation
5 or failure to perform has not been cured, the Parties shall meet and confer, in person or by
6 telephone, and attempt to resolve the dispute on an informal basis.

7 **C. Mediation Obligation**

8 125. Failing a resolution by the Parties or upon a failure to timely meet and confer
9 within 20 days, any Party may then submit the Dispute to Judge Beeler or the selected mediator
10 within thirty (30) days, who shall have the authority to assist the Parties in resolving the Dispute
11 but who shall not have the authority to direct any Party to take or refrain from taking any action
12 or to render decisions. The mediation shall be held and completed within forty-five (45)
13 calendar days of submission unless Judge Beeler or the selected mediator's calendar will not
14 allow for such scheduling. In such an instance, the mediation shall be scheduled as soon as
15 practicable.

16 **D. Submission to Court**

17 126. Failing resolution of a Dispute through the procedures identified above, any Party
18 may submit the issue to Magistrate Judge Beeler for decision. In the event that a Dispute is
19 submitted to Judge Beeler for decision and Plaintiffs prevail, Judge Beeler may in her discretion
20 award all reasonable and necessary attorneys' fees and costs incurred by Class Counsel, in
21 accordance with applicable law.

22 127. Upon a showing of repeated, material violations of the Settlement Agreement,
23 Judge Beeler may in her reasonable discretion appoint a special master to monitor compliance
24 with the Settlement Agreement.

25 **X. ATTORNEYS' FEES AND COSTS THROUGH FINAL APPROVAL**

26 128. With respect to attorneys' fees and costs that Plaintiffs have incurred through
27 Final Approval (excluding those fees and costs arising as a result of the Monitoring or Dispute
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1 Resolution Procedures described above), the Parties agree that BART shall pay the sum of
2 \$825,000 to Class Counsel. BART will pay Class Counsel's fees and costs within 90 calendar
3 days after the Effective Date.

4 **XI. SERVICE AWARDS**

5 129. Within thirty (30) days after the Effective Date, BART shall: (i) pay the sum of
6 \$7,500 to each of the named plaintiffs, Pi Ra and Ian Smith; and (ii) pay the sum of \$15,000 to
7 each of the organizational plaintiffs, Senior and Disability Action and Independent Living
8 Resource Center of San Francisco, all for services rendered to the Settlement Class.

9 **XII. MISCELLANEOUS**

10 **A. Enforcement**

11 130. Nothing in this Settlement Agreement, express or implied, is intended to or will
12 confer upon any person or entity not a Party to this Settlement Agreement any right, benefit or
13 remedy of any nature whatsoever under or by reason of this Settlement Agreement. Only the
14 Plaintiffs and Class Counsel may seek to enforce the terms of this Settlement Agreement through
15 the Dispute Resolution Procedure provided for in Section IX, up to and including a motion
16 before Judge Beeler. To the extent individual members of the Settlement Class have complaints
17 regarding BART's compliance with the terms of this Settlement Agreement, they must either
18 bring them to the attention of Class Counsel directly, or to BART, which will promptly forward
19 any such complaints to Class Counsel. Class Counsel will have the sole and complete discretion
20 to seek to enforce any right, benefit or remedy under or by reason of this Settlement Agreement.

21 **B. Entire Agreement**

22 131. This Settlement Agreement, and the documents attached to or expressly referred
23 to in this Settlement Agreement, constitute the final and complete written expression and
24 exclusive statement of all the agreements, conditions, promises, representations, and covenants
25 between the Parties with respect to the matters referenced in this Settlement Agreement, and
26 supersede all prior or contemporaneous negotiations, promises, covenants, agreements or
27 representations of any nature whatsoever with respect to such matters. Each of the Parties
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1 understands and agrees that in the event of any subsequent litigation, controversy, or dispute
2 concerning any of the terms, conditions or provisions of this Settlement Agreement, no Party will
3 be permitted to offer or introduce any oral evidence concerning any oral promises or oral
4 agreements between the Parties relating to the subject matters of this Settlement Agreement not
5 included or referred to in this Settlement Agreement and not reflected in a writing. This
6 Settlement Agreement cannot be amended, modified or supplemented except by a written
7 document signed by all of the Parties and approved by the District Court.

8 **C. No Other Representations**

9 132. Each of the Parties represents, warrants and agrees that, in executing this
10 Settlement Agreement, he, she or it has relied solely on the statements expressly set forth in this
11 Settlement Agreement, and has placed no reliance whatsoever on any statement, representation,
12 or promise of any other Party, or any other person or entity, not expressly set forth in this
13 Settlement Agreement, or upon the failure of the other Party, or any other person or entity, to
14 make any statement, representation or disclosure of anything whatsoever. The Parties have
15 included this provision: (i) to preclude any claim that any Party was in any way fraudulently
16 induced to execute this Settlement Agreement; and (ii) to preclude the introduction of parole
17 evidence to vary, interpret, supplement, or contradict the terms of this Settlement Agreement.

18 **D. Notice**

19 133. Any notice to be provided between or among the Parties in accordance with the
20 terms of this Settlement Agreement will be given by electronic mail and First Class U.S. mail to
21 the following addresses:

22 **To Plaintiffs:**

23 Jinny Kim
24 Disability Rights Advocates
25 2001 Center Street, 3rd Floor
26 Berkeley, CA 94704
27 jkim@dralegal.org
28

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1 Christopher Ho
2 Legal Aid at Work
3 180 Montgomery Street, Suite 600
4 San Francisco, CA 94104
5 cho@legalaidatwork.org

6 **To BART:**

7 Clement L. Glynn
8 Jonathan A. Eldredge
9 Glynn & Finley, LLP
10 100 Pringle Avenue, Suite 500
11 Walnut Creek, CA 94596
12 JEldredge@glynnfinley.com

13 **with a copy to:**

14 Sterling Routson-Thomas
15 San Francisco Bay Area Rapid Transit District
16 Office of the General Counsel
17 2150 Webster St.
18 Oakland, CA 94612
19 wroutso@bart.gov

20 134. Any Party may subsequently designate other individuals or entities for receipt of
21 notice, provided that 10 days' written notice of such designation is provided to all other Parties
22 in accordance with the terms of this Section.

23 **E. Drafting of this Agreement**

24 135. The Parties acknowledge and agree that this Settlement Agreement has been
25 jointly drafted and fully negotiated, and as a result, will not in any manner be interpreted in favor
26 of, or as against, any particular Party by reason of being the drafting Party. Any rule of law,
27 including, without limitation, Section 1654 of the California Civil Code, or any other statute,
28 legal decision or principle of common law that would require interpretation of any ambiguities or
uncertainties in this Settlement Agreement against one of the Parties, will have no application
and is hereby expressly waived.

F. Voluntary Agreement

136. Each of the Parties represents, warrants and agrees that he, she or it has read this
Settlement Agreement carefully, and knows and understands its contents; that this Settlement
Agreement has been voluntarily entered into; that he, she or it has received independent legal

1 advice from his, her or its attorneys with respect to the advisability of executing this Settlement
2 Agreement; and that any and all investigation and analysis of the facts deemed necessary or
3 desirable have been conducted prior to the execution of this Settlement Agreement.

4 **G. Binding Effect**

5 137. All of the terms and provisions of this Settlement Agreement will be binding upon
6 and will inure to the benefit of the Parties, their heirs, successors and assigns.

7 **H. Authority**

8 138. Each of the Parties represents, warrants and agrees that he, she or it has the full
9 right and authority to enter into this Settlement Agreement, and that the person executing this
10 Settlement Agreement has the full right and authority to commit and bind such Party.

11 **I. Governing Law**

12 139. This Agreement will be governed by and construed in accordance with the laws of
13 the State of California with respect to principles of common law contract interpretation.

14 **J. Paragraph Headings**

15 140. The headings, or lack thereof, preceding each of the paragraphs in this Settlement
16 Agreement are for convenience only, and will not be considered in the construction or
17 interpretation of this Settlement Agreement.

18 **K. Execution by Facsimile and in Counterparts**

19 141. This Settlement Agreement may be executed by the Parties in separate
20 counterparts, and all such counterparts taken together will be deemed to constitute one and the
21 same agreement.

22 **L. 48 Hour Notice Of All Press Releases**

23 142. The Parties agree to give each other 48-hour notice of any news release or other
24 public announcement or communication with respect to this Settlement Agreement unless such
25 news release, public announcement or communication has been mutually agreed upon by the
26 parties hereto.

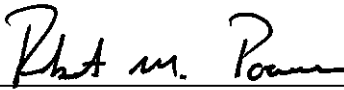
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IN WITNESS WHEREOF, the Parties hereto have approved and executed this Settlement Agreement on the dates set forth opposite their respective signatures.

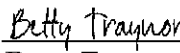
EXECUTED by the Parties as follows:

BAY AREA RAPID TRANSIT


Dated: September 18, 2023 By: 
Title: BART GM


By: _____


SENIOR AND DISABILITY ACTION

Dated: September 13, 2023 By: 
Betty Traynor
President, Board of Directors

INDEPENDENT LIVING RESOURCE CENTER OF SAN FRANCISCO

Dated: September 7, 2023 By: 
Lana Nieves
Executive Director

Dated: September 7, 2023 By: 
Ian Smith, individually and as representative of the Settlement Class

Dated: September 8, 2023 By: 
Pi Ra, individually and as representative of the Settlement Class


APPROVED AS TO FORM:

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Dated: September 20, 2023

GLYNN & FINLEY, LLP

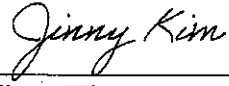
By: _____


Jonathan A. Eldredge
Attorneys for Defendants
Bay Area Rapid Transit District and Grace
Crunican

Dated: September 13, 2023

DISABILITY RIGHTS ADVOCATES

By: _____


Jinny Kim
Attorneys for Plaintiffs

Dated: September 8, 2023

LEGAL AID AT WORK

By: _____



Christopher Ho
Attorneys for Plaintiffs

EXHIBIT A

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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

SENIOR AND DISABILITY ACTION, on behalf of its members and all others similarly situated; INDEPENDENT LIVING RESOURCE CENTER OF SAN FRANCISCO; PI RA, on behalf of himself and all others similarly situated; and IAN SMITH, on behalf of himself and all others similarly situated,

Plaintiffs,

v.

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT and GRACE CRUNICAN, in her official capacity as General Manager of the San Francisco Bay Area Rapid Transit District,

Defendants.

Case No. 3:17-cv-01876 LB

JUDGMENT

The Court hereby enters final judgment in this action as between Plaintiffs and the Settlement Class and Defendants San Francisco Bay Area Rapid Transit District (“BART”) and Grace Crunican, as defined in Federal Rule of Civil Procedure 58(a). Pursuant to this Final Judgment:

- (1) All Released Claims of Plaintiffs and the Settlement Class are hereby released as against Defendants and Released Parties as defined in the Settlement Agreement;

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- (2) Without affecting the finality of the Court’s judgment in any way, the Court retains jurisdiction over Plaintiffs, the Settlement Class members, Defendants, and the Settlement Agreement throughout the term of the Settlement Agreement;
- (3) This action is dismissed with prejudice, each side to bear its own costs and attorneys’ fees except as provided by the Settlement Agreement and the Court’s orders;
- (4) This document constitutes a final judgment and separate document for purposes of Federal Rule of Civil Procedure 58(a); and
- (5) The Court finds that this Final Judgment should be entered and that there is no just reason for delay in the entry of this Final Judgment as to Plaintiffs and the Settlement Class and Defendants. Accordingly, the Clerk is hereby directed to enter Judgment forthwith.

Dated: _____

HONORABLE LAUREL BEELER
United States Magistrate Judge

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EXHIBIT B

NOTICE OF PROPOSED SETTLEMENT OF CLASS ACTION LAWSUIT

ATTENTION: ALL PERSONS WITH A MOBILITY DISABILITY: If you have used, tried to use, or believe you will in the future use or try to use any of Bay Area Rapid Transit’s station elevators, escalators, accessible fare gates, call boxes, communication systems or signage **you may be a member of the proposed settlement class affected by this lawsuit.** This is a court-authorized notice.

**PLEASE READ THIS NOTICE CAREFULLY. YOUR RIGHTS MAY
BE AFFECTED BY LEGAL PROCEEDINGS IN THIS CASE.**

NOTICE OF CLASS ACTION

The purpose of this notice is to inform you of a proposed settlement in a pending class action lawsuit brought on behalf of persons with mobility disabilities. The class action settlement (“Settlement Agreement”), which must be approved by the United States District Court, was reached in the case entitled *Senior and Disability Action, et al. v. Bay Area Rapid Transit, et al.*, Case No. 3:17-cv-01876-LB, pending in the United States District Court for the Northern District of California.

This notice summarizes the proposed settlement. For the precise terms and conditions of the settlement, please see the settlement agreement available at www._____.com, By contacting class counsel at bart@dralegal.org org, (510) 324-9638, or (415) 864-8848 or by accessing the Court docket in this case through the Court’s Public Access to Court Electronic Records (PACER) system at <https://ecf.cand.uscourts.gov>, or by visiting the office of the Clerk of the Court for the United States District Court for the Northern District of California located at 450 Golden Gate Avenue, 16th floor, San Francisco, CA 94102, between 9:00 a.m. and 1:00 p.m., Monday through Friday, excluding court holidays.

PLEASE DO NOT TELEPHONE THE COURT OR THE COURT CLERK’S OFFICE TO INQUIRE ABOUT THIS SETTLEMENT OR THE CLAIM PROCESS.

BASIC INFORMATION

Filed in 2017, this lawsuit alleges that San Francisco Bay Area Rapid Transit District (“BART”) violated federal and state disability access laws by denying individuals with mobility disabilities access to station elevators, escalators, accessible fare gates, call boxes, communication systems and signage (“Accessible Features”). BART denies these allegations and disputes that it has any liability or committed any wrongdoing.

This is a class action. In a class action, one or more people or organizations, called Class Representatives (in this case Senior and Disability Action, Independent Living Resource Center of San Francisco, Pi Ra and Ian Smith [“Plaintiffs”]), sue on behalf of people who have similar legal claims. All of these people are a Class or Class Members. One court resolves the issues for all Class Members. United States District Magistrate Judge Laurel Beeler is in charge of this

class action.

The Court did not decide in favor of either Plaintiffs or BART in this case. Instead, both sides agreed to a settlement. That way, they avoid the cost, delay, and uncertainty of a trial, and settlement benefits go to the Class Members. The Class Representatives and Class Counsel (the attorneys appointed by the Court to represent the Class) think the proposed settlement is in the best interests of the Class Members taking into account the benefits of the settlement, the risks of continued litigation and the delay in obtaining relief for the Class if the litigation continues.

THE SETTLEMENT CLASS

The settlement class includes all persons with any mobility disability, who from April 5, 2014 through June 1, 2039: (1) have needed to use the Accessible Features of BART facilities; or (2) will need to use the Accessible Features of BART facilities.

SUMMARY OF THE PROPOSED SETTLEMENT AGREEMENT

The Settlement Agreement will be in effect until June 1, 2039, at the latest. Throughout that time period, BART has agreed to changes that will improve access to its facilities for people with mobility disabilities. Below is a summary of the main components, which are more fully described in the Settlement Agreement. In all respects the terms of the Settlement Agreement solely govern BART's obligations under that agreement.

1. Elevator Repairs and Preventative Maintenance

BART has agreed to seek funding and to renovate eight elevators per year such that forty elevators will be renovated by June 1, 2039, at the latest. Once the initial 40 elevators are renovated, BART will continue to seek funding and qualified contractors to renovate additional elevators each year until all elevators in need of work have been renovated.

BART will use best efforts to send a repair person or crew to an out of service station elevator within one hour of the elevator being reported out of service, except on Saturdays, Sundays and holidays when a repair person or crew will be sent to an out of service elevator within two hours. BART will perform elevator preventative maintenance only during the graveyard shift, when trains are not in service.

2. Escalator Repairs and Preventative Maintenance

Using bond measure RR funds, BART will renovate 40 downtown San Francisco escalators and one additional escalator by June 1, 2034 at the latest. BART will search for funding to renovate 38 escalators in downtown Oakland, along Mission Street in San Francisco as part of the second stage of escalator repairs. Thereafter, BART will seek funding to renovate the remaining 96 station escalators.

Assuming qualified mechanics are available, BART will also send a repair person or crew to an out of service station elevator within four hours of the elevator being reported out of service,

except on Saturdays, Sundays and holidays when a repair person or crew will be sent to an out of service elevator within six hours.

3. Elevator Attendants

BART has instituted an elevator attendant program at Civic Center, Powell Street, Embarcadero and Montgomery Street stations and has agreed to seek to continue the program. BART will notify Class Counsel at least three weeks beforehand if it plans to make changes to the program.

4. System Service Workers

BART will ensure that System Service Workers respond to 12th Street Oakland, 19th Street Oakland, Ashby, Civic Center, Downtown Berkeley, Embarcadero, Montgomery and Powell stations within 30 minutes of soiling being reported and within one hour of soiling being reported for the remaining BART stations.

5. Communication Regarding Outages

Within 15 minutes of a report of an outage, BART will communicate elevator and escalator outages to the public through BART's email subscription, on-demand text messages and website. BART will update the elevator hotline hourly and ensure hotline messages are timestamped. BART will announce elevator outages on trains and at platforms at least once every half-hour. BART will post physical signage on elevators and station agent booths when there is a planned elevator outage.

6. Elevator Mitigation Plan

BART will, subject to funding, implement a plan with specific options for when a BART station elevator is out of service. BART will also look to staff a helpline in order to provide riders with detailed information about their options when an elevator is out of service.

7. Emergency Preparedness Plan

BART has purchased 40 "slings" to evacuate passengers with disabilities who need assistance in an emergency. BART is required to follow specific procedures for passengers who are separated from their mobility devices during an emergency. BART will update its website and posters about its emergency evacuation procedures. BART will inform BART police officers that they may be asked to assist train operators in emergencies and will request that fire departments practice evacuating people with disabilities.

8. Call Boxes

BART will maintain call boxes in working condition.

9. Signage/Path of Travel

BART will provide seven days' notice to Class Counsel before making material changes to a station's path of travel. BART is working to improve signage related to the accessible path of travel.

10. Accessible Fare Gates

BART will maintain accessible fare gates in working condition and when accessible fare gates are out of order, BART will ensure a station agent is available to assist riders with mobility disabilities to tag and process tickets.

11. Training of BART Personnel

BART will train station agents and operation control center workers on disability access, disability etiquette, BART's emergency preparedness plan and BART's elevator mitigation plan. In addition, train operators will be trained on BART's emergency preparedness plan and system service workers will be trained on responding to soiling and vandalism in BART stations.

12. Complaints about Disability Accessibility

BART will provide a phone number and email address to report accessibility problems.

13. Monitoring

Class Counsel shall also be responsible for monitoring BART's implementation of the Settlement Agreement throughout the term of the Settlement Agreement. BART will provide Class Counsel with regular reports about BART's compliance with the terms of the Settlement Agreement. BART and Class Counsel will also meet periodically during the term of the Settlement Agreement to discuss BART's efforts to implement and comply with the Settlement Agreement.

RELEASE OF CLAIMS

The Settlement Agreement resolves and releases, for all members of the Settlement Class for the term of the Settlement Agreement, all claims for injunctive, declaratory or other non-monetary relief that were brought, could have been brought, or could be brought in the future under accessibility laws and that relate to the accessibility of any BART facilities to individuals with mobility disabilities. The Settlement Agreement does not provide for any monetary relief to the Settlement Class, and it does not release any damages claims that Settlement Class members may have.

REASONABLE ATTORNEYS' FEES, COSTS AND EXPENSES

The settlement class is represented by Disability Rights Advocates and Legal Aid at Work. BART has agreed, subject to court approval, to pay Class Counsel \$825,000 for their attorneys'

fees, costs and expenses associated with representing the class. Class Counsel shall also be entitled to monitoring fees and costs as set forth in the Settlement Agreement. Any award of attorneys' fees, costs and expenses must be approved by the Court as fair, reasonable and consistent with prevailing marketplace standards. The Court-awarded amount will not be paid from the monies to be spent on disability access improvements required by the Settlement Agreement.

FAIRNESS OF SETTLEMENT

The Class Representatives and Class Counsel have concluded that the terms and conditions of the proposed Settlement Agreement are fair, reasonable, adequate, and in the best interests of the Settlement Class. In reaching this conclusion, the Class Representatives and Class Counsel have considered the benefits of the settlement, the possible outcomes of continued litigation of these issues, the expense and length of continued litigation, and actual and possible appeals.

THE COURT'S FINAL APPROVAL HEARING

The Court has preliminarily approved the settlement, and has scheduled a hearing for [date] in the Courtroom of the Honorable Laurel Beeler, United States District Court for the Northern District of California, 450 Golden Gate Avenue, Courtroom B (15th Floor) San Francisco, CA 94102, to decide whether the proposed settlement is fair, reasonable, and adequate, and should be finally approved. Although you are not required to attend, as a Settlement Class member, you have the right to attend and be heard at this hearing. At the hearing, the Court will consider any objections to the settlement. Judge Beeler will listen to people who have asked to speak at the hearing. After the hearing, the Court will decide whether to approve the settlement.

This hearing date is subject to change without further notice. If you wish to be informed of any changes to the schedule, please notify Class Counsel at the addresses listed in the next section below. You may also check [web address] or the public court records on file in this action at <https://www.pacer.gov/> for any updates.

OBJECTIONS TO THE SETTLEMENT

You can ask the Court to deny approval by filing an objection. You cannot ask the Court to order a different settlement; the Court can only approve or reject the settlement. If the Court denies approval, the lawsuit will continue. If that is what you want to happen, you must object.

Any objection to the proposed settlement must be in writing. If you file a timely written objection, you may, but are not required to, appear at the Final Approval Hearing, either in person or through your own attorney. If you appear through your own attorney, you are responsible for hiring and paying that attorney. All written objections and supporting papers must (a) clearly identify the case name and number (*Senior and Disability Action, et al. v. Bay Area Rapid Transit District, et al*, Case Number 3:17-cv-01876-LB), (b) be submitted to the Court either by mailing them to the Class Action Clerk, United States District Court for the Northern District of California, 450 Golden Gate Avenue, 16th Floor, San Francisco, CA 94102,

or by filing them in person at any location of the United States District Court for the Northern District of California, and (c) be filed or postmarked on or before _____.

IF YOU DO NOT TIMELY MAKE AN OBJECTION AS DESCRIBED ABOVE, YOU WILL BE DEEMED TO HAVE WAIVED YOUR OBJECTION AND SHALL BE FORECLOSED FROM MAKING ANY OBJECTION TO THE SETTLEMENT.

IF YOU DO NOT OPPOSE THIS SETTLEMENT, YOU NEED NOT APPEAR OR FILE ANYTHING IN WRITING.

BINDING EFFECT

The proposed Settlement Agreement, if given final approval by the Court, will bind all members of the Settlement Class. This will bar any person who is a member of the Settlement Class from prosecuting or maintaining any claim or action released under the terms of the Settlement Agreement.

FURTHER INFORMATION

The terms of the settlement are only summarized in this notice. For the precise and full terms and conditions of the settlement, please see the Settlement Agreement available at www._____.com, or by accessing the Court docket on this case through the Court's Public Access to Electronic Records (PACER) system at <https://ecf.cand.uscourts.gov>, or by visiting the office of the Clerk of the Court for the United States District Court for the Northern District of California, 450 Golden Gate Avenue, 16th Floor, San Francisco, California, 94102, between 9:00 a.m. and 1:00 p.m., Monday through Friday, excluding Court holidays.

You can also obtain more detailed information about the settlement or a copy of the Settlement Agreement from Class Counsel at the following addresses and telephone numbers:

Jinny Kim
Disability Rights Advocates
2001 Center Street, Third Floor
Berkeley, CA 94704
(510) 324-9638
jkim@dralegal.org

Christopher Ho
Legal Aid at Work
180 Montgomery Street, Suite 600
San Francisco, CA 94104
(415) 864-8848
cho@legalaidthatwork.org

Please do not direct questions to the District Court.

To obtain copies of this Notice in alternative accessible formats, please contact Class Counsel listed above.

EXHIBIT B-1

**NOTICE OF PROPOSED SETTLEMENT OF CLASS ACTION LAWSUIT
REGARDING BAY AREA TRANSIT DISTRICT**

ATTENTION: ALL PERSONS WITH A MOBILITY DISABILITY: If you have used, tried to use, or believe you will in the future use or try to use any of Bay Area Rapid Transit's station elevators, escalators, accessible fare gates, call boxes, communication systems or signage **you may be a member of the proposed settlement class affected by this lawsuit.** This is a court-authorized notice.

Who is included in the Settlement?

The settlement class includes all persons with any mobility disability, who from April 5, 2014 through June 1, 2039: (1) have needed to use the Accessible Features of BART facilities; or (2) will need to use the Accessible Features of BART facilities.

What does the Settlement provide?

The Settlement Agreement will be in effect until June 1, 2039, at the latest. Throughout that time period, BART has agreed to changes that will improve access to its facilities for people with mobility disabilities, including repairs and maintenance of elevators, escalators, call boxes and accessible fare gates, providing elevator attendants, making changes to its System Service Workers' practices regarding soiling in BART stations, outage communications, elevator mitigation and emergency preparedness plans, employee training and signage/path of travel.

The Settlement Agreement also provides for a release of all claims for injunctive, declaratory and other non-monetary claims, but does not release claims for monetary relief. Class Counsel (Disability Rights Advocates and Legal Aid at Work) will also be entitled to attorneys' fees and costs, and the Class Representatives will be entitled to incentive payments.

What are my rights?

Even if you do nothing you will be bound by the Court's decisions as to the fairness of the Settlement Agreement. The Court has preliminarily approved the settlement, and has scheduled a hearing for [date] in the Courtroom of the Honorable Laurel Beeler, United States District Court for the Northern District of California, 450 Golden Gate Avenue, Courtroom B (15th Floor) San Francisco, CA 94102, to decide whether the proposed settlement is fair, reasonable, and adequate, and should be finally approved. You may object prior to the hearing in writing and/or appear in person at the hearing to object. You may also contact Class Counsel before the hearing to discuss the Settlement Agreement and any concerns you may have.

For More Detailed Information

The terms of the settlement are only summarized in this notice. For the precise and full terms and conditions of the settlement, please see the Settlement Agreement available at www.bart.com, or by contacting Class Counsel (Disability Rights Advocates, 510-324-9638, bart@dralegal.org; Legal Aid at Work, 415-864-8848).

EXHIBIT C

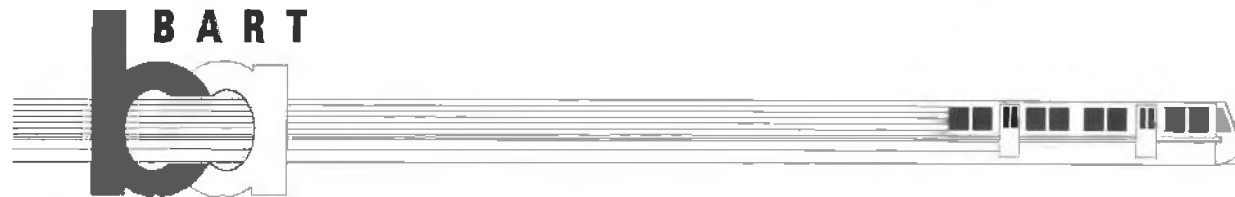
EXHIBIT C

1. Disability Rights California
2. Disability Rights Education and Defense Fund
3. The Center for Independent Living (Berkeley)
4. Silicon Valley Independent Living Center
5. Independent Living Resources of Solano and Contra Costa Counties
6. Center for Independence for Individuals with Disabilities (San Mateo)
7. Community Resources for Independent Living (Hayward)
8. Regional Center of the East Bay
9. Golden Gate Regional Center
10. People with Disabilities Foundation
11. Toolworks
12. Pomeroy Recreation and Rehabilitation Center
13. Community Living Campaign
14. Support for Families of Children with Disabilities
15. Bay Area Outreach and Recreation Program
16. Through the Looking Glass
17. Ability Now Bay Area
18. Computer Technologies Program
19. Any cases pending in the United States District Court, Northern District, based in whole or in part upon claims similar to those released by the Agreement where BART is named as a party and has entered an appearance

EXHIBIT D

Elevator SMP MEMO

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



BART's Elevator Strategic Maintenance Program

How long should most elevator equipment last? “A common rule of thumb in the industry is an elevator older than 20 years is a probable candidate for modernization”. Reference Elevator Source at website: (http://www.elevatorsource.com/elevator_life_expectancy.htm). Understand the environment, conditions, usage and abuse of the elevator, related equipment and building condition, significantly affect the useful life expectancy of the equipment. BART elevators operate in one of the harshest environments for vertical transportation in the industry.

Over the last three years, BART has taken steps to implement an elevator Strategic Maintenance Program (SMP) and improve elevator reliability. The Elevator / Escalator department was one the first divisions to migrate into MAXIMO, a computerized maintenance management system (CMMS) instituted to provide cradle to grave asset management, maintenance workorder tracking and inventory management. The department has a comprehensive and well-documented written maintenance control program that serves as an excellent transit industry example. These transitions have drastically improved elevator & escalator transparency and aided in advancing improved key performance indicators and metrics.

The Maintenance and Engineering Group created and continues to staff and grow a Reliability Division employing Maintenance Engineers capable and responsible for data mining MAXIMO and assisting in identifying repeat failures and common component failures resulting in elevator outages. See Appendix I, for an example of analyzing elevator maintenance history. Based on the findings, preventative measures are taken to replace certain parts and take actions at scheduled preventative maintenance (PM) intervals. The information derived is critical in root cause analysis, tracking repair activities and used to adjust spare parts inventories accordingly to ensure adequate availability. Furthermore, the information gathered is examined to improve reliability of the Elevator Preventative Maintenance program, ensuring each inspection task is functional and applicable.

In addition to Maintenance Engineers, another proactive approach is employed; Planners are utilized to develop job plans and schedule maintenance in advance of failures. Assembling all needed material to perform a repair in advance and having the equipment delivered to the job site greatly improves efficiency and reduces out of service time.

Another feature of the emerging SMP is seasonal campaign programs, including making sure elevator sump pumps and drains function properly prior to the rainy season and checking the operation of air conditioners and vents in elevator machine rooms prior to summer.

Training is another pillar in the SMP that the department continues to improve. Ensuring standard operating procedures (SOP) are in place and all personnel are trained to these procedures promotes safety and ensures quality. The information gathered from the CMMS helps identify areas where additional training is warranted, due to repeat failures or extensive downtime due to insufficient subject matter expertise.

An Asset Management Program provides asset condition and performance data for the SMP program. This includes consideration of industry norms and analysis of maintenance history to predict key component life cycles and potential failure points that affect an elevator reaching the end of its cost-effective life. Findings corroborate the reduction in useful life experienced in the harsh environment of BART's busy public transit system. Table 1 identifies Industry Expected Useful Life, compared to BART's Expected Useful Life for key components and recommended maintenance actions.

Table 1

Expected Useful Life of Key Elevator Components Table			
Equipment Type	Industry Expected Useful Life in Years	BART's Expected Useful Life in Years	Recommended Action
Electrical Wiring	30	20	Replace
Controller Dispatcher	20 – 25	10 - 15	Replace
Cab Interior / Floor	15	10	Refurbish Interior
Machinery / Pumps / Motors / Reservoir's	30	15	Replace / Renew
Landing Doors / Operators / Linkage / Hardware	20 – 30	15	Replace
Cab Doors / Operators / Linkage / Hardware	20 – 30	15	Replace
Building Landing Sills / Cab Sills	25 – 30	15	Replace
Hoist Rails / Hardware	25	15	Realign rails / Balance Cab
Cables	20	15	Replace
Traveling Cables	20	15	Replace
Hydraulic Piston	25	25	Replace

Elevator Call Station	15	12	Replace
Elevator Car Operating Panel (COP)	20	15	Replace

BART Elevator Specifics

BART operates 138 elevators 21 hours a day, 7 days a week throughout 45 stations, carrying over 100 million passengers annually. There are 87 station elevators, 46 parking structure elevators and 5 shop/freight elevators. See Table 2 for a detailed breakdown of elevator assets, manufacture, type and age. Reference Appendix II (Elevator Assets) for a detailed list of each district elevator and location.

TABLE 2 (Derived from Appendix II - Elevator Assets)

Elevators			
Manufacture	Type	Age (Years)	Quantity
Armor	Hydraulic	45	47
U.S.	Traction	45	23
Thyssen	Hydraulic	20	13
MCE	Traction	20	10
Fujitec	Traction	20	8
Ascent	Hydraulic	5	7
Montgomery	Traction	25	7
VERTRANS	Hydraulic	20	6
MK	Hydraulic	25	4
Kone	Hydraulic	40	4
Schindler	Hydraulic	20	1
Dover	Hydraulic	40	2
Motion 2000	Traction	6	2
ESCO (Freight)	Hydraulic	40	1
Westinghouse (Vent)	Traction	45	1

Smart Rise	Hydraulic	3	2
VEMC-1000 (M40-57)	Traction	45	1
Wheel Chair Lifts	Elect	20 / 3	3

STATE OF GOOD REPAIR

Working with a leading industry expert in vertical transportation, BART sought and funded a comprehensive elevator state of good repair study of all station elevators. See Appendix III, summary of station elevators. The study examined each elevator and prioritized a three (3)-phase modernization schedule based on the present condition, function and capacity. A recommended elevator modernization program prioritized and presented in a 1 to 3 year, 3 to 5 and a 5 to 7-year schedule. Cost for each elevator modernization was defined in hard (material) dollars only.

A thorough comparison of the VTX elevator assessment against elevator maintenance history was conducted to confirm the elevators needing immediate modernization. Several factors were considered in the assessment: age of the equipment, maintenance history, out of service time over the last four (4) years, criticality, and existence of obsolesces of components.

Forty elevators were identified as needing a modernization in the next one (1) to three (3) years. See Appendix IV (Elevator Renovation) for a detailed breakdown of each elevator identified.

FUNDING

The practice of running elevators and escalators to failure; minimally funding elevators and escalators maintenance until failure and reliability levels are intolerable before seeking modernization funding is shifting. BART recognizes the need for, and is working to establish, a dedicated long-term funding source which will allow for appropriate maintenance and renewal to maintain a consistent state of good repair.

STAFFING AND QUALIFICATION

Despite all the great advancements made in elevator escalator maintenance, the Achilles Heel is the lack of qualified staff to keep up with the aging equipment failures. The State of California requires that all work performed on an elevator or escalator be signed off by a state licensed Certified Competent Conveyance Mechanic (CCCM).

An industry review of CCCM hourly rates indicates BART's hourly pay for a licensed CCCM is on average \$25.00 dollars less per hour. Wages are negotiated with the union representing BART employees and requests for wage changes for a single classification have been unsuccessful. BART offers an excellent benefit package. However, in times of a growing economy, BART has been unsuccessful in competing with the private sector.

To address the shortfall of CCCM employees over the last three (3) years BART has hired sixteen unlicensed mechanics to assist the existing twenty-four licensed mechanics progress

work more quickly. After three years of industry experience these sixteen employees will qualify to take the State CCCM examination. BART has also established a four-year apprentice program. Six students are currently in their second year of study. Upon successful completion of the program students will be awarded a CCCM license by the state.

SUMMARY

In summary, over the last three years BART, with the assistance of Vertical Transportation Excellence (VTX), has taken deliberate steps toward the development and implementation of a vertical transportation SMP, including CMMS maintenance history tracking, data analysis, cradle to grave asset management, inventory control and employee development.

A three-phase renewal program has been defined and efforts are underway to secure funding for this effort. Additionally, there is an understanding that the funding model must change to ensure adequate support for maintain a consistent state of good repair into the future.

Station Elevation Renovation Program

STATION ELEVATOR RENOVATION PHASE 1 (8 Elev earmarked for Phase 1, followed by Phase 2 Contract designed & developed for 32 Elev)																	
40 Elev x 400K = 17.4M																	
Alias	# of rpt Failures 2017	Description	Type	Controller Replacement	RAM Replacement	Door Package Replacement	VTX Renovation Piping Plan	VTX Assessment	Phase Plan	Jan-19	Second Year Construction					Renovation should consist of:	
										Phase 1 16wks Budget	Phase 2 16wks Budget	Phase2 16wks Budget	Phase 2 16wks Budget	Phase 2 16 Wk Budget	Phase 2 16Wk Budget		
A10-28	83	S	HYD	Yes	Yes	Yes	5-7	Severe	3			\$400,000.00				Controllers	
A20-1	61	P	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Wiring	
A20-2	37	P	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Rams, where needed	
A30-3	209	P	HYD	Yes	Yes	Yes	1-3	Severe	1	\$400,000.00						Doors	
A30-30	83	S	HYD	Yes	Yes	Yes	3-5	Severe	1	\$400,000.00						Sills - both building Hoistway sills / Elev Cab Door sills	
A40-4	134	P	HYD	Yes	Yes	Yes	3-5	Severe	6						400,000.00	Trac - Ropes	
A50-6	84	P	HYD	Yes	Yes	Yes	3-5	Severe	5					400,000.00		Sheaves	
A60-7	72	P	HYD	Yes	Yes	Yes	1-3	Severe	4				\$400,000.00			Track / Rails / Roller guides	
A70-10	23	P	HYD	Yes	Yes	Yes	1-3	Severe	3			\$400,000.00				Cab Control Operating Panel (COP)	
A70-9	32	P	HYD	Yes	Yes	Yes	1-3	Severe	3			\$400,000.00				Lighting	
A90-13	48	P	HYD	Yes	Yes	Yes	1-3	Severe	5					400,000.00		Fan / ventilation	
C10-14	80	S&P	HYD	Yes	Yes	Yes	3-5	Severe	4				\$400,000.00			Pumps / Gear Box	
C70-92	14	P	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Motors	
C80-93	128	S	HYD	Yes	Yes	Yes	1-3	Severe	1	\$400,000.00						Reservoir / Tanks	
C80-94	91	P	HYD	Yes	Yes	Yes	1-3	Severe	1	\$400,000.00						Valves	
K10-22	87	S	HYD	Yes	Yes	Yes	1-3	Severe	3			\$400,000.00				Renew / Replace Plumbing & Victaulic Fittings	
K10-23	75	P	TRA	Yes	Yes	Yes	3-5	Severe	3			\$400,000.00					
K20-24	222	S	HYD	Yes	Yes	Yes	3-5	Severe	4				\$400,000.00				
K30-118	142	P	HYD	Yes	Yes	Yes	3-5	Severe	2			\$400,000.00				40 Elev x 400K = 17M	
K30-119	122	P	HYD	Yes	Yes	Yes	5-7	Severe	2			\$400,000.00					
L30-99	102	P	HYD	Yes	Yes	Yes	5-7	Severe	4				\$400,000.00				
M16-62	104	S	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Severe 1 to 3 years	
M16-63	134	P	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Poor 3 to 5 years	
M20-52	156	S	HYD	Yes	Yes	Yes	5-7	Severe	4				\$400,000.00				
M20-53	189	P	HYD	Yes	Yes	Yes	1-3	Severe	4				\$750,000.00				
M30-54	199	S	HYD	Yes	Yes	Yes	3-5	Severe	3			\$400,000.00					
M30-55	248	P	TRA	Yes	Yes	Yes	1-3	Severe	3			\$750,000.00				20 Agree Both Maint / VTX Agree Immediate Ren	
M40-56	190	S	HYD	Yes	Yes	Yes	1-3	Severe	1	\$400,000.00						16 Disagree Means BART Maintenance suggest immediate renovation	
M40-57	278	P	TRA	Yes	Yes	Yes	1-3	Severe	1	\$750,000.00						4 Disagree Means VTX suggest immediate renovation	
M50-33	154	S	HYD	Yes	Yes	Yes	3-5	Severe	5					400,000.00			
M50-34	85	P	TRA	Yes	Yes	Yes	3-5	Severe	5					400,000.00			
M60-35	150	S	HYD	Yes	Yes	Yes	1-3	Severe	6						400,000.00		
M60-36	110	P	TRA	Yes	Yes	Yes	1-3	Severe	6						400,000.00		
M70-37	28	P	TRA	Yes	Yes	Yes	1-3	Poor	2			400,000.00				4 Station working Concurrently spread throughout the District	
M80-38	108	S/P	HYD	Yes	Yes	Yes	5-7	Severe	5					400,000.00		18 Months to Disgn / Develop Contract	
M90-39	28	P	HYD	Yes	Yes	Yes	1-3	Poor	4				\$400,000.00			Bid / Award Contract = 6 Months	
M90-40	26	P	HYD	Yes	Yes	Yes	1-3	Poor	4				\$400,000.00			NTP = 6 Months	
R20-44	90	S	HYD	Yes	Yes	Yes	5-7	Severe	1	\$400,000.00						Construction Begins 2.5 years from the day Contract Disgn begins	
R20-45	32	P	TRA	Yes	Yes	Yes	1-3	Poor	1	\$750,000.00						If we Start Contract Design today Construction begins July 2020	
R30-46	73	P	HYD	Yes	Yes	Yes	1-3	Severe	2			\$400,000.00				Contractor provides 4 crews (8 personnel total) two year Contract	
40				40	15	40	40			\$3,900,000.00	\$3,200,000.00	\$3,550,000.00	\$3,550,000.00	\$2,000,000.00	\$1,200,000.00	\$17,400,000.00	

Jan-19 Jan - Apr 2020 May - Aug 2020 Sep - Dec 2020 Jan - Apr 2021 May - Aug 2021
 FY19 = 3.9M FY20 = 6.8M FY21 = 6.8M

Appendix I

(Elevator Analysis)

Alias	Component	Failures	Rank
A30-3	6000: Elevators	32	1
A30-3	6110: HATCH DOORS	24	2
A30-3	6113: HATCH DOOR GIBBS / SILLS	17	3
A30-3	6201: CAR DOOR	17	3
A30-3	6111: HATCH DOOR INTERLOCKS	14	5
A30-3	6115: HATCH DOOR PICKUP ROLLERS	14	5
A30-3	6215: CAR DOOR SILL	8	7
A30-3	6202: CAR DOOR CLUTCH	7	8
A30-3	6204: CAR DOOR GIBBS	7	8
A30-3	6323: MLT - MOTOR LIMIT TIMER	5	10
A30-3	6216: CAR DOOR ZONE LOCK	5	10
A30-3	6405: HALL CALL ENABLE SWITCH	5	10
A40-4	6504: HYDRAULIC RESERVOIR	40	1
A40-4	6000: Elevators	15	2
A40-4	6323: MLT - MOTOR LIMIT TIMER	14	3
A40-4	6514: SCAVENGER RECOVERY TANK	11	4
A40-4	6508: PACKING HEAD	9	5
A40-4	6500: Elevator - Hydraulic	6	6
A40-4	6110: HATCH DOORS	4	7
A40-4	6115: HATCH DOOR PICKUP ROLLERS	4	7
A40-4	6120: HATCH LANDING SYSTEM TAPE GUIDES	3	9
A40-4	6201: CAR DOOR	3	9
C80-93	6000: Elevators	21	1
C80-93	6111: HATCH DOOR INTERLOCKS	14	2
C80-93	6110: HATCH DOORS	14	3
C80-93	6201: CAR DOOR	10	4
C80-93	6113: HATCH DOOR GIBBS / SILLS	9	5
C80-93	6215: CAR DOOR SILL	6	6
C80-93	6121: HATCH LIMIT SWITCHES	4	7
C80-93	6115: HATCH DOOR PICKUP ROLLERS	4	7
C80-93	6200: Elevator Cab	3	9
C80-93	6203: CAR DOOR GATE SWITCH	3	9
C80-93	6207: CAR DOOR LIGHT RAY / DETECTOR	3	9
C80-93	6504: HYDRAULIC RESERVOIR	3	9
C80-94	6110: HATCH DOORS	13	1
C80-94	6000: Elevators	12	2
C80-94	6111: HATCH DOOR INTERLOCKS	9	3
C80-94	6201: CAR DOOR	6	4
C80-94	6115: HATCH DOOR PICKUP ROLLERS	5	5
C80-94	6822: RELAY	5	5
C80-94	6121: HATCH LIMIT SWITCHES	5	5
C80-94	6113: HATCH DOOR GIBBS / SILLS	3	8
C80-94	6310: DOOR LOCK CONTACT FAILURE	3	8

C80-94	6202: CAR DOOR CLUTCH	3	8
C80-94	6203: CAR DOOR GATE SWITCH	3	8
K10-120	6121: HATCH LIMIT SWITCHES	16	1
K10-120	6000: Elevators	14	2
K10-120	6232: LIGHTS	5	3
K10-120	6113: HATCH DOOR GIBBS / SILLS	5	3
K10-120	6110: HATCH DOORS	5	3
K10-120	6316: FRS - FIRE SERVICE PHASE 1	4	6
K10-120	6233: PHONE / INTERCOM	4	6
K10-120	6100: Elevator - Hoistway	4	6
K10-120	6225: CAR OPERATING PANEL (COP)	3	9
K10-120	6808: FUSE	2	10
K10-120	6207: CAR DOOR LIGHT RAY / DETECTOR	2	10
K10-120	6504: HYDRAULIC RESERVOIR	2	10
K10-120	6111: HATCH DOOR INTERLOCKS	2	10
K10-120	6804: CONTACT	2	10
K10-120	7000: Escalators	2	10
K20-24	6504: HYDRAULIC RESERVOIR	66	1
K20-24	6323: MLT - MOTOR LIMIT TIMER	34	2
K20-24	6000: Elevators	32	3
K20-24	6508: PACKING HEAD	19	4
K20-24	6514: SCAVENGER RECOVERY TANK	15	5
K20-24	6500: Elevator - Hydraulic	8	6
K20-24	6113: HATCH DOOR GIBBS / SILLS	5	7
K20-24	6503: FLOW VALVE / RUPTURE VALVE	3	8
K20-24	6206: CAR DOOR HANGER OR ROLLERS	3	8
K20-24	6111: HATCH DOOR INTERLOCKS	3	8
K20-24	6207: CAR DOOR LIGHT RAY / DETECTOR	3	8
K30-118	6504: HYDRAULIC RESERVOIR	40	1
K30-118	6508: PACKING HEAD	21	2
K30-118	6000: Elevators	19	3
K30-118	6323: MLT - MOTOR LIMIT TIMER	18	4
K30-118	6514: SCAVENGER RECOVERY TANK	8	5
K30-118	6500: Elevator - Hydraulic	6	6
K30-118	6205: CAR DOOR ASTRAGAL	5	7
K30-118	6110: HATCH DOORS	5	7
K30-118	6201: CAR DOOR	4	9
K30-118	6207: CAR DOOR LIGHT RAY / DETECTOR	4	9
K30-119	6504: HYDRAULIC RESERVOIR	31	1
K30-119	6514: SCAVENGER RECOVERY TANK	12	2
K30-119	6000: Elevators	11	3
K30-119	6508: PACKING HEAD	11	3
K30-119	6323: MLT - MOTOR LIMIT TIMER	8	5
K30-119	6110: HATCH DOORS	6	6

K30-119	6204: CAR DOOR GIBBS	5	7
K30-119	6205: CAR DOOR ASTRAGAL	5	7
K30-119	6500: Elevator - Hydraulic	5	7
K30-119	6207: CAR DOOR LIGHT RAY / DETECTOR	4	10
L30-99	6504: HYDRAULIC RESERVOIR	18	1
L30-99	6111: HATCH DOOR INTERLOCKS	13	2
L30-99	6113: HATCH DOOR GIBBS / SILLS	10	3
L30-99	6000: Elevators	9	4
L30-99	6204: CAR DOOR GIBBS	6	5
L30-99	6201: CAR DOOR	6	5
L30-99	6500: Elevator - Hydraulic	6	5
L30-99	6110: HATCH DOORS	5	8
L30-99	6215: CAR DOOR SILL	5	8
L30-99	6115: HATCH DOOR PICKUP ROLLERS	3	10
L30-99	6203: CAR DOOR GATE SWITCH	3	10
M16-62	6000: Elevators	15	1
M16-62	6113: HATCH DOOR GIBBS / SILLS	12	2
M16-62	6110: HATCH DOORS	11	3
M16-62	6201: CAR DOOR	8	4
M16-62	6500: Elevator - Hydraulic	6	5
M16-62	6207: CAR DOOR LIGHT RAY / DETECTOR	5	6
M16-62	6208: CAR DOOR OPERATOR	3	7
M16-62	6232: LIGHTS	3	7
M16-62	6313: DZ - DOOR ZONE	3	7
M16-62	6203: CAR DOOR GATE SWITCH	3	7
M16-63	6000: Elevators	21	1
M16-63	6113: HATCH DOOR GIBBS / SILLS	11	2
M16-63	6110: HATCH DOORS	10	3
M16-63	6201: CAR DOOR	7	4
M16-63	6207: CAR DOOR LIGHT RAY / DETECTOR	7	4
M16-63	6121: HATCH LIMIT SWITCHES	7	4
M16-63	6100: Elevator - Hoistway	6	7
M16-63	6111: HATCH DOOR INTERLOCKS	6	7
M16-63	6215: CAR DOOR SILL	6	7
M16-63	6104: HALL PUSHBUTTONS	4	10
M16-63	6115: HATCH DOOR PICKUP ROLLERS	4	10
M20-52	6504: HYDRAULIC RESERVOIR	53	1
M20-52	6000: Elevators	17	2
M20-52	6323: MLT - MOTOR LIMIT TIMER	13	3
M20-52	6110: HATCH DOORS	12	4
M20-52	6500: Elevator - Hydraulic	12	4
M20-52	6207: CAR DOOR LIGHT RAY / DETECTOR	10	6
M20-52	6201: CAR DOOR	4	7
M20-52	6208: CAR DOOR OPERATOR	4	7

M20-52	6508: PACKING HEAD	3	9
M20-52	6514: SCAVENGER RECOVERY TANK	3	9
M20-52	6113: HATCH DOOR GIBBS / SILLS	3	9
M20-52	6106: HALL PUSHBUTTON LAMPS	3	9
M20-53	6201: CAR DOOR	26	1
M20-53	6110: HATCH DOORS	23	2
M20-53	6000: Elevators	18	3
M20-53	6115: HATCH DOOR PICKUP ROLLERS	12	4
M20-53	6113: HATCH DOOR GIBBS / SILLS	11	5
M20-53	6202: CAR DOOR CLUTCH	9	6
M20-53	6407: HALL CALL PUSHBUTTONS	8	7
M20-53	6204: CAR DOOR GIBBS	7	8
M20-53	6207: CAR DOOR LIGHT RAY / DETECTOR	6	9
M20-53	6314: EQ - EARTHQUAKE	6	9
M30-54	6504: HYDRAULIC RESERVOIR	33	1
M30-54	6000: Elevators	25	2
M30-54	6323: MLT - MOTOR LIMIT TIMER	24	3
M30-54	6110: HATCH DOORS	20	4
M30-54	6201: CAR DOOR	10	5
M30-54	6215: CAR DOOR SILL	6	6
M30-54	6514: SCAVENGER RECOVERY TANK	6	6
M30-54	6207: CAR DOOR LIGHT RAY / DETECTOR	6	6
M30-54	6113: HATCH DOOR GIBBS / SILLS	5	9
M30-54	6226: CAR PUSH BUTTON	4	10
M30-54	6500: Elevator - Hydraulic	4	10
M30-55	6000: Elevators	37	1
M30-55	6110: HATCH DOORS	36	2
M30-55	6113: HATCH DOOR GIBBS / SILLS	22	3
M30-55	6201: CAR DOOR	20	4
M30-55	6816: OVERLOAD	10	5
M30-55	6207: CAR DOOR LIGHT RAY / DETECTOR	10	5
M30-55	6111: HATCH DOOR INTERLOCKS	8	7
M30-55	6702: BRAKE	6	8
M30-55	6204: CAR DOOR GIBBS	5	9
M30-55	6215: CAR DOOR SILL	5	9
M30-55	6115: HATCH DOOR PICKUP ROLLERS	5	9
M40-56	6000: Elevators	37	1
M40-56	6110: HATCH DOORS	26	2
M40-56	6201: CAR DOOR	17	3
M40-56	6113: HATCH DOOR GIBBS / SILLS	12	4
M40-56	6207: CAR DOOR LIGHT RAY / DETECTOR	11	5
M40-56	6100: Elevator - Hoistway	11	5
M40-56	6111: HATCH DOOR INTERLOCKS	7	7
M40-56	6115: HATCH DOOR PICKUP ROLLERS	6	8

M40-56	6500: Elevator - Hydraulic	6	8
M40-56	6215: CAR DOOR SILL	6	8
M40-57	6000: Elevators	55	7
M40-57	6110: HATCH DOORS	25	2
M40-57	6201: CAR DOOR	21	3
M40-57	6111: HATCH DOOR INTERLOCKS	14	4
M40-57	6207: CAR DOOR LIGHT RAY / DETECTOR	13	5
M40-57	6113: HATCH DOOR GIBBS / SILLS	12	6
M40-57	6115: HATCH DOOR PICKUP ROLLERS	8	7
M40-57	6600: Elevator - Traction	7	8
M40-57	6811: INVERTER	7	8
M40-57	6808: FUSE	6	10
M40-57	6202: CAR DOOR CLUTCH	6	10
M50-33	6504: HYDRAULIC RESERVOIR	38	1
M50-33	6000: Elevators	28	2
M50-33	6323: MLT - MOTOR LIMIT TIMER	19	3
M50-33	6110: HATCH DOORS	9	4
M50-33	6113: HATCH DOOR GIBBS / SILLS	9	4
M50-33	6514: SCAVENGER RECOVERY TANK	8	6
M50-33	6111: HATCH DOOR INTERLOCKS	8	6
M50-33	6204: CAR DOOR GIBBS	4	8
M50-33	6207: CAR DOOR LIGHT RAY / DETECTOR	3	9
M50-33	6505: JACK PLUMBING	3	9
M50-33	6231: KEY SWITCHES	3	9
M60-35	6000: Elevators	23	1
M60-35	6110: HATCH DOORS	19	2
M60-35	6504: HYDRAULIC RESERVOIR	15	3
M60-35	6115: HATCH DOOR PICKUP ROLLERS	8	4
M60-35	6111: HATCH DOOR INTERLOCKS	7	5
M60-35	6323: MLT - MOTOR LIMIT TIMER	7	5
M60-35	6113: HATCH DOOR GIBBS / SILLS	6	7
M60-35	6500: Elevator - Hydraulic	6	7
M60-35	6215: CAR DOOR SILL	6	7
M60-35	6201: CAR DOOR	5	10
M60-35	6204: CAR DOOR GIBBS	5	10
M60-35	6508: PLUMBING HEAD	5	10
M60-36	6000: Elevators	28	1
M60-36	6207: CAR DOOR LIGHT RAY / DETECTOR	8	2
M60-36	6110: HATCH DOORS	8	2
M60-36	6201: CAR DOOR	6	4
M60-36	6407: HALL CALL PUSHBUTTONS	5	5
M60-36	6113: HATCH DOOR GIBBS / SILLS	4	6
M60-36	6215: CAR DOOR SILL	4	6
M60-36	6111: HATCH DOOR INTERLOCKS	4	6

M60-36	6323: MLT - MOTOR LIMIT TIMER	3	9
M60-36	6816: OVERLOAD	3	9
M60-36	6401: AGENTS ELEVATOR CONTROL PENDANT	3	9
M60-36	6104: HALL PUSHBUTTONS	3	9
M80-38	6000: Elevators	33	1
M80-38	6110: HATCH DOORS	14	2
M80-38	6202: CAR DOOR CLUTCH	12	3
M80-38	6115: HATCH DOOR PICKUP ROLLERS	11	4
M80-38	6323: MLT - MOTOR LIMIT TIMER	6	5
M80-38	6113: HATCH DOOR GIBBS / SILLS	5	6
M80-38	6504: HYDRAULIC RESERVOIR	3	7
M80-38	6114: HATCH DOOR HANGER OR ROLLERS	3	7
M80-38	6201: CAR DOOR	2	9
M80-38	6112: HATCH DOOR CLOSER	2	9
M80-38	6215: CAR DOOR SILL	2	9
M80-38	6225: CAR OPERATING PANEL (COP)	2	9
M90-70	6000: Elevators	38	1
M90-70	6113: HATCH DOOR GIBBS / SILLS	26	2
M90-70	6110: HATCH DOORS	25	3
M90-70	6201: CAR DOOR	24	4
M90-70	6207: CAR DOOR LIGHT RAY / DETECTOR	12	5
M90-70	6310: DOOR LOCK CONTACT FAILURE	9	6
M90-70	6111: HATCH DOOR INTERLOCKS	7	7
M90-70	6215: CAR DOOR SILL	7	7
M90-70	6300: Elevator Safety Devices	7	7
M90-70	6800: Controller	3	10
M90-70	6208: CAR DOOR OPERATOR	3	10
M90-70	6500: Elevator - Hydraulic	3	10
M90-71	6000: Elevators	19	1
M90-71	6201: CAR DOOR	13	2
M90-71	6110: HATCH DOORS	12	3
M90-71	6113: HATCH DOOR GIBBS / SILLS	9	4
M90-71	6111: HATCH DOOR INTERLOCKS	5	5
M90-71	6309: DOOR DETECTOR	5	5
M90-71	6207: CAR DOOR LIGHT RAY / DETECTOR	4	7
M90-71	6116: HATCH DOOR RELATING CABLE	3	8
M90-71	6115: HATCH DOOR PICKUP ROLLERS	3	8
M90-71	6215: CAR DOOR SILL	3	8
R10-111	6000: Elevators	18	1
R10-111	6800: Controller	12	2
R10-111	6110: HATCH DOORS	10	3
R10-111	6504: HYDRAULIC RESERVOIR	8	4
R10-111	6500: Elevator - Hydraulic	6	5
R10-111	6201: CAR DOOR	6	5

R10-111	6313: DZ - DOOR ZONE	5	7
R10-111	6104: HALL PUSHBUTTONS	5	7
R10-111	6121: HATCH LIMIT SWITCHES	4	9
R10-111	6202: CAR DOOR CLUTCH	4	9
R10-113	6000: Elevators	28	1
R10-113	6110: HATCH DOORS	14	2
R10-113	6808: FUSE	13	3
R10-113	6111: HATCH DOOR INTERLOCKS	12	4
R10-113	6121: HATCH LIMIT SWITCHES	9	5
R10-113	6115: HATCH DOOR PICKUP ROLLERS	7	6
R10-113	6500: Elevator - Hydraulic	6	7
R10-113	6204: CAR DOOR GIBBS	4	8
R10-113	6113: HATCH DOOR GIBBS / SILLS	4	8
R10-113	6226: CAR PUSH BUTTON	4	8
R10-113	6300: Elevator Safety Devices	4	8
R20-44	6000: Elevators	17	1
R20-44	6201: CAR DOOR	8	2
R20-44	6110: HATCH DOORS	6	3
R20-44	6508: PACKING HEAD	5	4
R20-44	6504: HYDRAULIC RESERVOIR	5	4
R20-44	6407: HALL CALL PUSHBUTTONS	4	6
R20-44	6323: MLT - MOTOR LIMIT TIMER	3	7
R20-44	6104: HALL PUSHBUTTONS	3	7
R20-44	6111: HATCH DOOR INTERLOCKS	3	7
R20-44	6204: CAR DOOR GIBBS	3	7
R20-44	6514: SCAVENGER RECOVERY TANK	3	7
R20-44	6500: Elevator - Hydraulic	3	7
R50-49	6000: Elevators	17	1
R50-49	6323: MLT - MOTOR LIMIT TIMER	17	1
R50-49	6504: HYDRAULIC RESERVOIR	12	3
R50-49	6113: HATCH DOOR GIBBS / SILLS	9	4
R50-49	6110: HATCH DOORS	6	5
R50-49	6204: CAR DOOR GIBBS	5	6
R50-49	6201: CAR DOOR	4	7
R50-49	6508: PACKING HEAD	4	7
R50-49	6207: CAR DOOR LIGHT RAY / DETECTOR	3	9
R50-49	6215: CAR DOOR SILL	3	9
R50-49	6111: HATCH DOOR INTERLOCKS	3	9
R50-50	6504: HYDRAULIC RESERVOIR	30	1
R50-50	6204: CAR DOOR GIBBS	17	2
R50-50	6113: HATCH DOOR GIBBS / SILLS	16	3
R50-50	6000: Elevators	15	4
R50-50	6323: MLT - MOTOR LIMIT TIMER	12	5
R50-50	6110: HATCH DOORS	11	6

R50-50	6201: CAR DOOR	9	7
R50-50	6508: PACKING HEAD	5	8
R50-50	6514: SCAVENGER RECOVERY TANK	5	8
R50-50	6202: CAR DOOR CLUTCH	4	10
R50-50	6207: CAR DOOR LIGHT RAY / DETECTOR	4	10
R50-75	6000: Elevators	15	1
R50-75	6808: FUSE	10	2
R50-75	6110: HATCH DOORS	7	3
R50-75	6817: PC BOARDS	7	3
R50-75	6201: CAR DOOR	6	5
R50-75	6822: RELAY	5	6
R50-75	6111: HATCH DOOR INTERLOCKS	5	6
R50-75	6113: HATCH DOOR GIBBS / SILLS	4	8
R50-75	6800: Controller	3	9
R50-75	6115: HATCH DOOR PICKUP ROLLERS	2	10
R50-75	6200: Elevator Cab	2	10
R50-75	6619: MOTOR GENERATOR SET BRUSHES	2	10
R50-75	6232: LIGHTS	2	10
R50-75	6702: BRAKE	2	10
R50-75	6207: CAR DOOR LIGHT RAY / DETECTOR	2	10
R50-75	7000: Escalators	2	10
R50-75	6310: DOOR LOCK CONTACT FAILURE	2	10
R50-75	6121: HATCH LIMIT SWITCHES	2	10
R60-61	6000: Elevators	27	1
R60-61	6110: HATCH DOORS	13	2
R60-61	6113: HATCH DOOR GIBBS / SILLS	10	3
R60-61	6111: HATCH DOOR INTERLOCKS	6	4
R60-61	6500: Elevator - Hydraulic	6	4
R60-61	6207: CAR DOOR LIGHT RAY / DETECTOR	5	6
R60-61	6215: CAR DOOR SILL	4	7
R60-61	6204: CAR DOOR GIBBS	4	7
R60-61	6121: HATCH LIMIT SWITCHES	4	7
R60-61	6800: Controller	3	10
R60-61	6201: CAR DOOR	3	10
R60-61	6700: Machine Room Equipment	3	10
R60-61	6518: VALVE UP/DOWN ADJ.	3	10
W40-117	6000: Elevators	36	1
W40-117	6323: MLT - MOTOR LIMIT TIMER	13	2
W40-117	6800: Controller	11	3
W40-117	6111: HATCH DOOR INTERLOCKS	7	4
W40-117	6817: PC BOARDS	4	5
W40-117	6811: INVERTER	3	6
W40-117	6120: HATCH LANDING SYSTEM TAPE GUIDES	2	7
W40-117	6302: CAR SAFETY DEVICE	2	7

W40-117	6827: SAFETY CIRCUIT	2	1
W40-117	6830: SOFT START	2	1

Component	Failures	Rank
6000: Elevators	732	0
6504: HYDRAULIC RESERVOIR	407	1
6110: HATCH DOORS	393	2
6800: Controller / Electronic	382	3
6201: CAR DOOR	256	2
6113: HATCH DOOR GIBBS / SILLS	247	2
6323: MLT - MOTOR LIMIT TIMER	217	1
6111: HATCH DOOR INTERLOCKS	175	2
6207: CAR DOOR LIGHT RAY / DETECTOR	133	2
6115: HATCH DOOR PICKUP ROLLERS	109	2
6500: Elevator - Hydraulic	103	1

1313 Door Issues

727 Oil Issues

Controller / Electronic Issues

Appendix II

(Elevator Assets)

Asset	Station	Alias	Description	Model	Location	Status
15000486		A10-140	Elevator, ASCENT - HYD-P (POS 304), A10-140		A10	OPERATING
10001503		A10-28	Elevator, HMC-1000-P, ARMOR HYD-P (POS 304), A10-28	HMC-1000-P	A10	OPERATING
10001501		A10-29	Elevator, HMC-1000-P, ARMOR HYD-P (POS 304), A10-29	HMC-1000-P	A10	DECOMMISSIONED
10001504		A20-1	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 120), A20-1	HMC-1000-P	A20	OPERATING
10001505		A20-2	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 120), A20-2	HMC-1000-P	A20	OPERATING
10001580		A20-72	Elevator, IMC-AC, THYSSEN TRA-G (POS 120), A20-72	IMC-AC	A20	OPERATING
10001579		A20-73	Elevator, IMC-AC, THYSSEN TRA-G (POS 120), A20-73	IMC-AC	A20	OPERATING
10001506		A30-3	Elevator, HMC-1000-P, ARMOR HYD-P (POS 120), A30-3	HMC-1000-P	A30	OPERATING
10001507		A30-30	Elevator, HMC-1000, U.S. HYD-S (POS 120), A30-30	HMC-1000	A30	OPERATING
10001805		A30-L1	Wheel Chair Lift, GSL-1, Garavent (Station)-S (POS 120), A30-L1	GSL-1	A30	OPERATING
10001804		A30-L2	Wheel Chair Lift, GSL-1, Garavent (Prk)-S (POS 120), A30-L2	GSL-1	A30	OPERATING
10001508		A40-4	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A40-4	HMC-1000-P	A40	OPERATING
10001509		A40-5	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A40-5	HMC-1000-P	A40	OPERATING
10001510		A50-6	Elevator, HMC-1000-P, ARMOR HYD-P (POS 205), A50-6	HMC-1000-P	A50	OPERATING
10001511		A60-7	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A60-7	HMC-1000-P	A60	OPERATING
10001581		A60-76	Elevator, VVMC-1000, Star Delta TRA-G (POS 205), A60-76	VVMC-1000	A60	OPERATING
10001582		A60-77	Elevator, VVMC-1000, Star Delta TRA-G (POS 205), A60-77	VVMC-1000	A60	OPERATING
10001512		A60-8	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A60-8	HMC-1000-P	A60	OPERATING
10001513		A70-10	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A70-10	HMC-1000-P	A70	OPERATING
10001514		A70-9	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A70-9	HMC-1000-P	A70	OPERATING
10001515		A75-121	Elevator, HMC-1000-P, VERTRANS HYD (Passenger-OHY) (POS 205), A75-121	HMC-1000-P	OHY-SHP	OPERATING
10001516		A75-31	Elevator, ESCO, ESCO HYD (Freight) (SHOP) (POS 205), A75-31	ESCO	OHY-SHP	OPERATING
15367217		A80-11	Elevator, SMART RISE, ARMOR HYD-P1 (POS 109), A80-11	HMC-1000-P	A80	OPERATING
15367218		A80-12	Elevator, SMART RISE, ARMOR HYD-P2 (POS 109), A80-12	HMC-1000-P	A80	OPERATING
10001519		A90-13	Elevator, HMC-1000-P, ARMOR HYD-P (POS 208), A90-13	HMC-1000-P	A90	OPERATING
10001520		C10-14	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 306), C10-14	HMC-1000-P	C10	OPERATING
10001521		C20-15	Elevator, HMC-1000-P, ARMOR HYD-P (POS 306), C20-15	HMC-1000-P	C20	OPERATING

10001522	C30-16	Elevator, HMC-1000-P, ARMOR HYD-P (POS 107), C30-16	HMC-1000-P	C30	OPERATING	
10001523	C40-17	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 107), C40-17	HMC-1000-P	C40	OPERATING	
10001524	C40-18	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 107), C40-18	HMC-1000-P	C40	OPERATING	
10001587	C40-84	Elevator, VVMC-1000, U.S. TRA-G (POS 202), C40-84	VVMC-1000	C40	OPERATING	
10001586	C40-85	Elevator, VVMC-1000, U.S. TRA-G (POS 202), C40-85	VVMC-1000	C40	OPERATING	
10001588	C50-127	Elevator, IMC-AC, MCE TRA-G (POS-108), C50-127	IMC-AC	C50	OPERATING	
10001594	C50-128	Elevator, IMC-AC, MCE TRA-G (POS-108), C50-128	IMC-AC	C50	OPERATING	
10001593	C50-129	Elevator, IMC-AC, MCE TRA-G (POS-108), C50-129	IMC-AC	C50	OPERATING	
10001525	C50-19	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 107), C50-19	HMC-1000-P	C50	OPERATING	
10001526	C50-20	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 107), C50-20	HMC-1000-P	C50	OPERATING	
10001592	C50-66	Elevator, MP-1220, U.S. TRA-G (POS-108), C50-66	MP-1220	C50	OPERATING	
10001591	C50-67	Elevator, MP-1220, U.S. TRA-G (POS-108), C50-67	MP-1220	C50	OPERATING	
10001590	C50-68	Elevator, MP-1220, U.S. TRA-G (POS-108), C50-68	MP-1220	C50	OPERATING	
10001589	C50-69	Elevator, MP-1220, U.S. TRA-G (POS-108), C50-69	MP-1220	C50	DECOMMISSIONED	
10001527	C60-21	Elevator, HMC-1000-P, ARMOR HYD-P (POS 107), C60-21	HMC-1000-P	C60	OPERATING	
10001596	C60-78	Elevator, VVMC-1000, U.S. TRA-G (POS 202), C60-78	VVMC-1000	C60	OPERATING	
10001595	C60-79	Elevator, VVMC-1000, U.S. TRA-G (POS 202), C60-79	VVMC-1000	C60	OPERATING	
10001528		Elevator, HMC-1000, MK HYD-P (POS 107), C70-92	HMC-1000	C70	OPERATING	
10001529	93	Elevator, HMC-1000, MK HYD-S (POS 202), C80-93	HMC-1000	C80	OPERATING	
10001530	C80-94	Elevator, HMC-1000, MK HYD-P (POS 202), C80-94	HMC-1000	C80	OPERATING	
15335819	H10-156	Elevator, HMC-1000-P, ARMOR HYD-P (POS 120), H10-156		H10	OPERATING	
15391973	H10-157	Elevator, HMC-1000-P, ARMOR HYD-P, H10-157 (Terminal/Contractor)		H10	OPERATING	OIA - Contract Maintenance
10001532	K10-120	Elevator, HMC-1000-P, VERTRANS HYD-S (POS-110), K10-120	HMC-1000-P	K10	OPERATING	
10001531		Elevator, HMC-1000, U.S. HYD-S (POS-110), K10-22	HMC-1000	K10	OPERATING	
10001597	10-23	Elevator, HMC-1000, U.S. TRA-P (POS 305), K10-23	HMC-1000	K10	OPERATING	
10001533	20-24	Elevator, HMC-1000-P, ARMOR HYD-S (POS-110), K20-24	HMC-1000-P	K20	OPERATING	
10001598	K20-25	Elevator, HMC-1000, U.S. TRA-P (POS 306), K20-25	HMC-1000	K20	OPERATING	
10001537	30-118	Elevator, HMC-1000, THYSSEN-HYD-P2/4 (POS 307), K30-118	HMC-1000	K30	OPERATING	

10001534	K30-119	Elevator, HMC-1000, THYSSEN HYD-P1/3 (POS 307), K30-119	HMC-1000	K30	OPERATING
15334706	K30-144	Elevator, MCE-Motion 2000, TRA-G (POS 000), K30-144		K-LINE	OPERATING
15334708	K30-145	Elevator, MCE-Motion 2000, TRA-G (POS 000), K30-145		K-LINE	OPERATING
10001538	L10-95	Elevator, HMC-1000, MK HYD-P (POS 208), L10-95	HMC-1000	L10	OPERATING
15000458	L20-130	Elevator, VERTRANS, HYD-G (POS 109), L20-130		L20	OPERATING
15000459	L20-131	Elevator, VERTRANS, HYD-G (POS 109), L20-131		L20	OPERATING
15000456	L20-132	Elevator, SCHINDLER, HYD-P (POS 109), L20-132		L20	OPERATING
15000460	L20-134	Elevator, VERTRANS, HYD-G (POS 109), L20-134		L20	OPERATING
15000461	L20-135	Elevator, VERTRANS, HYD-G (POS 109), L20-135		L20	OPERATING
10001602	L30-136	Elevator, IMC-AC, MCE TRA-G (POS 208), L30-136	IMC-AC	L30	OPERATING
10001601	L30-137	Elevator, IMC-AC, MCE TRA-G (POS 208), L30-137	IMC-AC	L30	OPERATING
10001600	L30-138	Elevator, IMC-AC, MCE TRA-G (POS 208), L30-138	IMC-AC	L30	OPERATING
10001599	L30-139	Elevator, IMC-AC, MCE TRA-G (POS 208), L30-139	IMC-AC	L30	OPERATING
10001539	L30-99	Elevator, HMC-1000, MCE HYD-P (POS 208), L30-99	HMC-1000	L30	OPERATING
10001806	L30-L1	Wheel Chair Lift, WheelChair Elec-T (POS 208), L30-L1		L30	OPERATING
10001502	LMA-83	Elevator, MONTGOMERY, MONT HYD (Freight) (POS 304), LMA-83	MONTGOMERY	LMA	OPERATING
10001540	M10-26	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 305), M10-26	HMC-1000-P	M10	OPERATING
10001541	M10-27	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 305), M10-27	HMC-1000-P	M10	OPERATING
10001603	M14-32	Elevator, 2BC-4-RL-3, WEST TRA (SFVENT) (POS 301), M14-32	2BC-4-RL-3	SFV	OPERATING
10001542	M16-62	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M16-62	HMC-1000-P	M16	OPERATING
10001543	M16-63	Elevator, HMC-1000-P, ARMOR HYD-P (POS 301), M16-63	HMC-1000-P	M16	OPERATING
10001544	M20-52	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M20-52	HMC-1000-P	M20	OPERATING
10001604	M20-53	Elevator, HMC-1000, U.S. TRA-P (POS 301), M20-53	HMC-1000	M20	OPERATING
10001545	M30-54	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M30-54	HMC-1000-P	M30	OPERATING
10001605	M30-55	Elevator, HMC-1000, U.S. TRA-P (POS 303), M30-55	HMC-1000	M30	OPERATING
10001546	M40-56	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M40-56	HMC-1000-P	M40	OPERATING
10001606	M40-57	Elevator, VEMC-1000, U.S. TRA-P (POS 303), M40-57	VEMC-1000	M40	OPERATING
10001547	M50-33	Elevator, HMC-1000-P, ARMOR HYD-S (POS 201), M50-33	HMC-1000-P	M50	OPERATING

10001607	50-34	Elevator, HMC-1000, U.S. TRA-P (POS 303), M50-34	HMC-1000	M50	OPERATING
10001548	60-35	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M60-35	HMC-1000-P	M60	OPERATING
10001608	60-36	Elevator, HMC-1000, U.S. TRA-P (POS 207), M60-36	HMC-1000	M60	OPERATING
10001609	M70-37	Elevator, HMC-1000, U.S. TRA-P (POS 207), M70-37	HMC-1000	M70	OPERATING
10001549	80-38	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 207), M80-38	HMC-1000-P	M80	OPERATING
10001551	M90-39	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 207), M90-39	HMC-1000-P	M90	OPERATING
10001552	M90-40	Elevator, HMC-1000-P, ARMOR HYD-P3 (POS 207), M90-40	HMC-1000-P	M90	OPERATING
10001553	M90-59	Elevator, HMC-1000, DOVER HYD-G (POS 105), M90-59	HMC-1000-P	M90	OPERATING
10001554	M90-60	Elevator, HMC-1000, DOVER HYD-G (POS 105), M90-60	HMC-1000-P	M90	OPERATING
10001550	M90-70	Elevator, HMC-1000, KONE HYD-S (POS 105), M90-70	HMC-1000	M90	OPERATING
10001555	M90-71	Elevator, HMC-1000, KONE HYD-S (POS 105), M90-71	HMC-1000	M90	OPERATING
10001610	ODY-65	Elevator, MI-PROM, MONT TRA (DCY) (POS 105), ODY-65	MI-PROM	ODY	OPERATING
15000484	R10-111	Elevator, ASCENT - HYD-P (POS 308), R10-111		R10	OPERATING
15000485	R10-113	Elevator, ASCENT - HYD-S (POS 203), R10-113		R10	OPERATING
10001556	R10-43	Elevator, HMC-1000-P, ARMOR HYD-P (POS 308), R10-43	HMC-1000-P	R10	OPERATING
10001557	R20-44	Elevator, HMC-1000-P, ARMOR HYD-S (POS 203), R20-44	HMC-1000-P	R20	OPERATING
10001611	R20-45	Elevator, HMC-1000, U.S. TRA-P (POS 307), R20-45	HMC-1000	R20	OPERATING
10001558	R30-46	Elevator, HMC-1000-P, ARMOR HYD-P-1/2 (POS 307), R30-46	HMC-1000-P	R30	OPERATING
10001559	R40-47	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 203), R40-47	HMC-1000-P	R40	OPERATING
10001560	R40-48	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 203), R40-48	HMC-1000-P	R40	OPERATING
10001561	R50-49	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 203), R50-49	HMC-1000-P	R50	OPERATING
10001562	R50-50	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 203), R50-50	HMC-1000-P	R50	OPERATING
10001612	R50-74	Elevator, MI-PROM, MONT TRA-G (POS 203), R50-74	MI-PROM	R50	OPERATING
10001613	R50-75	Elevator, MI-PROM, MONT TRA-G (POS 203), R50-75	MI-PROM	R50	OPERATING
15330173	R60-141	Elevator, MI-PROM, MONT TRA-G (POS 203), R60-141		R60	OPERATING
15330174	R60-142	Elevator, MI-PROM, MONT TRA-G (POS 203), R60-142	MI-PROM	R60	OPERATING
15330175	R60-143	Elevator, MI-PROM, MONT TRA-G (POS 203), R60-143		R60	OPERATING
10001563	R60-51	Elevator, HMC-1000-P, ARMOR HYD-P (POS 203), R60-51	HMC-1000-P	R60	OPERATING

10001564	R60-58	Elevator, HMC-1000-P, THYSSEN HYD-AMTRAK (POS 203), R60-58	HMC-1000-P	R60	OPERATING		
10001565	R60-61	Elevator, HMC-1000-P, ARMOR HYD-S (POS 203), R60-61	HMC-1000-P	R60	OPERATING		
10001566	R60-64	Elevator, HMC-1000-P, ARMOR HYD-S (), AMTRAK, R60-64	HMC-1000-P	R60	DECOMMISSIONED		
15372808	S20-146	ELEVATOR, ASCENT - HYD-P (POS ____), S20-146		S20	OPERATING	Warranty	Mar-18
15372809	S20-147	ELEVATOR, ASCENT - HYD-P (POS ____), S20-147		S20	OPERATING	Warranty	Mar-18
15372810	S20-148	ELEVATOR, ASCENT - HYD-S (POS ____), S20-148		S20	OPERATING	Warranty	Mar-18
15372811	S20-149	ELEVATOR, ASCENT - HYD-S (POS ____), S20-149		S20	OPERATING	Warranty	Mar-18
10001617	W10-86	Elevator, VVMC-1000, U.S. TRA-G (POS 105), W10-86	VVMC-1000	W10	OPERATING		
10001615	W10-87	Elevator, VVMC-1000, U.S. TRA-G (POS 105), W10-87	VVMC-1000	W10	OPERATING		
10001614	W10-88	Elevator, VVMC-1000, U.S. TRA-G (POS 105), W10-88	VVMC-1000	W10	OPERATING		
10001616	W10-89	Elevator, VVMC-1000, U.S. TRA-G (POS 105), W10-89	VVMC-1000	W10	OPERATING		
10001568	W10-90	Elevator, HMC-1000-P, KONE HYD-P3 (POS 105), W10-90	HMC-1000-P	W10	OPERATING		
10001567	W10-91	Elevator, HMC-1000-P, KONE HYD-P1 (POS 105), W10-91	HMC-1000-P	W10	OPERATING		
10001571	W20-100	Elevator, HMC-1000-P, THYSSEN HYD-P1/2 (POS 302), W20-100	HMC-1000-P	W20	OPERATING		
10001570	W20-101	Elevator, HMC-1000, THYSSEN HYD-G (POS 105), W20-101	HMC-1000	W20	OPERATING		
10001569	W20-102	Elevator, HMC-1000, THYSSEN HYD-G (POS 105), W20-102	HMC-1000	W20	OPERATING		
10001572	W20-103	Elevator, HMC-1000, THYSSEN HYD-G (POS 105), W20-103	HMC-1000	W20	OPERATING		
10001573	W30-104	Elevator, HMC-1000-P, THYSSEN HYD-P1/2 (POS 302), W30-104	HMC-1000-P	W30	OPERATING		
10001620	W30-105	Elevator, IMC-AC, THYSSEN TRA-G (POS 206), W30-105	IMC-AC	W30	OPERATING		
10001618	W30-106	Elevator, IMC-AC, THYSSEN TRA-G (POS 206), W30-106	IMC-AC	W30	OPERATING		
10001619	W30-107	Elevator, IMC-AC, THYSSEN TRA-G (POS 206), W30-107	IMC-AC	W30	OPERATING		
10001578	W40-108	Elevator, HMC-1000-P, FUJI HYD-P5 (POS 204), W40-108	HMC-1000-P	W40	OPERATING		
10001574	W40-109	Elevator, HMC-1000-P, FUJI HYD-P3 (POS 204), W40-109	HMC-1000-P	W40	OPERATING		
10001575	W40-110	Elevator, HMC-1000-P, FUJI HYD-P4 (POS 204), W40-110	HMC-1000-P	W40	OPERATING		
10001576	W40-112	Elevator, HMC-1000-P, FUJI HYD-P1/2 (POS 204), W40-112	HMC-1000-P	W40	OPERATING		
10001621	W40-114	Elevator, IMC-AC, FUJI TRA-G (POS 206), W40-114	IMC-AC	W40	OPERATING		
10001623	W40-115	Elevator, IMC-AC, FUJI TRA-G (POS 206), W40-115	IMC-AC	W40	OPERATING		
10001577	W40-116	Elevator, HMC-1000-P, FUJI HYD-S (POS 206), W40-116	HMC-1000-P	W40	OPERATING		

10001622	W40-117	Elevator, IMC-AC, FUJI TRA-G (POS 206), W40-117	IMC-AC	W40	OPERATING
10001624	WSF-122	Elevator, SE, ALIMAK RACK & PINION (POS 105), WSF-122	SE	WSF	OOS

Station	Alias	Description	Model	Location	Status	Column1	Column2
	100-28	Elevator, HMC-1000-P, ARMOR HYD-P (POS 304), A10-28	HMC-1000-P	A10	OPERATING		
	0-1	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 120), A20-1	HMC-1000-P	A20	OPERATING		
	0-2	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 120), A20-2	HMC-1000-P	A20	OPERATING		
	30-3	Elevator, HMC-1000-P, ARMOR HYD-P (POS 120), A30-3	HMC-1000-P	A30	OPERATING		
	0-30	Elevator, HMC-1000, U.S. HYD-S (POS 120), A30-30	HMC-1000	A30	OPERATING		
	4	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A40-4	HMC-1000-P	A40	OPERATING		
	A50-6	Elevator, HMC-1000-P, ARMOR HYD-P (POS 205), A50-6	HMC-1000-P	A50	OPERATING		
	A60-7	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A60-7	HMC-1000-P	A60	OPERATING		
	A70-10	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A70-10	HMC-1000-P	A70	OPERATING		
	A70-9	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A70-9	HMC-1000-P	A70	OPERATING		
	A90-13	Elevator, HMC-1000-P, ARMOR HYD-P (POS 208), A90-13	HMC-1000-P	A90	OPERATING		
	C10-14	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 306), C10-14	HMC-1000-P	C10	OPERATING		
	C70-92	Elevator, HMC-1000, MK HYD-P (POS 107), C70-92	HMC-1000	C70	OPERATING		
	C80-93	Elevator, HMC-1000, MK HYD-S (POS 202), C80-93	HMC-1000	C80	OPERATING		
	C80-94	Elevator, HMC-1000, MK HYD-P (POS 202), C80-94	HMC-1000	C80	OPERATING		
	K10-22	Elevator, HMC-1000, U.S. HYD-S (POS-110), K10-22	HMC-1000	K10	OPERATING		
	K10-23	Elevator, HMC-1000, U.S. TRA-P (POS 305), K10-23	HMC-1000	K10	OPERATING		
	K20-24	Elevator, HMC-1000-P, ARMOR HYD-S (POS-110), K20-24	HMC-1000-P	K20	OPERATING		
	K30-118	Elevator, HMC-1000, THYSSEN-HYD-P2/4 (POS 307), K30-118	HMC-1000	K30	OPERATING		
	30-119	Elevator, HMC-1000, THYSSEN HYD-P1/3 (POS 307), K30-119	HMC-1000	K30	OPERATING		
	30-99	Elevator, HMC-1000, MCE HYD-P (POS 208), L30-99	HMC-1000	L30	OPERATING		
	M16-62	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M16-62	HMC-1000-P	M16	OPERATING		
	16-63	Elevator, HMC-1000-P, ARMOR HYD-P (POS 301), M16-63	HMC-1000-P	M16	OPERATING		
	M20-52	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M20-52	HMC-1000-P	M20	OPERATING		
	M20-53	Elevator, HMC-1000, U.S. TRA-P (POS 301), M20-53	HMC-1000	M20	OPERATING		

M30-54	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M30-54	HMC-1000-P	M30	OPERATING
M30-55	Elevator, HMC-1000, U.S. TRA-P (POS 303), M30-55	HMC-1000	M30	OPERATING
M40-56	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M40-56	HMC-1000-P	M40	OPERATING
M40-57	Elevator, VEMC-1000, U.S. TRA-P (POS 303), M40-57	VEMC-1000	M40	OPERATING
M50-33	Elevator, HMC-1000-P, ARMOR HYD-S (POS 201), M50-33	HMC-1000-P	M50	OPERATING
M50-34	Elevator, HMC-1000, U.S. TRA-P (POS 303), M50-34	HMC-1000	M50	OPERATING
M60-35	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M60-35	HMC-1000-P	M60	OPERATING
M60-36	Elevator, HMC-1000, U.S. TRA-P (POS 207), M60-36	HMC-1000	M60	OPERATING
M70-37	Elevator, HMC-1000, U.S. TRA-P (POS 207), M70-37	HMC-1000	M70	OPERATING
M80-38	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 207), M80-38	HMC-1000-P	M80	OPERATING
M90-39	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 207), M90-39	HMC-1000-P	M90	OPERATING
M90-40	Elevator, HMC-1000-P, ARMOR HYD-P3 (POS 207), M90-40	HMC-1000-P	M90	OPERATING
R20-44	Elevator, HMC-1000-P, ARMOR HYD-S (POS 203), R20-44	HMC-1000-P	R20	OPERATING
R20-45	Elevator, HMC-1000, U.S. TRA-P (POS 307), R20-45	HMC-1000	R20	OPERATING
R30-46	Elevator, HMC-1000-P, ARMOR HYD-P-1/2 (POS 307), R30-46	HMC-1000-P	R30	OPERATING

RENOVATION

PHASE 1

PHASE II

Asset	Station	Alias	Description	Model	Location	Status	Column1	Column2
15000486		A10-140	Elevator, ASCENT - HYD-P (POS 304), A10-140		A10	OPERATING		
10001503		A10-28	Elevator, HMC-1000-P, ARMOR HYD-P (POS 304), A10-28	HMC-1000-P	A10	OPERATING		
10001504		A20-1	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 120), A20-1	HMC-1000-P	A20	OPERATING		
10001505		A20-2	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 120), A20-2	HMC-1000-P	A20	OPERATING		
10001506		A30-3	Elevator, HMC-1000-P, ARMOR HYD-P (POS 120), A30-3	HMC-1000-P	A30	OPERATING		
10001507		A30-30	Elevator, HMC-1000, U.S. HYD-S (POS 120), A30-30	HMC-1000	A30	OPERATING		
10001508		A40-4	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A40-4	HMC-1000-P	A40	OPERATING		
10001509		A40-5	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A40-5	HMC-1000-P	A40	OPERATING		
10001510		A50-6	Elevator, HMC-1000-P, ARMOR HYD-P (POS 205), A50-6	HMC-1000-P	A50	OPERATING		
10001511		A60-7	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A60-7	HMC-1000-P	A60	OPERATING		
10001512		A60-8	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A60-8	HMC-1000-P	A60	OPERATING		
10001513		A70-10	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 205), A70-10	HMC-1000-P	A70	OPERATING		
10001514		A70-9	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 205), A70-9	HMC-1000-P	A70	OPERATING		
15367217		A80-11	Elevator, SMART RISE, ARMOR HYD-P1 (POS 109), A80-11	HMC-1000-P	A80	OPERATING		
15367218		A80-12	Elevator, SMART RISE, ARMOR HYD-P2 (POS 109), A80-12	HMC-1000-P	A80	OPERATING		
10001519		A90-13	Elevator, HMC-1000-P, ARMOR HYD-P (POS 208), A90-13	HMC-1000-P	A90	OPERATING		
10001520		C10-14	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 306), C10-14	HMC-1000-P	C10	OPERATING		
10001521		C20-15	Elevator, HMC-1000-P, ARMOR HYD-P (POS 306), C20-15	HMC-1000-P	C20	OPERATING		
10001522		C30-16	Elevator, HMC-1000-P, ARMOR HYD-P (POS 107), C30-16	HMC-1000-P	C30	OPERATING		
10001523		C40-17	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 107), C40-17	HMC-1000-P	C40	OPERATING		
10001524		C40-18	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 107), C40-18	HMC-1000-P	C40	OPERATING		
10001525		C50-19	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 107), C50-19	HMC-1000-P	C50	OPERATING		
10001526		C50-20	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 107), C50-20	HMC-1000-P	C50	OPERATING		
10001527		C60-21	Elevator, HMC-1000-P, ARMOR HYD-P (POS 107), C60-21	HMC-1000-P	C60	OPERATING		
10001528		C70-92	Elevator, HMC-1000, MK HYD-P (POS 107), C70-92	HMC-1000	C70	OPERATING		
10001529		C80-93	Elevator, HMC-1000, MK HYD-S (POS 202), C80-93	HMC-1000	C80	OPERATING		
10001530		C80-94	Elevator, HMC-1000, MK HYD-P (POS 202), C80-94	HMC-1000	C80	OPERATING		
15335819		H10-156	Elevator, HMC-1000-P, ARMOR HYD-P (POS 120), H10-156		H10	OPERATING		
10001532		K10-120	Elevator, HMC-1000-P, VERTRANS HYD-S (POS-110), K10-120	HMC-1000-P	K10	OPERATING		
10001531		K10-22	Elevator, HMC-1000, U.S. HYD-S (POS-110), K10-22	HMC-1000	K10	OPERATING		
10001597		K10-23	Elevator, HMC-1000, U.S. TRA-P (POS 305), K10-23	HMC-1000	K10	OPERATING		
10001533		K20-24	Elevator, HMC-1000-P, ARMOR HYD-S (POS-110), K20-24	HMC-1000-P	K20	OPERATING		

RENOVATION

PHASE I

PHASE II

10001598	K20-25	Elevator, HMC-1000, U.S. TRA-P (POS 306), K20-25	HMC-1000	K20	OPERATING
10001537	K30-118	Elevator, HMC-1000, THYSSEN-HYD-P2/4 (POS 307), K30-118	HMC-1000	K30	OPERATING
10001534	K30-119	Elevator, HMC-1000, THYSSEN HYD-P1/3 (POS 307), K30-119	HMC-1000	K30	OPERATING
10001538	L10-95	Elevator, HMC-1000, MK HYD-P (POS 208), L10-95	HMC-1000	L10	OPERATING
15000456	L20-132	Elevator, SCHINDLER, HYD-P (POS 109), L20-132		L20	OPERATING
10001539	L30-99	Elevator, HMC-1000, MCE HYD-P (POS 208), L30-99	HMC-1000	L30	OPERATING
10001806	L30-L1	Wheel Chair Lift, WheelChair Elec-T (POS 208), L30-L1		L30	OPERATING
10001540	M10-26	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 305), M10-26	HMC-1000-P	M10	OPERATING
10001541	M10-27	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 305), M10-27	HMC-1000-P	M10	OPERATING
10001542	M16-62	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M16-62	HMC-1000-P	M16	OPERATING
10001543	M16-63	Elevator, HMC-1000-P, ARMOR HYD-P (POS 301), M16-63	HMC-1000-P	M16	OPERATING
10001544	M20-52	Elevator, HMC-1000-P, ARMOR HYD-S (POS 102), M20-52	HMC-1000-P	M20	OPERATING
10001604	M20-53	Elevator, HMC-1000, U.S. TRA-P (POS 301), M20-53	HMC-1000	M20	OPERATING
10001545	M30-54	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M30-54	HMC-1000-P	M30	OPERATING
10001605	M30-55	Elevator, HMC-1000, U.S. TRA-P (POS 303), M30-55	HMC-1000	M30	OPERATING
10001546	M40-56	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M40-56	HMC-1000-P	M40	OPERATING
10001606	M40-57	Elevator, VEMC-1000, U.S. TRA-P (POS 303), M40-57	VEMC-1000	M40	OPERATING
10001547	M50-33	Elevator, HMC-1000-P, ARMOR HYD-S (POS 201), M50-33	HMC-1000-P	M50	OPERATING
10001607	M50-34	Elevator, HMC-1000, U.S. TRA-P (POS 303), M50-34	HMC-1000	M50	OPERATING
10001548	M60-35	Elevator, HMC-1000-P, ARMOR HYD-S (POS 101), M60-35	HMC-1000-P	M60	OPERATING
10001608	M60-36	Elevator, HMC-1000, U.S. TRA-P (POS 207), M60-36	HMC-1000	M60	OPERATING
10001609	M70-37	Elevator, HMC-1000, U.S. TRA-P (POS 207), M70-37	HMC-1000	M70	OPERATING
10001549	M80-38	Elevator, HMC-1000-P, ARMOR HYD-SP (POS 207), M80-38	HMC-1000-P	M80	OPERATING
10001551	M90-39	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 207), M90-39	HMC-1000-P	M90	OPERATING
10001552	M90-40	Elevator, HMC-1000-P, ARMOR HYD-P3 (POS 207), M90-40	HMC-1000-P	M90	OPERATING
10001550	M90-70	Elevator, HMC-1000, KONE HYD-S (POS 105), M90-70	HMC-1000	M90	OPERATING
10001555	M90-71	Elevator, HMC-1000, KONE HYD-S (POS 105), M90-71	HMC-1000	M90	OPERATING
15000484	R10-111	Elevator, ASCENT - HYD-P (POS 308), R10-111		R10	OPERATING
15000485	R10-113	Elevator, ASCENT - HYD-S (POS 203), R10-113		R10	OPERATING
10001556	R10-43	Elevator, HMC-1000-P, ARMOR HYD-P (POS 308), R10-43	HMC-1000-P	R10	OPERATING
10001557	R20-44	Elevator, HMC-1000-P, ARMOR HYD-S (POS 203), R20-44	HMC-1000-P	R20	OPERATING
10001611	R20-45	Elevator, HMC-1000, U.S. TRA-P (POS 307), R20-45	HMC-1000	R20	OPERATING
10001558	R30-46	Elevator, HMC-1000-P, ARMOR HYD-P-1/2 (POS 307), R30-46	HMC-1000-P	R30	OPERATING

RENOVATION

PHASE 1

PHASE II

10001559	R40-47	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 203), R40-47	HMC-1000-P	R40	OPERATING		
10001560	R40-48	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 203), R40-48	HMC-1000-P	R40	OPERATING		
10001561	R50-49	Elevator, HMC-1000-P, ARMOR HYD-P1 (POS 203), R50-49	HMC-1000-P	R50	OPERATING		
10001562	R50-50	Elevator, HMC-1000-P, ARMOR HYD-P2 (POS 203), R50-50	HMC-1000-P	R50	OPERATING		
10001563	R60-51	Elevator, HMC-1000-P, ARMOR HYD-P (POS 203), R60-51	HMC-1000-P	R60	OPERATING		
10001564	R60-58	Elevator, HMC-1000-P, THYSSEN HYD-AMTRAK (POS 203), R60-58	HMC-1000-P	R60	OPERATING		
10001565	R60-61	Elevator, HMC-1000-P, ARMOR HYD-S (POS 203), R60-61	HMC-1000-P	R60	OPERATING		
15372808	S20-146	ELEVATOR, ASCENT - HYD-P (POS ____), S20-146		S20	OPERATING	Warranty	Mar-18
15372809	S20-147	ELEVATOR, ASCENT - HYD-P (POS ____), S20-147		S20	OPERATING	Warranty	Mar-18
15372810	S20-148	ELEVATOR, ASCENT - HYD-S (POS ____), S20-148		S20	OPERATING	Warranty	Mar-18
15372811	S20-149	ELEVATOR, ASCENT - HYD-S (POS ____), S20-149		S20	OPERATING	Warranty	Mar-18
10001568	W10-90	Elevator, HMC-1000-P, KONE HYD-P3 (POS 105), W10-90	HMC-1000-P	W10	OPERATING		
10001567	W10-91	Elevator, HMC-1000-P, KONE HYD-P1 (POS 105), W10-91	HMC-1000-P	W10	OPERATING		
10001571	W20-100	Elevator, HMC-1000-P, THYSSEN HYD-P1/2 (POS 302), W20-100	HMC-1000-P	W20	OPERATING		
10001573	W30-104	Elevator, HMC-1000-P, THYSSEN HYD-P1/2 (POS 302), W30-104	HMC-1000-P	W30	OPERATING		
10001578	W40-108	Elevator, HMC-1000-P, FUJI HYD-P5 (POS 204), W40-108	HMC-1000-P	W40	OPERATING		
10001574	W40-109	Elevator, HMC-1000-P, FUJI HYD-P3 (POS 204), W40-109	HMC-1000-P	W40	OPERATING		
10001575	W40-110	Elevator, HMC-1000-P, FUJI HYD-P4 (POS 204), W40-110	HMC-1000-P	W40	OPERATING		
10001576	W40-112	Elevator, HMC-1000-P, FUJI HYD-P1/2 (POS 204), W40-112	HMC-1000-P	W40	OPERATING		
10001577	W40-116	Elevator, HMC-1000-P, FUJI HYD-S (POS 206), W40-116	HMC-1000-P	W40	OPERATING		

EXHIBIT E

EXHIBIT F

EXHIBIT G

Submitted To:

Bay Area Rapid Transit



Escalator Investigation Report – Phase 1 FINAL

Submitted By:

**Vertical Transportation Excellence
a division of Gannett Fleming, Inc.
in association with STV**



June 30, 2017



VERTICAL TRANSPORTATION EXCELLENCE
Suite 1900
3838 N. Central Avenue
Phoenix, AZ 85012
Office: (602) 553-0313
Fax: (602) 553-8816
www.vtexcellence.com

June 30, 2017

Fred King, CSI
STV Incorporated
560 14th Street, Suite 400
Oakland, California 94612-1454

Re: Draft Report Submission – BART Escalator Investigation – Phase 1

Dear Fred:

Please find VTX's final report submission for the BART Escalator Investigation – Phase 1.

We hope that STV, Inc. and BART find the attached report informative, insightful and that it meets or exceeds their expectations. We are excited to continue working with you and BART on this important project and continuing onto the next phases of this project.

If you have any questions, or would like to discuss the report in detail, please do not hesitate to contact me. Please let me know when a report presentation meeting will be scheduled.

Sincerely,

A handwritten signature in blue ink that reads 'Anthony J. DeFrancesco'. The signature is fluid and cursive.

Anthony DeFrancesco, CEI
Vice President – West Region

**BART Escalator Investigation – Phase 1
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Glossary

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1.0 Executive Summary

1.1 Introduction

VTX, as a subconsultant to STV, was tasked with performing an escalator replacement investigation of forty (40) escalators located at four (4) downtown San Francisco stations. VTX assigned two escalator specialists the task of performing assessments. The investigation and assessment was conducted over a five (5) week timeframe. This report presents the findings of our investigation as well as provides our recommendations for the optimal renewal solution for each escalator while maximizing the number of potential escalator contractors who can perform the work.

1.2 Project Intent and Goals

The project intent is to conduct a detailed site investigation and survey of forty (40) escalators located at four (4) downtown San Francisco BART stations, review the current condition, evaluate the operating performance, and review the operating environment of each escalator, investigate renewal alternatives for each escalator, determine feasible locations of new escalator controllers, assess existing infrastructure (structural supports and electrical systems) that may be affected by the recommended alternative, and make recommendations on the optimal renewal solution that considers constructability, maximizing the number of potential bidders, schedule, reliability and maintainability for each of the forty (40) escalators.

The project intent also includes determining the feasibility of the addition of stairs at Embarcadero Station, adjacent to an existing escalator, and the addition of a new escalator at Civic Center Station.

1.3 Project Scope

The project scope includes the following:

- a. An existing condition evaluation to establish current condition.
- b. An assessment to establish the operating environment for each unit and other factors unique to each installation that will affect the potential renewal options.
- c. An assessment of the existing structural support conditions to assist in determining the optimal renewal solution for each escalator.

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- d. A performance evaluation of each escalator, utilizing our Parametricoder® Diagnostic System, in order to determine condition and operating performance of each escalator so to establish a prioritization of equipment replacement.
- e. An analysis of alternatives for the renewal approach for each of the forty (40) escalators. At a minimum, explore the following alternatives:
 - 1. Truss- Up Modernization
 - 2. Full Replacement – Maintaining Existing Wellway Dimensions
 - 3. Full Replacement – Modifying Wellway Dimensions

1.4 Investigation Results Overview

1.4.1 Embarcadero Station

During our investigation, VTX observed that Embarcadero Station has potentially the highest ridership of the four stations that were evaluated. As a result of the high ridership, the escalators at this station have the highest level of wear and should be prioritized in the escalator replacement program. See Phasing recommendations presented in this report for details.

1.4.1.1 Platform Escalators P2, P3, P4, P6

The existing platform escalators were manufactured by Montgomery KONE, who later changed their name to KONE. They are generally in fair condition. The condition of the finishes are generally poor.

1.4.1.2 Street Escalators S1, S2, S4, S5, S6, S7

The existing street escalators were manufactured by O&K. O&K was an escalator manufacturer that has since been acquired by KONE Elevator Company. As a result, components such as OEM brake pads are no longer available and a different type must be used. Over time, reliability of these escalators, as well as downtime, will be affected as spare parts become harder to acquire.

These escalators were found to be generally in poor condition with heavy rust/corrosion on all major internal mechanical components, as well as electrical components, likely a result of exposure to environmental conditions. Though the physical condition was poor from a visual standpoint, the performance of the escalators were

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found to be satisfactory based on the analysis of the performance testing results found in Section 2.2 of this report.

The maintenance history of the street escalators indicates that the reliability of these escalators has been historically low, likely due to the heavy use, misuse, environmental conditions coupled with diminishing availability of spare parts.

1.4.2 Montgomery Station

Overall, during our investigation, VTX observed that Montgomery Station had high ridership, second to Embarcadero Station. However, based on our visual inspections, the escalators at Montgomery Station were in the most satisfactory condition compared to all four stations inspected during our investigation. Therefore, we would recommend Montgomery Station being addressed later in the schedule with platform escalators addressed after the street escalators.

1.4.2.1 Platform Escalators P1, P2, P3, P4, P5

The platform escalators were manufactured by Westinghouse. They are Type 40N escalators that utilize external drive machines located in a machine room below the upper ends of the escalators that is accessible from the Muni platform. They are generally in fair condition. Escalators P1 and P2 have had systematic repairs completed, such as steps and step chains being replaced. Balustrade panels on all escalators have noticeable damage.

1.4.2.2 Street Escalators S1, S3, S4, S5, S7, S8, S9

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. Escalator S1, manufactured by Westinghouse, was in fair condition due to major repairs performed in 2016 which included steps, step chains, bull gear, handrails and handrail drive chain, and lower carriage. Escalator S3, manufactured by O&K, was not evaluated due to the controller was being replaced at the time of our investigation. Escalator S4, manufactured by O&K, is in very poor condition and has not be operated for an extended period of time. It was not operational at the time of our investigation. It is scheduled for a controller replacement. Escalator S5 and S7 are in fair condition. Escalator S7, though it accesses the street level, is fully interior to the station. Escalator S8 was out of service for step

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chain replacement and could not be evaluated. Escalator S9 is in fair condition.

1.4.3 Powell Station

Powell Station is very similar in equipment arrangement and type as Montgomery Station. During our investigation, VTX observed that the ridership is less than that of Montgomery. The general condition of the equipment is poor in comparison to Montgomery, with street escalators worse than platform escalators. The equipment has a high level of wear. The station experiences a higher level of misuse and abuse by the public in comparison to Montgomery Station.

1.4.3.1 Platform Escalators P1, P2, P3, P4, P5

The platform escalators were manufactured by Westinghouse. They are Type 40N escalators that utilize external drive machines located in a machine room below the upper ends of the escalators that is accessible from the Muni platform. Escalators P1 and P2 are in poor condition. Escalator P3 is in fair condition. Escalator P4 is in poor condition due to steps, step chains and handrail drive chains in need of replacement as well as handrails having pinch hazards. Escalator P5 is in fair condition due to new steps and chains.

1.4.3.2 Street Escalators S1, S2, S6, S7, S8

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. Escalator S1, was manufactured by Westinghouse and is in fair condition. The escalator has a history of flooding and step rollers and tracks are showing wear with rust on axles and tracks. Escalator S2, was manufactured by O&K, was not operational at the time of our investigation and appears to have been out of service for an extended period of time. The escalator balustrade panels are vandalized and the escalator lacks lubrication. Escalator S6, was manufactured by Westinghouse, and is in fair condition with new steps and step chains. Escalator S7, was manufactured by O&K and is in poor condition. The escalator is subject to a high level of misuse and abuse. The escalator floods as the result of rain but has newer steps and step chains. Escalator S8, was manufactured by O&K and is poor condition. Signs of heavy

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rust and corrosion, typical of all street level escalators. The escalator floods as a result of rain.

1.4.4 Civic Center Station

During our investigation, VTX observed that Civic Center Station has potentially the highest misuse and abuse by the public of the four stations that were evaluated. The ridership is also above average, especially Escalator S6, due to the theater located across the street from this escalator. The level of deterioration of the street escalators, especially Escalator S3 and S5, since they lack protection from the environment over their full length, places this station second in priority in regards to the escalator replacement program. See Phasing recommendations presented in this report for details.

1.4.4.1 Platform Escalators P1, P2, P3, P4

The platform escalators were manufactured by Westinghouse. Westinghouse was an escalator manufacturer that was acquired by Schindler Elevator Co. They are generally in fair condition with the exception of Escalator P3, due to excessive step chain stretch that hindered the removal of steps preventing evaluation of internal components under the step band.

1.4.4.2 Street Escalators S2, S3, S5, S6

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. All the street escalators are in various stages of deterioration. Escalator S5 was not evaluated as it is currently undergoing a major repair. Escalator S2, manufactured by O&K, and Escalator S3, manufactured by Westinghouse, were in very poor condition with heavy rust/corrosion on all major internal mechanical components, as well as electrical components, likely a result of exposure to environmental conditions. VTX could not access internal components under the step band due to the lower pit being flooded with water from rain the previous night. Escalator S6, was in fair condition due to having recently undergone a major repair where steps and step chain were replaced along with the lower carriage being rebuilt.

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Immediate Actions Required

For all escalators surveyed, it is recommended that repairs be made to the escalators as identified in the investigation results described in detail in this report and included in the Appendices for each station in order to improve availability of the escalators.

1.5 Optimal Renewal Recommendations

Based on constructability, life cycle cost, schedule, station/passenger impact, reliability and maintainability, the optimal renewal recommendation for the escalators is to replace all escalators including the truss where the manufacturer can provide a full replacement that utilizes a new escalator that is APTA heavy duty transit compliant, with APTA recommended upper and lower transition radii, and a minimum of 2 flat steps at the top and bottom landings. Based on the evaluation of the dimensions required by each of the four (4) major escalator manufacturers (KONE, OTIS, SCHINDLER and THYSSENKRUPP) which is presented in Appendix E and discussed in Section 2.3 of this report, VTX recommends that each of the forty (40) escalators be fully replaced. The difference in dimensions will require that the procured manufacturer employ the use of truss reductions or truss extensions in order to meet the existing wellway dimensions and maintain the location of the current upper and lower working points.

The use of a Truss-Up Modernization approach for the escalator renewal option will decrease the number of potential bidders to three (KONE, SCHINDLER and THYSSENKRUPP) since Otis does not manufacture a Truss-Up Modernization product.

In order to provide the space required for two (2) new stairwells at Embarcadero Station, the existing Escalator P3 and P4, which are currently a 40 inch nominal step width escalators, will have to be replaced, with new 32 inch nominal step width escalators. Also, in order to accommodate multiple manufacturers, the existing wellways will require modification. Please refer to Appendix E for Dimensional information regarding the modifications required.

The additional escalator at Civic Center Station should be a Full APTA compliant heavy duty transit escalator with 3 flat steps at the top and bottom landings.

* For a detailed description of each renewal recommendation type as well as the justification for each escalator, see Section 3.0 of this report.

1.5.1 Standardization around common safety devices, operating controls, and controllers (Non-Proprietary PLC based) with common programming should be considered when developing the scope of the full replacements

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and truss-up modernizations. Standardization based on electronic/control components will improve maintainability as well as reliability. In order to achieve this level of standardization, VTX recommends that all forty (40) escalators be the product of a single manufacturer.

1.6 Recommended Procurement Approach

A 2-Step procurement approach is recommended for consideration by BART. The following paragraphs describes this approach.

All escalators should be procured under one procurement. A 2-Step procurement approach that directly secures the escalator contractor is recommended. The escalator contractor should be made responsible for any changes to infrastructure required to fulfill the scope of work of the contract. Benefits of securing an escalator contractor and making them responsible for the overall project include:

1. BART will have better control over the selection of the escalator contractor, as means and methods, as well as product will be evaluated along with price.
2. BART will have a direct contractual arrangement with the escalator contractor for both the construction and warranty maintenance period.
3. BART will have better control over the quality of the construction work.
4. The proposed price of the escalators will be lower since no General Contractor will be adding a percentage markup. The portion of the work that would be performed by a General Contractor is much smaller than that of the escalator contractor and even though the escalator contractor would be marking up the General Contractor's work, that markup is proportionately smaller compared to what markup a General Contractor would have placed on the escalator contractor's work.
5. The escalator contractor will provide shop drawings of the escalators so that design of infrastructure modifications can be based upon the requirements of the specific equipment that will be installed.

The benefits of procuring the escalators from one manufacturer include standardization of components for these downtown stations that do experience high ridership, resulting in increased maintainability, reliability, and availability as the maintenance provider and/or BART will be able to store/maintain common spare parts for these escalators. Awarding a large number of escalators to a single manufacturer, will also result in more competitive bids during the procurement process. The procurement documents should request line item pricing per escalator. The procurement documents should also include unit pricing for

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individual spare parts, with an allowance to be used by BART, which are recommended by the escalator contractor based on their historical data related to mean time between failure and failure rates for components within the escalator.

1.6.1 Quality Assurance / Quality Control Approach Recommendations

In order to assure a quality replacement or modernization, a quality assurance/quality control plan should be requested to be evaluated as part of the procurement documents. The QAQC plan should be reviewed and modified by BART so that the escalator contractor is held accountable for performing and documenting QAQC inspections throughout the duration of their work. On behalf of the BART, we as your escalator consultant would also follow-up each of the contractor's QAQC inspections in order to verify that the contractor's inspection and documentation is accurate and to identify any areas of concern. At the completion of the escalator contractor's scope of work, we would perform commissioning inspections and testing of the escalators prior to being put into public use. The reasons for the commissioning inspections and testing is to verify both code and contract compliance as well as to provide BART with benchmark testing results that can be used to monitor the level of preventative maintenance and performance of the escalators long-term.

1.6.2 Warranty Recommendations

It is recommended that BART consider requiring an extended warranty period of 24 months from the completion of the last escalator replacement or modernization so that all escalators will have a common warranty expiration date. The warranty period should include warranty maintenance with performance and response requirements specified by BART.

1.6.3 On-going Maintenance Recommendations

Upon completion of each escalator replacement or modernization, we recommend that the awarded contractor assume maintenance responsibility for the completed escalator until the date of expiration of the warranty period, which is 24 months from the completion of the last escalator replacement or modernization.

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1.7 Recommended Phasing Plan

1.7.1 Based on the results of this field investigation, our overall observations at each station, our understanding of the current maintenance issues related to the escalators, the current overhauls being performed on the O&K escalators, as well as the phasing of the canopy replacement project, STV and VTX recommends the phasing plan presented in Appendix G of this report.

1.8 Recommended Next Steps

1.8.1 Evaluation of the potential infrastructure modifications presented later in this report related to electrical systems as well as structural loading limitations for areas where potential rigging may be installed during the removal and installation process should be performed by licensed professional engineers specializing in electrical and structural engineering.

1.8.2 Approval of the recommended renewal options by BART and the development of the procurement documentation based on the approved renewal options.

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2.0 Investigation Results

2.0.1 Background

Field investigations were conducted in March, 2017, to physically evaluate the current condition of the forty (40) escalators at the four (4) downtown San Francisco BART stations, their operating environment, unique station/location characteristics that may impact renewal options, and to assess the existing structural supports and electrical systems. The investigations included physical inspections of each escalator documented by a multipoint inspection checklists, which include the measurement of physical dimensions that were accessible, coupled with performance testing of each of the escalators.

The physical inspections assessed equipment condition, as well as evaluate the renewal alternatives.

Qualitative escalator performance data was collected to record the starting, running and stopping performance characteristics for each escalator as part of the assessment process. Characteristics of the speed profiles for the escalators provide direct information on the internal conditions of the escalator mechanical systems, which may not have been apparent from a visual inspection.

The majority of the escalators were found to be in compliance with the code under which they were installed with the exception of escalators that did not comply as a result of braking performance.

The following sections provide a more detailed narrative related to the physical inspections and performance testing of the escalators.

2.1 Physical Inspection Assessment Results by Station / Unit

(See Appendices A, B, C & D for detailed documentation including photos)

2.1.1 Embarcadero Station

During our investigation, VTX observed that Embarcadero Station has potentially the highest ridership of the four stations that were evaluated. As a result of the high ridership, the escalators at this station have the highest level of wear and should be prioritized in the escalator replacement program. See Phasing recommendations presented in this report for details.

Platform Escalators P2, P3, P4, P6

The existing platform escalators were manufactured by Montgomery KONE, who later changed their name to KONE. They are generally in fair condition. The condition of the finishes are generally poor

**BART Escalator Investigation – Phase 1
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The existing street escalators were manufactured by O&K. O&K was an escalator manufacturer that has since been acquired by KONE Elevator Company. As a result, components such as OEM brake pads are no longer available and a different type must be used. Over time, reliability of these escalators, as well as downtime, will be affected as spare parts become harder to acquire.

These escalators were found to be generally in poor condition with heavy rust/corrosion on all major internal mechanical components, as well as electrical components, likely a result of exposure to environmental conditions. Though the physical condition was poor from a visual standpoint, the performance of the escalators were found to be satisfactory based on the analysis of the performance testing results found in Section 2.2 of this report.

The maintenance history of the street escalators indicates that the reliability of these escalators has been historically low, likely due to the heavy use, misuse, environmental conditions coupled with diminishing availability of spare parts.

2.1.2 Montgomery Station

Overall, during our investigation, VTX observed that Montgomery Station had high ridership, second to Embarcadero Station. However, based on our visual inspections, the escalators at Montgomery Station were in the most satisfactory condition compared to all four stations inspected during our investigation. Therefore, we would recommend Montgomery Station being addressed later in the schedule with platform escalators addressed after the street escalators.

Platform Escalators P1, P2, P3, P4, P5

The platform escalators were manufactured by Westinghouse. They are Type 40N escalators that utilize external drive machines located in a machine room below the upper ends of the escalators that is accessible from the Muni platform. They are generally in fair condition. Escalators P1 and P2 have had systematic repairs completed, such as steps and step chains being replaced. Balustrade panels on all escalators have noticeable damage.

Street Escalators S1, S3, S4, S5, S7, S8, S9

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. Escalator S1, manufactured by Westinghouse, was in fair condition due to major repairs performed in 2016 which included steps, step chains, bull gear, handrails and handrail drive chain, and lower carriage. Escalator S3, manufactured by O&K, was not evaluated due to the

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controller was being replaced at the time of our investigation. Escalator S4, manufactured by O&K, is in very poor condition and has not be operated for an extended period of time. It was not operational at the time of our investigation. It is scheduled for a controller replacement. Escalator S5 and S7 are in fair condition. Escalator S7, though it accesses the street level, is fully interior to the station. Escalator S8 was out of service for step chain replacement and could not be evaluated. Escalator S9 is in fair condition.

2.1.3 Powell Station

Powell Station is very similar in equipment arrangement and type as Montgomery Station. During our investigation, VTX observed that the ridership is less than that of Montgomery. The general condition of the equipment is poor in comparison to Montgomery, with street escalators worse than platform escalators. The equipment has a high level of wear. The station experiences a higher level of misuse and abuse by the public in comparison to Montgomery Station.

Platform Escalators P1, P2, P3, P4, P5

The platform escalators were manufactured by Westinghouse. They are Type 40N escalators that utilize external drive machines located in a machine room below the upper ends of the escalators that is accessible from the Muni platform. Escalators P1 and P2 are in poor condition. Escalator P3 is in fair condition. Escalator P4 is in poor condition due to steps, step chains and handrail drive chains in need of replacement as well as handrails having pinch hazards. Escalator P5 is in fair condition due to new steps and chains.

Street Escalators S1, S2, S6, S7, S8

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. Escalator S1, was manufactured by Westinghouse and is in fair condition. The escalator has a history of flooding and step rollers and tracks are showing wear with rust on axles and tracks. Escalator S2, was manufactured by O&K, was not operational at the time of our investigation and appears to have been out of service for an extended period of time. The escalator balustrade panels are vandalized and the escalator lacks lubrication. Escalator S6, was manufactured by Westinghouse, and is in fair condition with new steps and step chains. Escalator S7, was manufactured by O&K and is in poor condition. The escalator is subject to a high level of misuse and abuse. The escalator floods as the result of rain but has newer steps and step chains. Escalator S8, was manufactured by O&K and is poor condition. Signs of

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heavy rust and corrosion, typical of all street level escalators. The escalator floods as a result of rain.

2.1.4 Civic Center Station

During our investigation, VTX observed that Civic Center Station has potentially the highest misuse and abuse by the public of the four stations that were evaluated. The ridership is also above average, especially Escalator S6, due to the theater located across the street from this escalator. The level of deterioration of the street escalators, especially Escalator S3 and S5, since they lack protection from the environment over their full length, places this station second in priority in regards to the escalator replacement program. See Phasing recommendations presented in this report for details.

Platform Escalators P1, P2, P3, P4

The platform escalators were manufactured by Westinghouse. Westinghouse was an escalator manufacturer that was acquired by Schindler Elevator Co. They are generally in fair condition with the exception of Escalator P3, due to excessive step chain stretch that hindered the removal of steps preventing evaluation of internal components under the step band.

Street Escalators S2, S3, S5, S6

The street escalators are a mix of Westinghouse and O&K escalators. Both original manufacturers of the escalators no longer exist and were acquired by either Schindler Elevator Co. or KONE respectively. All the street escalators are in various stages of deterioration. Escalator S5 was not evaluated as it is currently undergoing a major repair. Escalator S2, manufactured by O&K, and Escalator S3, manufactured by Westinghouse, were in very poor condition with heavy rust/corrosion on all major internal mechanical components, as well as electrical components, likely a result of exposure to environmental conditions. VTX could not access internal components under the step band due to the lower pit being flooded with water from rain the previous night. Escalator S6, was in fair condition due to having recently undergone a major repair where steps and step chain were replaced along with the lower carriage being rebuilt.

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2.2 PERFORMANCE TESTING RESULTS by Station / Unit

(See Appendices A, B, C & D for detailed documentation including photos)

VTX escalator specialists utilized the Parametricoder® time and displacement encoding system, designed and developed by our in-house escalator engineer, to evaluate step and handrail drive component performance and to assess the safe operation of the escalator for passengers. Speed variations during the entire operating cycle along with critical stopping characteristics are reviewed to develop corrective actions and provide recommendations related to the condition of internal components not readily apparent by visual inspection. Critical measurements measured with the Parametricoder system provide equipment specialists with critical data to assess motion characteristics for machinery. Vertical transportation specialists utilize the system to test performance characteristics of escalators and moving walks. Data collected from the moving steps and handrails identify numerous system characteristics related to the safe operation of the equipment and possible degradation of components through wear.

The testing enhanced our investigation of the BART escalators and the results of the testing is contained in the following tables. Please refer to the Appendices for each station where the graphical testing results can be found. (Blue text identifies items that should be addressed by BART M&E personnel).

Embarcadero Station

BART Embarcadero Escalator P2 Montgomery(Kone) Model 5TR		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 2ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> Well controlled starting ramp with soft gradual acceleration to speed. Minor speed oscillations on SB, LHR and RHR following transition to normal speed and during brake cycle. Recommend checking HR drive chain tension adjustments and HR drive chain sprockets for wear. Also recommend checking conditions of main shaft ring and pinion gears as well as backlash through reducer gear. Good and well defined brake cycle within expectations for Code compliance. 		

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BART Embarcadero Escalator P3 Montgomery(Kone) Model 5TR		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input checked="" type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 2ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> Extremely aggressive starting ramp (approximately 0.25 sec to speed). See Embarcadero P2 for example of good starting. Probable failure\incorrect configuration of escalator controls during starting. Highly recommend corrective actions to reduce starting acceleration rate and reduce corresponding inertial loads transferred through drive system components, step band and handrails. Heavy oscillations on handrails at end of start cycle indicate likely severe damage to HR drive system components. Full inspection of all HR drive elements and corresponding corrective actions highly recommended along with corrections to aggressive starting cycle noted previously. Good and well defined brake cycle within expectations for Code compliance. 		

BART Embarcadero Escalator P4 Montgomery(Kone) Model 5TR		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 2ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> Well controlled starting ramp with soft gradual acceleration to speed. Minor speed oscillations on SB, LHR and RHR following transition to normal speed and during brake cycle. Recommend checking HR drive chain tension adjustments and HR drive chain sprockets for wear. Also recommend checking conditions of main shaft ring and pinion gears as well as backlash through reducer gear. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Embarcadero Escalator P6 Montgomery(Kone) Model 5TR		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 2ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Acceptable starting ramp, not as soft or with soft gradual acceleration to speed as other 5TR units. • Minor speed oscillations on SB, LHR and RHR following transition to normal speed and during brake cycle. Monitor drive elements for proper settings and wear limits. • Typical design brake profile for this series escalator. This series usually utilizes an electronically controlled brake system design to achieve constant deceleration rates typically under Code limit. 		

BART Embarcadero Escalator S1 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Acceptable starting ramp. Slight oscillations at start initiation which are typically related to the backlash in the planetary gear system used for the drives. Level of oscillation indicates this unit may be on the upper end toward limits of acceptable backlash but are not overly concerning. • Acceptable performance throughout run cycle. • This escalator design relies on an inertial mass system. The brake performance currently is slightly beyond the normal rule of thumb for proper operation under full escalator load. Check brake tag data and corresponding brake torque settings to ensure brakes are set to within limits required for correct operation across load range. 		

**BART Escalator Investigation – Phase 1
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BART Embarcadero Escalator S2 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Very acceptable starting ramp with minimal signs of high backlash in the planetary gear system used for the drives on this model. Start profile is near ideal. • This escalator design relies on an inertial mass system. The brake performance currently is well beyond the normal rule of thumb for proper operation under full escalator load. Check brake tag data and corresponding brake torque settings to ensure brakes are set to within limits required for correct operation across load range. 		

BART Embarcadero Escalator S4 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Very acceptable starting ramp with minimal signs of high backlash in the planetary gear system used for the drives on this model. Start profile is near ideal. • Acceptable performance throughout run cycle. • Near ideal brake profile. Slide under no load is near rule of thumb limit for the inertial mass control system. Monitor for deterioration and development of longer slide distances. 		

BART Escalator Investigation – Phase 1
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BART Embarcadero Escalator S5 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Acceptable starting ramp. Slight oscillations at start initiation which are typically related to the backlash in the planetary gear system used for the drives. Level of oscillation indicates this unit may be on the upper end toward limits of acceptable backlash but are not overly concerning. • Near ideal brake profile. Slide under no load is near rule of thumb limit for the inertial mass control system. Monitor for deterioration and development of longer slide distances. 		

BART Embarcadero Escalator S6 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Acceptable starting ramp. Slight oscillations at start initiation which are typically related to the backlash in the planetary gear system used for the drives. Level of oscillation indicates this unit may be on the upper end toward limits of acceptable backlash but are not overly concerning. • Near ideal brake profile. Slide under no load is near rule of thumb limit for the inertial mass control system. Monitor for deterioration and development of longer slide distances. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Embarcadero Escalator S7 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Very acceptable starting ramp with minimal signs of high backlash in the planetary gear system used for the drives on this model. Start profile is near ideal. • Acceptable performance throughout run cycle. • This escalator design relies on an inertial mass system. The brake performance currently is beyond the normal rule of thumb for proper operation under full escalator load. Check brake tag data and corresponding brake torque settings to ensure brakes are set to within limits required for correct operation across load range. 		

Montgomery Station

BART Montgomery Escalator P1 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Escalator exceeds Code limit of 3ft/s² with little margin for error. Brake system adjustment required to comply with Code. • Escalator violates limit on peak accelerations during stopping cycle [6.1.5.3.1(c)]. General brake profile appears to track at Code limited 3ft/s². Violation on peaks above 3ft/s² for more than 0.125s appears to be tied to wear and/or adjustments in chains, sprockets and/or gearing systems. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Montgomery Escalator P2 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. Stopping slide under no load conditions are above rule of thumb limits for escalator systems utilizing inertial mass brake control. Check brake data tags for torque settings and ensure that torques are within range to properly handle fully loaded escalators per 6.1.5.3.1(d)(5). 		

BART Montgomery Escalator P3 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Acceptable starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. Stopping slide under no load conditions are above rule of thumb limits for escalator systems utilizing inertial mass brake control. Check brake data tags for torque settings and ensure that torques are within range to properly handle fully loaded escalators per 6.1.5.3.1(d)(5). 		

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BART Montgomery Escalator P4 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Generally acceptable starting ramp. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Generally acceptable brake performance ramp. 		

BART Montgomery Escalator S1 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input checked="" type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Generally acceptable starting ramp. • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and\or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Current configuration exceeds Code in terms of deceleration rate and peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Montgomery Escalator S4 O&K Model RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Very acceptable starting ramp with minimal signs of high backlash in the planetary gear system used for the drives on this model. Start profile is near ideal. • Acceptable performance throughout run cycle. • This escalator design relies on an inertial mass system. The brake performance currently is beyond the normal rule of thumb for proper operation under full escalator load. Check brake tag data and corresponding brake torque settings to ensure brakes are set to within limits required for correct operation across load range. 		

BART Montgomery Escalator S5 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Stopping slide under no load conditions are above rule of thumb limits for escalator systems utilizing inertial mass brake control. Check brake data tags for torque settings and ensure that torques are within range to properly handle fully loaded escalators per 6.1.5.3.1(d)(5). Note that main deceleration rate is acceptable, however, the slide issue appears to be driven by the lag in setting the brake. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Montgomery Escalator S7 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> NOTE: operational error with RHR sensor configuration. No data available for analysis. Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> <i>Current configuration exceeds Code in terms of deceleration rate and peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code.</i> 		

BART Montgomery Escalator S8 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> <i>Current configuration exceeds Code in terms of deceleration rate and peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code.</i> 		

BART Escalator Investigation – Phase 1
Escalator Replacement Study Report

BART Montgomery Escalator S9 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Generally acceptable brake performance ramp. Oscillations in SB and Handrails during stop likely due to wear in chains, sprockets and or gearing systems. • Late recoil is present on SB approximately 1.5 after stop. This usually occurs due to very high backlash or wear in gearing 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

Powell Station

BART Powell Escalator P1 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Aggressive starting ramp. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. • Hard spikes at escalator step joints indicate step treads at landing are out of level. This can be a result of step deformations, track deformations or track alignment issues. Recommending checking conditions to assess the influencing factor(s) and making corrective actions. • Current configuration exceeds Code in terms of deceleration rate and peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code. 		

**BART Escalator Investigation – Phase 1
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BART Powell Escalator P3 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input checked="" type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Very aggressive starting ramp with evidence of high impact loading during start. • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • <i>Current configuration exceeds Code in terms of peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code. Note also, excessive setting time for brake followed by an apparent abrupt application at full torque, however, this apparent abrupt application may be associated with wear in the step and handrail chain systems. Recommend retesting after corrective actions are performed.</i> 		

BART Powell Escalator P4 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Moderate starting ramp with evidence of high impact loading during start. • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • Generally acceptable brake performance. 		

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BART Powell Escalator P5 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Acceptable starting ramp. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • <i>Current configuration exceeds Code in terms of peak decelerations exceeding 3 ft/s² for more than 0.125s. Brake system adjustment required to comply with Code.</i> 		

BART Powell Escalator S1 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> • Very aggressive start ramp with evidence of high impact loading and likely damage to chains and/or chain sprockets. • <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • Generally acceptable stopping profile. 		

BART Escalator Investigation – Phase 1

Escalator Replacement Study Report

BART Powell Escalator S6 Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input checked="" type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input checked="" type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> NOTE: operational error with SB sensor configuration. No data available for analysis. LHR data substituted for analytical purposes. Retesting is recommended. Very aggressive start ramp with evidence of high impact loading and likely damage to chains and/or chain sprockets. If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance. Generally acceptable stopping profile. However, heavy impact in both handrail systems at end of escalator cycle. Signature raises concerns with damaged power transmission components on high inertia rotating component such as a flywheel or motor rotor. 		

BART Powell Escalator S7 O&K RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Near ideal starting profile. This escalator design relies on an inertial mass system. The brake performance currently is well beyond the normal rule of thumb for proper operation under full escalator load. Check brake tag data and corresponding brake torque settings to ensure brakes are set to within limits required for correct operation across load range. 		

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

BART Powell Escalator S8 O&K RTVHD		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input type="checkbox"/> LHR Chain\Sprockets <input type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Acceptable starting ramp rate. Signs of higher planetary gear backlash utilized on this model is present and appears to be toward upper end of limits. NOTE: RHR handrail sensor engagement issue occurred at initial start of unit – operation appeared correct for remainder of data collection and sensor data at start is assumed to be an anomaly which isn't reflective of actual performance. Acceptable brake performance. 		

Civic Center Station

BART Civic Center Escalator P1 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input checked="" type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Escalator exceeds limit on peak accelerations during stopping cycle [6.1.5.3.1(c)]. General brake profile appears to track at Code limited 3ft/s². Violation on peaks above 3ft/s² for more than 0.125s appears to be tied to wear and/or adjustments in chains, sprockets and/or gearing systems. Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. General rate of speed change during braking appears to be right at Code limit of 3ft/s² with little margin for error. Slight brake system adjustments to reduce braking rate may be worth considering. 		

**BART Escalator Investigation – Phase 1
Escalator Replacement Study Report**

BART Civic Center Escalator P2 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • Noticeable system impact stalling both the SB and RHR due to lag in LHR motion. Probable wear issues in LHR drive components and high resistance in LHR Guides. • <i>Escalator exceeds Code limit of 3ft/s² [6.1.5.3.1(c)]. Brake system adjustment required to comply with Code.</i> • <i>Escalator exceeds limit on peak accelerations during stopping cycle [6.1.5.3.1(c)]. General brake profile appears to track at Code limited 3ft/s². Exceeds on peaks above 3ft/s² for more than 0.125s appears to be tied to wear and/or adjustments in chains, sprockets and/or gearing systems.</i> 		

**BART Escalator Investigation – Phase 1
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BART Civic Center Escalator P3 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input checked="" type="checkbox"/> Exceeds 3ft/s ² Limit <input checked="" type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input checked="" type="checkbox"/> Heavy Stepband Recoil <input checked="" type="checkbox"/> Heavy LHR Recoil <input checked="" type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Settling transition from acceleration ramp to nominal speed indicates unit may be starting directly across the line (Delta). Addition of wye-delta starting or soft start module may improve performance and overall component life expectancy. <i>If wye-delta or soft start module is currently present, data indicates that there is likely a problem with its configuration and performance.</i> • Noticeable starting lags for both LHR and RHR with RHR being the most pronounced. Characteristics indicate high potential for worn HR drive chains and/or sprockets. • <i>Escalator exceeds Code limit of 3ft/s² with little margin for error. Brake system adjustment required to comply with Code. Speed profiles indicate probable failure in brake electronic control systems.</i> • <i>Escalator exceeds limit on peak accelerations during stopping cycle [6.1.5.3.1(c)]. General brake profile appears to track at Code limited 3ft/s². Exceeds on peaks above 3ft/s² for more than 0.125s appears to be tied to wear and/or adjustments in chains, sprockets and/or gearing systems.</i> 		

BART Civic Center Escalator P4 Westinghouse Model 38E		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input type="checkbox"/> RHR Motion Lag <input checked="" type="checkbox"/> High SB Speed Oscillations <input checked="" type="checkbox"/> High LHR Speed Oscillations <input checked="" type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input checked="" type="checkbox"/> Drive Gearing <input checked="" type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
<p>Unit Notes and Comments:</p> <ul style="list-style-type: none"> • Presence and magnitude speed oscillations at end of start cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. • Presence and magnitude speed oscillations during brake cycle for stepband, left and right handrails indicated potential wear in chains, sprockets and/or gearing systems. 		

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BART Civic Center Escalator S2		
Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input checked="" type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input type="checkbox"/> Exceeds NL Slide Rule of Thumb <input checked="" type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> Slight lag present for both LHR and RHR during starting. Recommend checking HR drive chain tension adjustments and HR drive chain sprockets for wear. Large lag in setting of brake during stopping cycle. Recommend checking conditions of brake system pivot points to ensure adequate lubrication and setting performance. 		

BART Civic Center Escalator S6		
Westinghouse Model 48N		
Starting Performance	Brake Performance	Possible Component Wear
<input type="checkbox"/> Aggressive Starting <input type="checkbox"/> Possible Control Failure <input type="checkbox"/> Step Band Motion Lag <input type="checkbox"/> LHR Motion Lag <input checked="" type="checkbox"/> RHR Motion Lag <input type="checkbox"/> High SB Speed Oscillations <input type="checkbox"/> High LHR Speed Oscillations <input type="checkbox"/> High RHR Speed Oscillations	<input type="checkbox"/> Exceeds 3ft/s ² Limit <input type="checkbox"/> Exceeds Peak Limit > .125s <input checked="" type="checkbox"/> Exceeds NL Slide Rule of Thumb <input type="checkbox"/> Noticeable Brake Set Lag <input type="checkbox"/> Heavy Stepband Recoil <input type="checkbox"/> Heavy LHR Recoil <input type="checkbox"/> Heavy RHR Recoil	<input type="checkbox"/> Drive Gearing <input type="checkbox"/> SB Chain\Sprockets <input checked="" type="checkbox"/> LHR Chain\Sprockets <input checked="" type="checkbox"/> RHR Chain\Sprockets
Unit Notes and Comments: <ul style="list-style-type: none"> NOTE: operational error with LHR sensor configuration. No data available for analysis. Well controlled starting ramp with soft gradual acceleration to speed. Raises concerns with other WH units showing highly aggressive starts and possibility that other units exhibit issues with electronic controls during start cycle. Lag present on RHR during starting. Recommend checking HR drive chain tension adjustments and HR drive chain sprockets for wear. Stopping slide under no load conditions are above rule of thumb limits for escalator systems utilizing inertial mass brake control. Check brake data tags for torque settings and ensure that torques are within range to properly handle fully loaded escalators per 6.1.5.3.1(d)(5). 		

**BART Escalator Investigation – Phase 1
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2.3 DIMENSIONAL COMPARISON – EXISTING WELLWAYS VS NEW ESCALATOR REQUIREMENTS

(See Appendices E for Dimensional Charts per Manufacturer)

VTX representatives have been in communication with representatives from each of the four (4) major escalator manufacturers as well as an independent elevator contractor in order to obtain dimensional information for their specific equipment. VTX requested dimensional information for five (5) variations of their escalator design, with a focus on the manufacturer's APTA compliant heavy duty transit escalator model. The models of escalators are as follows:

1. KONE E3X
2. Otis 513MPE
3. Schindler 9700
4. ThyssenKrupp Victoria

The five (5) variations to their design is as follows:

1. Option A - APTA Transition Radius w/ 3 flat steps Top & Bottom
2. Option B - APTA Transition Radius w/ 2 flat steps Top & Bottom
3. Option C - Standard Transition Radius w/ 2 flat steps Top & Bottom
4. Option D - APTA Transition Radius w/ 3 flat steps Top & 2 flat steps Bottom
5. Option E - APTA Transition Radius w/ 2 flat steps Top & 3 flat steps Bottom

The most beneficial and robust variation is Item 1 (Option A). The dimensional information provided by the manufacturers for the five (5) variations was compared to the existing wellway dimensions, obtained via physical measurement or from as-built documentation provided to VTX by BART. Two independent analyses were performed. The first analysis was a comparison of the existing wellway dimensions to the dimensions required by the manufacturer, without taking into account truss reductions/extensions or structural modifications. The second analysis was a comparison of the existing wellway dimensions, taking into account the maximum truss reduction/extension that each manufacturer is capable of based on the design of their heavy duty transit escalator.

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The table below is the resulting summary from the first analysis. Where we are indicating *NP, this is to indicate that the manufacture cannot provide any variation of their escalator to meet the existing wellway dimensions.

DIMENSIONAL ANALYSIS OF FULL REPLACEMENT OPTIONS WITHOUT TRUSS REDUCTIONS OR STRUCTURAL MODIFICATIONS

Option	Description
A	APTA Transition Radius / 3 Flat Steps Top & Bottom
B	APTA Transition Radius / 2 Flat Steps Top & Bottom
C	Standard Transition Radius / 2 Flat Steps Top & Bottom
D	APTA Transition Radius / 3 Flat Steps Top & 2 Flat Steps Bottom
E	APTA Transition Radius / 2 Flat Steps Top & 3 Flat Steps Bottom

Station	Unit #	Manufacturer					Excelsior / BLT
		KONE	OTIS	SCHINDLER	TKE	Excelsior / BLT	
EMBARCADERO	P2	E	C	NP*	NP*	Information not provided	
EMBARCADERO	P3	B	B	C	NP*	Information not provided	
EMBARCADERO	P4	B	B	C	NP*	Information not provided	
EMBARCADERO	P6	B	C	NP*	NP*	Information not provided	
EMBARCADERO	S1	B	C	C	NP*	Information not provided	
EMBARCADERO	S2	B	C	C	NP*	Information not provided	
EMBARCADERO	S4	B	C	C	NP*	Information not provided	
EMBARCADERO	S5	B	C	C	NP*	Information not provided	
EMBARCADERO	S6	B	C	C	NP*	Information not provided	
EMBARCADERO	S7	B	C	C	NP*	Information not provided	
MONTGOMERY	P1	E	E	C	NP*	Information not provided	
MONTGOMERY	P2	E	E	C	NP*	Information not provided	
MONTGOMERY	P3	E	E	C	NP*	Information not provided	
MONTGOMERY	P4	E	E	C	NP*	Information not provided	
MONTGOMERY	P5	E	E	C	NP*	Information not provided	
MONTGOMERY	S1	C	C	NP*	NP*	Information not provided	
MONTGOMERY	S3	C	C	NP*	NP*	Information not provided	
MONTGOMERY	S4	C	NP*	NP*	NP*	Information not provided	
MONTGOMERY	S5	A	A	D	A	Information not provided	
MONTGOMERY	S7	A	A	D	A	Information not provided	
MONTGOMERY	S8	A	A	D	A	Information not provided	
MONTGOMERY	S9	A	A	D	A	Information not provided	
POWELL	P1	E	E	C	NP*	Information not provided	
POWELL	P2	E	E	C	NP*	Information not provided	
POWELL	P3	E	E	C	NP*	Information not provided	
POWELL	P4	E	E	C	NP*	Information not provided	
POWELL	P5	E	E	C	NP*	Information not provided	
POWELL	S1	A	A	B	A	Information not provided	
POWELL	S2	A	D	D	D	Information not provided	
POWELL	S6	A	A	D	A	Information not provided	
POWELL	S7	A	A	D	A	Information not provided	
POWELL	S8	A	D	D	B	Information not provided	
CIVIC CENTER	P1	E	C	C	NP*	Information not provided	
CIVIC CENTER	P2	E	C	C	NP*	Information not provided	
CIVIC CENTER	P3	E	B	C	NP*	Information not provided	
CIVIC CENTER	P4	E	E	C	NP*	Information not provided	
CIVIC CENTER	S2	E	C	C	NP*	Information not provided	
CIVIC CENTER	S3	D	D	D	A	Information not provided	
CIVIC CENTER	S5	A	A	D	A	Information not provided	
CIVIC CENTER	S6	E	C	C	D	Information not provided	

NP* - Not possible without truss reduction or structural infrastructure modification.

NOTE: TRUSS UP OPTION WOULD REMOVE OTIS AND EXCELSIOR FROM POTENTIAL BIDDERS

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The second analysis was performed considering the maximum truss reduction/extension possible from each manufacturer. Information requested was not received from Excelsior. For this analysis, only four (4) variations of the manufacturer’s design was considered and these Options are as follows:

1. Option A - APTA Transition Radius w/ 3 flat steps Top & Bottom
2. Option B - APTA Transition Radius w/ 2 flat steps Top & Bottom
3. Option C - APTA Transition Radius w/ 3 flat steps Top & 2 flat steps Bottom
4. Option D - APTA Transition Radius w/ 2 flat steps Top & 3 flat steps Bottom

DIMENSIONAL ANALYSIS OF FULL REPLACEMENT OPTIONS WITHOUT STRUCTURAL MODIFICATIONS AND RECOMMENDATIONS BASED ON THIS ANALYSIS						
Option						
A	APTA Transition Radius / 3 Flat Steps Top & Bottom					
B	APTA Transition Radius / 2 Flat Steps Top & Bottom					
C	APTA Transition Radius / 3 Flat Steps Top & 2 Flat Steps Bottom					
D	APTA Transition Radius / 2 Flat Steps Top & 3 Flat Steps Bottom					
		Manufacturer				
Station	Unit #	KONE	OTIS	SCHINDLER	TKE	RECOMMENDATION
EMBARCADERO	P2	D	NP	NP	NP	TRJSS UP
EMBARCADERO	P3	D	B	NP	NP	**FULL REPLACEMENT WITH STAIRS
EMBARCADERO	P4	D	B	NP	NP	**FULL REPLACEMENT WITH STAIRS
EMBARCADERO	P6	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S1	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S2	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S4	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S5	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S6	D	NP	NP	NP	TRJSS UP
EMBARCADERO	S7	D	NP	NP	NP	TRJSS UP
MONTGOMERY	P1	A	D	NP	NP	TRJSS UP
MONTGOMERY	P2	A	D	NP	NP	TRJSS UP
MONTGOMERY	P3	A	D	NP	NP	TRJSS UP
MONTGOMERY	P4	A	D	NP	NP	TRJSS UP
MONTGOMERY	P5	A	D	NP	NP	TRJSS UP
MONTGOMERY	S1	D	NP	NP	NP	TRJSS UP
MONTGOMERY	S3	D	NP	NP	NP	TRJSS UP
MONTGOMERY	S4	D	NP	NP	NP	TRJSS UP
MONTGOMERY	S5	A	A	A	A	FULL REPLACEMENT
MONTGOMERY	S7	A	A	A	A	FULL REPLACEMENT
MONTGOMERY	S8	A	A	A	A	FULL REPLACEMENT
MONTGOMERY	S9	A	A	A	A	FULL REPLACEMENT
POWELL	P1	A	D	NP	NP	TRJSS UP
POWELL	P2	A	D	NP	NP	TRJSS UP
POWELL	P3	A	D	NP	NP	TRJSS UP
POWELL	P4	A	D	NP	NP	TRJSS UP
POWELL	P5	A	D	NP	NP	TRJSS UP
POWELL	S1	A	A	D	A	FULL REPLACEMENT
POWELL	S2	A	A	A	A	FULL REPLACEMENT
POWELL	S6	A	A	A	A	FULL REPLACEMENT
POWELL	S7	A	A	A	A	FULL REPLACEMENT
POWELL	S8	A	A	A	A	FULL REPLACEMENT
CIVIC CENTER	P1	D	NP	NP	NP	TRJSS UP
CIVIC CENTER	P2	D	NP	NP	NP	TRJSS UP
CIVIC CENTER	P3	D	B	NP	NP	TRJSS UP
CIVIC CENTER	P4	A	D	NP	NP	TRJSS UP
CIVIC CENTER	S2	D	NP	NP	NP	TRJSS UP
CIVIC CENTER	S3	A	A	C	A	FULL REPLACEMENT
CIVIC CENTER	S5	A	A	A	A	FULL REPLACEMENT
CIVIC CENTER	S6	D	NP	NP	D	TRJSS UP

NP* - Not possible without structural infrastructure modification.

NOTE: TRUSS UP OPTION WOULD REMOVE OTIS FROM POTENTIAL BIDDERS

**** Full replacement with stairs recommended but will require structural modifications to accommodate Schindler and/or TKE.**

RECOMMENDATION SUMMARY:	27 TRUSS UP MODERNIZATIONS
	13 FULL REPLACEMENT IN EXISTING WELLWAY

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In addition to the analyses on the previous pages, VTX performed an analysis to determine the extent of the structural modifications that would be required for those escalator locations where a structural modification can be performed based on the current design of the structural supports. This table is contained on the following page.

DIMENSIONAL ANALYSIS OF FULL REPLACEMENT OPTIONS WITH STRUCTURAL MODIFICATIONS AND RECOMMENDATIONS FOR BASE AND ALTERNATIVE BIDS

Option	Description
A	APTA Transition Radius / 3 Flat Steps Top & Bottom
B	APTA Transition Radius / 2 Flat Steps Top & Bottom
C	APTA Transition Radius / 3 Flat Steps Top & 2 Flat Steps Bottom
D	APTA Transition Radius / 2 Flat Steps Top & 3 Flat Steps Bottom

Station	Unit #	MANUFACTURER											BASE RECOMMENDATION	ALTERNATIVE RECOMMENDATION		
		KONE			OTIS			SCHINDLER			TKE					
		KONE	OTIS	MODIFICATION POSSIBLE?	NEW OPTION	LENGTH / LOCATION	SCHINDLER	MODIFICATION POSSIBLE?	NEW OPTION	LENGTH / LOCATION	TKE	MODIFICATION POSSIBLE?	NEW OPTION	LENGTH / LOCATION		
EMBARCADERO	P2	D	NP	NO			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
EMBARCADERO	P3	D	B	**			NP	**			NP	**			FULL REPLACEMENT PLUS STAIR	NONE
EMBARCADERO	P4	D	B	**			NP	**			NP	**			FULL REPLACEMENT PLUS STAIR	NONE
EMBARCADERO	P6	D	NP	NO			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
EMBARCADERO	S1	D	NP	YES	D	2.64 in. / TOP	NP	YES	D	9.68 in. / TOP - 2.44 in. / BOT	NP	YES	D	1.02 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
EMBARCADERO	S2	D	NP	YES	D	2.64 in. / TOP	NP	YES	D	9.68 in. / TOP - 2.44 in. / BOT	NP	YES	D	1.02 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
EMBARCADERO	S4	D	NP	YES	D	2.64 in. / TOP	NP	YES	D	9.68 in. / TOP - 2.44 in. / BOT	NP	YES	D	1.02 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
EMBARCADERO	S5	D	NP	YES	D	2.64 in. / TOP	NP	YES	D	9.68 in. / TOP - 2.44 in. / BOT	NP	YES	D	1.02 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
EMBARCADERO	S6	D	NP	YES	D	2.64 in. / TOP	NP	YES	D	9.68 in. / TOP - 2.44 in. / BOT	NP	YES	D	1.02 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
EMBARCADERO	S7	D	NP	YES	D	4.77 in. / TOP	NP	YES	D	11.81 in. / TOP - 2.44 in. / BOT	NP	YES	D	3.14 in. TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
MONTGOMERY	P1	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
MONTGOMERY	P2	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
MONTGOMERY	P3	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
MONTGOMERY	P4	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
MONTGOMERY	P5	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
MONTGOMERY	S1	D	NP	YES	D	12.14 in. / TOP	NP	YES	D	19.18 in. / TOP	NP	YES	D	10.52 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
MONTGOMERY	S3	D	NP	YES	D	12.14 in. / TOP	NP	YES	D	19.18 in. / TOP	NP	YES	D	10.52 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
MONTGOMERY	S4	D	NP	YES	D	16.52 in. / TOP	NP	YES	D	23.56 in. / TOP	NP	YES	D	14.89 in. / TOP	FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS.	TRUSS UP
MONTGOMERY	S5	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
MONTGOMERY	S7	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
MONTGOMERY	S8	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
MONTGOMERY	S9	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
POWELL	P1	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
POWELL	P2	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
POWELL	P3	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
POWELL	P4	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
POWELL	P5	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
POWELL	S1	A	A	**			D	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
POWELL	S2	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
POWELL	S6	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
POWELL	S7	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
POWELL	S8	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
CIVIC CENTER	P1	D	NP	NO			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
CIVIC CENTER	P2	D	NP	NO			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
CIVIC CENTER	P3	D	B	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
CIVIC CENTER	P4	A	D	**			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
CIVIC CENTER	S2	D	NP	NO			NP	NO			NP	NO			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY
CIVIC CENTER	S3	A	A	**			C	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
CIVIC CENTER	S5	A	A	**			A	**			A	**			FULL REPLACEMENT IN EXISTING WELLWAY	NONE
CIVIC CENTER	S6	D	NP	NO			NP	NO			D	**			TRUSS UP	FULL REPLACEMENT IN EXISTING WELLWAY

NP* - Not possible with Only truss reductions / truss extensions

RECOMMENDATION SUMMARY:

20 TRUSS UP MODERNIZATIONS
 11 FULL REPLACEMENT IN EXISTING WELLWAY
 9 FULL REPLACEMENT WITH STRUCTURAL MODIFICATIONS

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3.0 ALTERNATIVE RENEWAL SOLUTIONS

Forty (40) escalator systems were assessed to determine current conditions and operating environment, and three (3) alternatives were investigated for optimal renewal solutions based on constraints related to impact on infrastructure. The goal of this investigation was to determine the optimal renewal solution while maximizing the number of potential bidders. With all alternative renewal solutions, VTX recommends the use of non-proprietary PLC based controllers located exterior to the escalators where possible as shown in Appendix F of this report.

3.1 Renewal Solutions: Maximizing Number of Potential Bidders

In evaluating the escalators to determine the most feasible renewal solution, maximizing the number of potential bidders is of most importance. The maximum number of potential bidders can only be achieved if full replacement as the renewal solution is considered for each escalator. Based on the dimensional analysis presented in Appendix E, and discussed in Section 2.3 of this report, in order to maximize the number of potential bidders, replacing escalators with new escalators with APTA transition radii and 2 flat step Top and/or Bottom should be considered for the design of the new replacement escalators.

A Truss-Up modernization solution is only currently offered by three manufacturers, as explained below. In order to also maximize the number of potential bidders, VTX is performing a concurrent task of evaluating the BART BFS escalator design standard to evaluate whether or not requirements in the BFS are limiting the number of potential bidders.

3.2 Alternative 1: Truss-Up Modernization

This Alternative is an attractive option to provide new escalators within the existing truss structures. This Alternative generally has a lower impact on station operations due to simpler rigging and handling requirements. It effectively provides a new escalator and eliminates the potential requirement for structural and architectural modifications. One of the primary detractors is that this solution is only currently available from three suppliers (KONE, ThyssenKrupp Elevator Co., and Schindler Elevator Co.) thereby eliminating Otis Elevator Co. as a potential bidder.

3.2.1 Escalator System Modifications

A Truss-Up Modernization (KONE ECOMOD, ThyssenKrupp I-MOD, and Schindler In-Truss) permits installation of a new escalator within the truss structure of an existing escalator. All escalator elements for the existing escalator would be removed down to the main truss structure. Bracketing for guides and machinery

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mounts are removed and new hard points are installed in the truss. Complete drive station and return station assemblies are factory assembled and aligned in a modular approach for installation in the field. Intermediate track systems along the incline are then installed and aligned with the drive and return stations. Effectively, the running gear, drives and balustrades are installed using the existing truss structure as the backbone.

One of the key elements in this approach is that the escalator replacement can be performed without impacting the existing architectural finishes on flooring and surrounding the truss structure. While significant effort is required to remove existing escalator components, the efforts to remove existing and install new trusses, and the associated rigging and handling, are eliminated with this approach.

Technologies utilized with this approach are based on the same components from the manufacturer's current escalator system designs. This application would require the utilization of the more robust systems applicable for transit type systems such as BART. Many of the key features from the APTA guidelines are available.

Light hoisting elements are required to manage removal of heavier components from the escalators and installation of the critical return and drive station assemblies for the truss-up product. Frames and spreader beams are anticipated at the upper end to manage this.

Controllers specified as part of the truss-up modernization would require the use of non-proprietary PLC based systems in lieu of the manufacturers standard control system. Controllers would feature full VVVF drive systems for intermittent use / standby speed operation.

3.2.2 Electrical Supply System Modifications

As part of this Alternative, VTX recommends that all power feed conductors and disconnects be replaced. A Truss-Up modernization which is based on APTA loading, would have motors of similar size as presented in Appendix E of this report. A comparison of existing motor sizes to the new motor sizes required by the four escalator manufacturers does not lead us to believe that the existing power feed conductors need to be resized. However, we recommend that this be evaluated by an electrical engineer once the escalator contractor is selected and exact electrical requirements per escalator is determined.

3.2.3 Mechanical System Modifications

There are no mechanical issues anticipated related to this option.

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3.2.4 Structural System Modifications

The use of an A-frame to remove and re-install various escalator components and the structural impacts would have to be considered at each station.

3.2.5 Architectural System Modifications

There are no architectural issues anticipated related to this option.

3.2.6 Pros for Alternative

- Effectively new, modern escalators within existing truss structures.
- Reduced project risks associated with escalator handling.
- Maintaining existing number of flat steps at 3 flat steps Top & Bottom.

3.2.7 Cons for Alternative

- No impact on overall passenger capacity (step width remains unchanged).
- Limited competitive bidding (three sources currently available)
- Does not fully utilize available space.
- Full APTA compliance with larger transition radii (if existing radii is currently not APTA compliant).

3.3 Alternative 2: Full Replacement – Maintaining Existing Wellway Dimensions

Replacing the escalators in kind (same sizes) with transit grade escalators would intuitively be perceived as the most direct and cost effective method for replacement with no changes required structurally or architecturally.

3.3.1 Escalator System Modifications

Full replacement with complete escalators, while retaining the existing step width and wellway dimensions may be possible as evaluated in Section 2.3 of this report. Existing escalators would be dismantled and removed and the existing openings reused for the new escalators. For Platform Escalators, work trains to remove the larger internal components of the existing escalators and the truss structures would be required. New equipment would also be brought into the station via work trains for the platform escalators. Removal of the existing escalators at Street would be straightforward with the use of flatbed trucks, which would take away the escalator in sections as it is dismantled and gantry systems installed above the escalators for lifting of the sections out of the wellways. New equipment would be delivered and installed in the same fashion.

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Hoisting and rigging options for the removal of the existing escalators and installation of new escalators would need to be evaluated for each station and escalator location by a structural engineer to determine the loading that each area can sustain. For both the Platform and Street Escalators, typically, a trolley based gantry system is used for managing the upper end sections and hoisting and handling issues at the lower end of the escalators would be managed by chain fall systems and A-frames.

Sequencing of the replacement process would be detailed in the contract documents to help minimize the impact on the station operations and permit continued use of the station while the escalators are replaced. All delivery, removal and hoisting operations would be required to be performed during off hours to ensure safety for the public and minimize impact on the station operations.

The design approach would hold the working points of the existing escalators and require that the same working points be maintained for the new escalators. Due to headroom clearance on several existing escalators at the lower ends, the relocation of the step nose line will not be possible.

Controllers specified as part of the replacement program would require the use of non-proprietary PLC based systems in lieu of the OEM standard system. Controllers would feature full VVVF drive systems for intermittent use / standby speed operation.

3.3.2 Electrical Supply System Modifications

Additional wiring will be required for this alternative for demolition and isolation of existing building systems during removal and reconstruction. As part of this Alternative, VTX recommends that all power feed conductors and disconnects be replaced. A comparison of existing motor sizes to the new motor sizes required by the four escalator manufacturers does not lead us to believe that the existing power feed conductors need to be resized. However, we recommend that this be evaluated by an electrical engineer once the escalator contractor is selected and exact electrical requirements per escalator is determined.

3.3.3 Mechanical System Modifications

The majority of the mechanical scope of work is the modification drains if present on the existing escalators, mainly the Street Escalators.

3.3.4 Structural System Modifications

Locations for hoisting supports will have to be evaluated at each station by a Structural Engineer.

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3.3.5 Architectural System Modifications

The architectural strategy for each of the escalator replacements is to minimize impact on architectural finishes. However, architectural finishes adjacent to the escalator decking and floor finishes at the upper and lower landings may be affected. The objective for any modifications would be to provide cost effective and aesthetically pleasing solutions to the required modifications.

Removal of the existing escalators and replacement with new escalators requires removal and replacement or reinstallation of adjacent finishes.

3.3.6 Pros for Alternative

- All new, modern escalators.
- All four major escalator manufacturers can provide competitive bids, including a possible independent elevator contractor.

3.3.7 Cons for Alternative

- Increased project risk due to equipment handling issues (delays, accident, and costs).
- Reduced number of flat steps compared to existing. APTA transition radii would be provided.

3.4 Alternative 3: Full Replacement – Modification to Existing Wellway Dimensions (Architectural / Structural Modifications Will Be Required)

Replacing the escalators and installing new escalators, maintaining the number of flat steps at 3 flat steps Top & Bottom or allowing for reduced number of flat steps Top and/or Bottom to minimize impact on structure, based on the dimensional analysis performed in Section 2.3 of this report, will require changes both structurally and architecturally and may be perceived as the most costly method for replacement.

3.4.1 Escalator System Modifications

Full replacement with complete escalators, while retaining the number of flat steps, respectively will require modifications to the existing escalator wellways. Existing escalators would be dismantled and removed and the existing openings would be modified to accommodate the longer new escalators. For Platform Escalators, work trains to remove the larger internal components of the existing escalators and the truss structures would be required. New equipment would also be brought into the station via work trains for the platform escalators. Removal of the existing escalators at Street would be straightforward with the use of

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flatbed trucks, which would take away the escalator in sections as it is dismantled and gantry systems installed above the escalators for lifting of the sections out of the wellways. New equipment would be delivered and installed in the same fashion.

Hoisting and rigging options for the removal of the existing escalators and installation of new escalators would need to be evaluated for each station and escalator location by a structural engineer to determine the loading that each area can sustain. For both the Platform and Street Escalators, typically, a trolley based gantry system is used for managing the upper end sections and hoisting and handling issues at the lower end of the escalators would be managed by chain fall systems and A-frames.

Sequencing of the replacement process would be detailed in the contract documents to help minimize the impact on the station operations and permit continued use of the station while the escalators are replaced. All delivery, removal and hoisting operations would be required to be performed during off hours to ensure safety for the public and minimize impact on the station operations.

Installation of replacement escalators with matching step widths, maintaining the number of flat steps top and bottom would require modifications to the structure to accommodate the longer upper and lower head dimensions.

The design approach would hold the upper support location, which are typically key structural beams, to avoid modifications to these beams and allow the growth of the escalator to occur towards the bottom end. Head room clearances may not allow this at several platform locations and at several locations, neither the upper or lower support location can be changed. Refer to Appendices A thru D for specific limitation for each escalator. For street escalators, it is our recommendation that that upper support location be modified should this alternative renewal option be selected. The lower, upper or both escalator pits would require reconstruction to relocate the end supports dependent on which structural support can be modified.

Replacement of the existing escalators with escalators of the same step width yields no improvements on passenger handling capacities.

Controllers specified as part of the replacement program would require the use of non-proprietary PLC based systems in lieu of the OEM standard system. Controllers would feature full VVVF drive systems for intermittent use / standby speed operation.

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3.4.2 Electrical Supply System Modifications

Additional wiring will be required for this alternative for demolition and isolation of existing building systems during removal and reconstruction. As part of this Alternative, VTX recommends that all power feed conductors and disconnects be replaced. A comparison of existing motor sizes to the new motor sizes required by the four escalator manufacturers does not lead us to believe that the existing power feed conductors need to be resized. However, we recommend that this be evaluated by an electrical engineer once the escalator contractor is selected and exact electrical requirements per escalator is determined.

3.4.3 Mechanical System Modifications

The majority of the mechanical scope of work is the modification drains if present on the existing escalators, mainly the Street Escalators.

3.4.4 Structural System Modifications

For each of the escalator options that require an increased pit length the far wall of the lower/upper pit will have to be removed and replaced and the lower/upper landing slab will have to be cut back to accommodate the increased length requirements. The lower/upper landing slab will be cut back to the inside face of the enlarged pit and will therefore be supported on top of the relocated pit wall.

Locations for hoisting supports will have to be evaluated at each station by a Structural Engineer.

3.4.5 Architectural System Modifications

The architectural strategy for each of the escalator replacements is to minimize impact on architectural finishes. However, architectural finishes adjacent to the escalator decking and floor finishes at the upper and lower landings will be affected due to the structural modifications. The objective for any modifications would be to provide cost effective and aesthetically pleasing solutions to the required modifications.

Removal of the existing escalators and replacement with new escalators requires removal and replacement or reinstallation of adjacent finishes.

3.4.6 Pros for Alternative

- All new, modern transit rated escalators. Consideration for full compliance with APTA Heavy Duty Transit Design Guidelines in order to standardize around one manufacturer of Non-Proprietary PLC based controller.
- Multiple competitive bids probable for price competition.

**BART Escalator Investigation – Phase 1
Escalator Replacement Study Report**

3.4.8 Cons for Alternative

- No impact on overall passenger capacity.
- Increased project risk due to equipment handling issues (delays, accident, and costs).
- Increased design duration due to infrastructure modifications.
- Increased construction duration due to infrastructure modifications.

* Both of the full replacement approaches described above will provide the most robust solution and provide equipment that is suitable for the environment in which it will be installed as well as designed to withstand the high crush and impact loading from the passengers. Larger Transition Radii escalators will provide a longer service life to components such as the step chains and tracks due to reduced pin pressures exerted on the chains. These benefits can be achieved by utilizing the manufacturers' standard transit rated escalator offering. Each manufacturers' transit rated escalator, whether it be the KONE E3X, Otis 513MPE, Schindler 9700 or ThyssenKrupp Elevator Victoria model escalators comply with the APTA guidelines in regards to performance, design loads, and overall robustness of the equipment. A full APTA compliance escalator includes the Non-Proprietary PLC based controller which is not included as part of the standard offering transit rated escalator.

**BART Escalator Investigation – Phase 1
Escalator Replacement Study Report**

4.0 Recommendations

4.1 Strategic Recommendations and Approach

4.1.1 Optimal Renewal Recommendations -

Based on constructability, life cycle cost, schedule, station/passenger impact, reliability and maintainability, the optimal renewal recommendation for the escalators is to replace all escalators including the truss where the manufacturer can provide a full replacement that utilizes a new escalator that is APTA heavy duty transit compliant, with APTA recommended upper and lower transition radii, and a minimum of 2 flat steps at the top and/or bottom landings. Based on the evaluation of the dimensions required by each of the four (4) major escalator manufacturers (KONE, OTIS, SCHINDLER and THYSSENKRUPP), taking into account the maximum truss reductions/extensions that each manufacturer can provide, which is presented in Appendix E and discussed in Section 2.3 of this report, VTX recommends the following:

1. Eleven (11) Full Replacements in Existing Wellways.
2. Nine (9) Full Replacements with Structural Modifications
3. Twenty (20) Truss Up modernizations.

The above recommendations takes into account the analysis of the structural constraints identified by STV, See Appendix G for details. With each of the above recommendations, it is important to note that the locations of the current upper and lower working points are being maintained in order to minimize structural modifications and to avoid interference with headroom clearances at the lower landings or along the inclines.

The use of a Truss-Up Modernization approach for the escalator renewal option will decrease the number of potential bidders to three (KONE, SCHINDLER and THYSSENKRUPP) since Otis does not manufacture a Truss-Up Modernization product.

In order to provide the space required for new stairwells at Embarcadero Station, the existing Escalator P3 and P4, which are currently 40 inch nominal step width escalators, will have to be replaced, and repositioned, with new 32 inch nominal step width escalators.

The additional escalator at Civic Center Station should be a Full APTA compliant heavy duty transit escalator with 3 flat steps at the top and bottom landings.

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

4.1.1.1 Standardization around common safety devices, operating controls, and controllers (Non-Proprietary PLC based) with common programming should be considered when developing the scope of the full replacements and truss-up modernizations. Standardization based on electronic/control components will improve maintainability as well as reliability. In order to achieve this level of standardization, VTX recommends that all forty (40) escalators be the product of a single manufacturer.

4.1.2 Replacement Phasing / Prioritization based on Investigation

Based on the results of this field investigation, our overall observations at each station, our understanding of the current maintenance issues related to the escalators, the current overhauls being performed on the O&K escalators, as well as the phasing of the canopy replacement project, STV and VTX recommends the phasing plan presented in Appendix G of this report. The phasing plan assumes four (4) escalators per phase, due to four (4) escalator crews provided by the escalator contractor based on meetings held with them at BART.

4.1.3 Recommended Procurement Approach

4.1.3.1 A 2-Step procurement approach is recommended for consideration by BART. The following paragraphs describes this approach.

4.1.3.2 All escalators should be procured under one procurement. A 2-Step procurement approach for that directly secures the escalator contractor is recommended. The escalator contractor should be made responsible for any changes to infrastructure required to fulfill the scope of work of the contract. Benefits of securing an escalator contractor and making them responsible for the overall project include:

4.1.3.3 BART will have better control over the selection of the escalator contractor, as means and methods, as well as product will be evaluated along with price.

4.1.3.4 BART will have a direct contractual arrangement with the escalator contractor for both the construction and warranty maintenance period.

4.1.3.5 BART will have better control over the quality of the construction work.

4.1.3.6 The proposed price of the escalators will be lower since no General Contractor will be adding a percentage markup. The portion of the work that would be performed by a General Contractor is much smaller than that of the escalator contractor and even though the escalator contractor would be marking up the General Contractor's work, that markup is proportionately smaller compared to what markup a General Contractor would have placed on the escalator contractor's work.

**BART Escalator Investigation – Phase 1
Escalator Replacement Study Report**

4.1.3.7 The escalator contractor will provide shop drawings of the escalators so that design of infrastructure modifications can be based upon the requirements of the specific equipment that will be installed.

4.1.3.8 The benefits of procuring the escalators from one manufacturer include standardization of components for these downtown stations that do experience high ridership, resulting in increased maintainability, reliability, and availability as the maintenance provider and/or BART will be able to store/maintain common spare parts for these escalators. Awarding a large number of escalators to a single manufacturer, will also result in more competitive bids during the procurement process. The procurement documents should request unit pricing per escalator. The procurement documents should also include unit pricing for individual spare parts, with an allowance to be used by BART, which are recommended by the escalator contractor based on their historical data related to mean time between failure and failure rates for components within the escalator.

4.1.3.8.1 Quality Assurance / Quality Control Approach Recommendations

4.1.3.8.1.1 In order to assure a quality replacement or modernization, a quality assurance/quality control plan should be requested to be evaluated as part of the procurement documents. The QAQC plan should be reviewed and modified by BART so that the escalator contractor is held accountable for performing and documenting QAQC inspections throughout the duration of their work. On behalf of the BART, we as your escalator consultant could also follow-up each of the contractor's QAQC inspections in order to verify that the contractor's inspection and documentation is accurate and to identify any areas of concern. At the completion of the escalator contractor's scope of work, VTX could perform commissioning inspections and testing of the escalators prior to being put into public use. The reasons for the commissioning inspections and testing is to verify both code and contract compliance as well as to provide BART with benchmark testing results that can be used to monitor the level of preventative maintenance and performance of the escalators long-term.

4.1.3.8.2 Warranty Recommendations

4.1.3.8.2.1 It is recommended that BART consider requiring an extended warranty period of 24 months from the

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

completion of the last escalator replacement or modernization so that all escalators will have a common warranty expiration date. The warranty period should include warranty maintenance with performance and response requirements specified by BART.

4.1.3.8.3 On-going Maintenance Recommendations

4.1.3.8.3.1 Upon issuance of the award for the escalator replacements, we recommend that the awarded contractor assume maintenance responsibility for all escalators until the date of expiration of the warranty period.

4.1.4 Stair Addition Feasibility at Embarcadero Station

Escalator P3 and P4 at Embarcadero Station, both existing 40 inch nominal step width escalators, which traverses between the BART platform and concourse levels do not currently have sets of stairs adjacent to each escalator. Based on field measurements, the top (concourse level) landing, as well as the bottom (platform level) landing have sufficient width to accommodate new stairs. The limiting width at these escalator locations is the area in which the escalators pass through the Muni platform as they traverse to their landings. Field measurements were taken by VTX of the space on each side of Escalator P3 and P4 at the Muni platform level to ascertain if the space would accommodate the addition of new stairs. Based on these field measurements, it was determined that in order to accommodate the new stairs, the renewal option for Escalators P3 and P4 would have to be a full replacement. Based on the dimensional analysis presented elsewhere in this report, the only manufacturers that can accommodate the existing wellway dimensions are KONE and Otis. Therefore, the structural supports would have to be modified in order to increase the wellway length should TKE or Schindler be awarded the contract. The new escalators would have to be 32 inch nominal step width escalators in lieu of 40 inch nominal step width escalators, and be positioned adjacent to one side of the wellway, in lieu of in the center as currently positioned. The existing space at the Muni platform level cannot accommodate new escalators with 40 inch nominal step widths.

A final determination on the design and location of the steps would have to be performed by an architect with the assistance of a structural engineer.

4.1.5 New Escalator Addition Feasibility at Civic Center Station

Per space requirements for a new APTA heavy duty transit escalator based on dimensions provided by the four major escalator manufacturers, the entrance/exit stair at Civic Center Station located at the intersection of Grove Street, Hyde Street and Market Street, as shown on the drawings provided by STV,

BART Escalator Investigation – Phase 1 Escalator Replacement Study Report

has sufficient space to accommodate a new escalator. A structural support design at the upper and lower ends of the new escalator will need to be provided by a structural engineer. The electrical infrastructure at the station needs to be evaluated by an electrical engineer to determine if the electrical distribution system at the station has the available capacity for this additional electrical load. A mechanical engineer would need to evaluate the possible addition of a drain for the lower escalator pit. The wellway for the new escalator should be sized to accommodate an escalator with its controller located in the upper pit area. Though it is feasible to add the escalator based on its space needs, a detailed engineering evaluation and design will need to be performed to make the final determination.

4.1.6 Short-Term Improvements / Immediate Repair Recommendations

Since the above phase plan associated with the replacement of the forty (40) escalators will span over a five (5) year period, after contract award, it is important to address conditions in the near future on the escalators that are not part of the units being replaced early on in the program, such as those at Montgomery and Powell Stations. Following are our recommendations for these escalators:

4.1.6.1 Short-Term Improvements

All escalators, especially those not being replaced early on in the Phasing plan, should continue to be maintained/repared as necessary to provide optimal performance prior to their replacement.

An immediate action items / recommendations presented in Appendices A thru D for the escalators should be performed if feasible, prior to the replacement of the escalators.

4.1.6.2 Immediate Repairs required within 90 days

All escalators found to have braking performance that exceed code requirements must be addressed.

**BART Escalator Investigation – Phase 1
Escalator Replacement Study Report**

GLOSSARY

Truss-Up Modernization:

The replacement of all existing escalator components with the exception of the escalator truss. The truss is reused and modified to accept new modular escalator components to be “dropped in” to the existing truss. The drop-in modernization is a product line offered by several escalator manufacturers aimed at installing a new escalator into an existing infrastructure with minimal impact to surrounding architectural finishes and structural elements.

Full Replacement:

The removal of an existing escalator in its entirety and installing a new escalator in its place. The new escalator may be of a different size/configuration depending on whether or not infrastructure changes can be made to the existing escalator support structure (wellway). A full replacement provides a new escalator that meets all new code requirements and is specifically designed for a transit application.



Phoenix Regional Office
3838 N. Central Avenue, Suite 1900
Phoenix, AZ 85012-1957
Tel: (602) 553-0313
Fax: (602) 553-8816
www.vtexcellence.com

Escalator Planned Phase 2 Renovation				
Asset	Alias	Description	Model	Location
10001681	K10-P10	Escalator, 38E, WEST, K10-P10	38E	K10
10001682	K10-P12	Escalator, 38E, WEST, K10-P12	38E	K10
10001672	K10-P2	Escalator, 38E, WEST, K10-P2	38E	K10
10001674	K10-P3	Escalator, 48N, WEST, K10-P3	48N	K10
10001673	K10-P4	Escalator, 38E, WEST, K10-P4	38E	K10
10001676	K10-P6	Escalator, 48N, WEST, K10-P6	48N	K10
10001677	K10-P7	Escalator, 48N, WEST, K10-P7	48N	K10
10001678	K10-P8	Escalator, 38E, WEST, K10-P8	38E	K10
10001683	K10-P9	Escalator, 48N, WEST, K10-P9	48N	K10
10001680	K10-S1	Escalator, 38E, WEST, K10-S1	38E	K10
10001679	K10-S2	Escalator, 48N, WEST, K10-S2	48N	K10
10001684	K10-S3	Escalator, 48N, WEST, K10-S3	48N	K10
10001675	K10-S4	Escalator, J, OTIS J, K10-S4	J	K10
10001671	K10-S5	Escalator, J, OTIS J, K10-S5	J	K10
10001670	K10-S6	Escalator, J, OTIS J, K10-S6	J	K10
10001668	K10-S7	Escalator, J, OTIS J, K10-S7	J	K10
10001669	K10-S8	Escalator, 48N, WEST, K10-S8	48N	K10
10001686	K20-P10	Escalator, 38E, WEST, K20-P10	38E	K20
10001687	K20-P2	Escalator, 38E, WEST, K20-P2	38E	K20
10001688	K20-P3	Escalator, 48N, WEST, K20-P3	48N	K20
10001689	K20-P4	Escalator, 38E, WEST, K20-P4	38E	K20
10001690	K20-P5	Escalator, 48N, WEST, K20-P5	48N	K20
10001691	K20-P6	Escalator, 38E, WEST, K20-P6	38E	K20

10001697	K20-P7	Escalator, 38E, WEST, K20-P7	38E	K20
10001693	K20-P8	Escalator, 38E, WEST, K20-P8	38E	K20
10001685	K20-P9	Escalator, 48N, WEST, K20-P9	48N	K20
10001694	K20-S2	Escalator, 48N, WEST, K20-S2	48N	K20
10001695	K20-S3	Escalator, 48N, WEST, K20-S3	48N	K20
10001696	K20-S4	Escalator, 48N, WEST, K20-S4	48N	K20
10001692	K20-S5	Escalator, 48N, WEST, K20-S5	48N	K20
10001756	M50-P1	Escalator, 5E, MONT, M50-P1	5E	M50
10001755	M50-S2	Escalator, HD, O&K, M50-S2	HD	M50
10001754	M50-S3	Escalator, HD, O&K, M50-S3	HD	M50
10001759	M60-P1	Escalator, 5E, MONT, M60-P1	5E	M60
10001758	M60-S2	Escalator, HD, O&K, M60-S2	HD	M60
10001757	M60-S3	Escalator, HD, O&K, M60-S3	HD	M60

EXHIBIT H

Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	2023												2024				2025				2026				2027	
						Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Escalator		1607	995	27-Jul-20 A	21-Dec-26																										
0014a	Powell S7 Escalator Installation	401	0	27-Jul-20 A	31-Aug-21 A																										
0016a	Powell P-P4 Escalator Installation	425	0	30-Jul-20 A	27-Sep-21 A																										
0026a	Civic Center S2 Escalator Installation	452	0	03-Aug-20 A	28-Oct-21 A																										
0020a	Montgomery M-S9 Escalator Installation	299	0	24-May-21 A	18-Mar-22 A																										
2753a	Montgomery M-P5 Escalator Installation	398	0	27-May-21 A	28-Jun-22 A																										
2793a	Powell P-P2 Escalator Installation	304	0	26-Oct-21 A	25-Aug-22 A																										
0028a	Embarcadero E-P2 Escalator Installation	274	31	31-Mar-22 A	30-Jan-23																										
2763a	Montgomery M-P4 Escalator Installation	214	68	05-Jul-22 A	08-Mar-23																										
0032a	Powell P-P3 Escalator Installation	179	72	19-Sep-22 A	23-Mar-23																										
2793b	Powell P-P4 Controller Swap	11	11	31-Dec-22*	10-Jan-23																										
Option 3	Change Order for Embarcadero Muni Stairs - Decision Made by Dec 31, 2022	0	0		31-Dec-22*																										
0042a	Embarcadero E-P6 Escalator Installation	209	209	30-Jan-23	26-Aug-23																										
2773a	Montgomery M-P3 Escalator Installation	187	187	08-Mar-23	10-Sep-23																										
0052a	Powell P-P5 Escalator Installation	202	202	23-Mar-23	10-Oct-23																										
0018a	Civic Center CC-P1 Escalator Installation	165	165	23-Mar-23	03-Sep-23																										
0034a	Embarcadero E-P3 Escalator Installation	162	162	27-Aug-23	04-Feb-24																										
2813a	Civic Center CC-P2 Escalator Installation	176	176	03-Sep-23*	25-Feb-24																										
0082a	Montgomery M-S8 Escalator Installation	168	168	11-Sep-23	25-Feb-24																										
0038a	Powell S8 Escalator Installation	175	175	11-Oct-23	02-Apr-24																										
2803a	Powell P-P1 Escalator Installation	175	175	11-Oct-23	02-Apr-24																										
0040a	Embarcadero E-S5 Escalator Installation	175	175	05-Feb-24	28-Jul-24																										
2703a	Embarcadero P4 Escalator Installation	165	165	25-Feb-24	07-Aug-24																										
0022a	Montgomery P1 Escalator Installation	175	175	26-Feb-24	18-Aug-24																										
0044a	Montgomery M-S5 & M-S7 Escalator Installation	168	168	26-Feb-24	11-Aug-24																										
0064a	Powell S6 Escalator Installation	168	168	03-Apr-24	17-Sep-24																										
Option 1	Deadline to Exercise Option 1: Four SFMTA Escalators	0	0		20-Apr-24*																										
2833a	Civic Center CC-P3 Escalator Installation	175	175	30-May-24	20-Nov-24																										
0070a	Embarcadero E-S7 Escalator Installation	175	175	29-Jul-24	19-Jan-25																										
0078a	Montgomery M-S3 Escalator Installation	175	175	12-Aug-24	02-Feb-25																										
2783a	Montgomery M-P2 Escalator Installation	175	175	19-Aug-24	09-Feb-25																										
2823a	Civic Center CC-P4 Escalator Installation	175	175	21-Nov-24	14-May-25																										
0058a	Embarcadero E-S4 Escalator Installation	175	175	20-Jan-25	13-Jul-25																										
0088a	Civic Center S6 Escalator Installation	175	175	15-May-25	05-Nov-25																										
0094a	Montgomery M-S4 Escalator Installation	175	175	03-Jun-25	24-Nov-25																										
0076a	Embarcadero E-S6 Escalator Installation	175	175	14-Jul-25	04-Jan-26																										
0054a	Civic Center S11 Escalator Installation	175	175	06-Nov-25	29-Apr-26																										
0092a	Powell P-S1 Escalator Installation	168	168	23-Nov-25	09-May-26																										
0086a	Montgomery M-S1 Escalator Installation	168	168	25-Nov-25	11-May-26																										
0090a	Embarcadero E-S1 Escalator Installation	175	175	05-Jan-26	28-Jun-26																										
Option 2	Deadline to Exercise Option 2: Additional 730 Day Maintenance	0	0		20-Apr-26*																										
0098a	Powell P-S2 Escalator Installation	168	168	10-May-26	24-Oct-26																										
0102a	Civic Center S3 Escalator Installation	168	168	26-Jun-26	10-Dec-26																										
0100a	Civic Center S5 Escalator Installation	168	168	26-Jun-26	10-Dec-26																										
0096a	Embarcadero E-S2 Escalator Installation	175	175	29-Jun-26	20-Dec-26																										
0100a10	Complete Escalator Installations	0	0		21-Dec-26*																										

■ Other Contractors	■ Truss Up	■ Previous
■ Canopy	■ Full Replacement	■ Actual Work

BART - Market St. Escalator Renovation Project
Master Schedule - Dec 31, 2022 - Submittal #2

EXHIBIT I

EXHIBIT J



BART ELEVATOR OUTAGE GUIDE

June 2019

San Francisco Bay Area
Rapid Transit District



BUILDING A BETTER BART

ABOUT THIS GUIDE

The Elevator Outage Guide outlines specific alternatives - by station and elevator - for riders to reach their destination by station and elevator if an elevator is out of service. The guide may be used by riders, Station Agents, BART Operations Control Center, personnel answering the elevator helpline, and any other interested parties. The following sections describe how to use the Elevator Outage Guide and define key terms used throughout the document.

Passengers can learn about the status of an elevator via the below sources:

- Electronic signs at the Station Agent booth closest to the elevator
- PA announcements on the platform and/or in the train
- Overhead signs on the platforms
- BART website (www.bart.gov/stations/elevators)
- Official BART mobile app (www.bart.gov/apps)
- Elevator Status hotline (510) 834-LIFT or (888) 2-ELEVAT

Passengers also can sign-up for email and/or text alerts at www.bart.gov/alerts.

HOW TO USE THIS GUIDE

The Elevator Outage Guide is organized by station and includes the following information for each station:

- Summary information about the elevators at each station, including:
 - Number of elevators;
 - Location of street elevator(s);
 - Where the elevators are located (inside or outside of the paid area);
 - Station usage, defined by the number of disabled persons who enter the station on an average weekday (low = less than 100; medium = between 100 and 200; high = greater than 200);
 - Location for a recommended Mitigation Trip stop.
- Mitigation options available for each elevator.

HOW TO USE THE STATION PAGES IN THIS GUIDE

The page(s) for each station include a table or tables that outline mitigation options for each passenger elevator in the BART system. Each table lists the best alternative for riders arriving at the station from the street or platform. In the case where multiple elevators have the same mitigation options, the guide combines these elevators into one table. In determining alternatives, priority was placed on mitigation options that would add less than 45 minutes to the overall trip.

1 FIND THE ELEVATOR THAT IS OUT OF SERVICE

Describes the elevator(s) that exist at the station.

2 IS THE PASSENGER COMING FROM INSIDE OR OUTSIDE OF THE STATION?

a) Options for people who are arriving at the station from the street (or outside the system) and discover that they cannot enter the station because an elevator is out of service.

b) Options for people who are already in the system and discover that the elevator they would use to exit the platform at their destination is out of service.

3 THE RECOMMENDED MITIGATION

Describes the recommended mitigation option(s) for a person who discovers that the elevator they need to use is out of service. Possible mitigation options include an alternate elevator, backtracking, transit, or a mitigation trip (these options are described in the Mitigation Options Definitions section on page 4). Individuals may also choose to walk, use their mobility device, use a taxi or TNC (e.g. Uber or Lyft), or use another vehicle to travel to the alternative station.

4 THE TIME THAT WILL BE ADDED TO THE PASSENGER'S TRIP

An estimate of the amount of time that would be added to a person's trip for each mitigation option, on top of the time their trip would have taken if the elevator was working.

5 OTHER MITIGATION OPTIONS

Sometimes multiple elevators can be out of service at the same time. The Elevator Outage Guide provides guidance on alternative options for the rider for the times when the elevator associated with the suggested mitigation option is out of service.

Pittsburg/Bay Point

2

Number of elevators: 1 street elevator and 1 platform elevator

Location of street elevator(s): In front of the main entrance of the station

Elevator(s) to trains are located: Inside of paid area

Station usage: High

Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located on the northern end of the station, right beyond the Tri Delta Transit stops. Station Agent to coordinate Mitigation Trip with dispatch.

Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

1 OUT OF SERVICE: STREET ELEVATOR

2a ARRIVING FROM THE STREET
(rider cannot enter station)

3 Mitigation Option
Rider should take Tri Delta Transit to another BART station. The closest station is **Concord**.
Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Concord**.

4 Time Added to Trip
Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*
Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

5 If the alternate elevator is out of service...
If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

2b ARRIVING FROM THE PLATFORM
(rider cannot exit station)

3 Mitigation Option
Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Concord**.
Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Concord**.

4 Time Added to Trip
Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*
Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

5 If the alternate elevator is out of service...
If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

TO STATION QUICK REFERENCE GUIDE

Pittsburg/Bay Point

1 OUT OF SERVICE: PLATFORM ELEVATOR

2a ARRIVING FROM THE STREET
(rider cannot enter station)

3 Mitigation Option
Rider should take Tri Delta Transit to another BART station. The closest station is **Concord**.
Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Concord**.

4 Time Added to Trip
Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*
Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

5 If the alternate elevator is out of service...
If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

2b ARRIVING FROM THE PLATFORM
(rider cannot exit station)

3 Mitigation Option
Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Concord**.
Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Concord**.

4 Time Added to Trip
Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*
Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

5 If the alternate elevator is out of service...
If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

MITIGATION OPTIONS DEFINITIONS

As noted previously, mitigation options are prioritized based on the amount of travel time it would add to a passenger's trip. Specifically, priority was placed on options that would add less than 45 minutes to the overall trip.



Alternate elevator: If another elevator exists at the station that will take the rider to the needed location (e.g. street or platform) and is in service, the alternate elevator is always recommended as the

passenger's primary mitigation option.



Backtracking: If a station has two platforms, each one with its own elevator, the passenger may use the platform with the working elevator even if it requires

going in the direction away from their destination. Although this will add time to the rider's trip, they can stay within the BART system and they will not need to navigate a potentially unfamiliar transit or fare system.

- *Boarding example:* A customer who is boarding at San Leandro to go to San Francisco cannot go to the correct platform because of an out-of-service elevator. They go to the other platform and board a Dublin or Warm Springs train, disembark at Bay Fair, and board the San Francisco train there.
- *Exiting example:* A customer who is coming from San Francisco cannot exit the platform at El Cerrito Plaza due to an out-of-service elevator. They remain on the train until El Cerrito Del Norte and change platforms (using both elevators), board a San Francisco or Warm Springs train, and exit at El Cerrito Plaza on the other platform.



Transit: If an alternate elevator or backtracking is not available, the next option available for a rider is to use bus transit to or from an alternative station. The Guide lists the transit operator and closest station. Rider and staff can also dial 511 or reference the BART App for transit information.



Mitigation Trip: If an alternate elevator or backtracking is not available or the transit alternative requires excessive time, the next option available for a rider is to request a Mitigation Trip in a wheelchair accessible vehicle. Passengers will need to inform a Station Agent or BART Customer Service (use the white call box) if they need a Mitigation Trip. Riders can request Mitigation Trips for other reasons, including:

- Bus transit is not available because of location, time, and/or day;
- Traveling after dark;
- Bad weather;
- Traveling on the last train of the night;
- The designated transit waiting area feels unsafe;
- The rider is at the end of the line and backtracking or transit is severely limited or not available; or
- Other reasons at discretion of staff or rider.

The Elevator Outage Guide also includes a recommended pickup or dropoff location for a Mitigation Trip at each station.



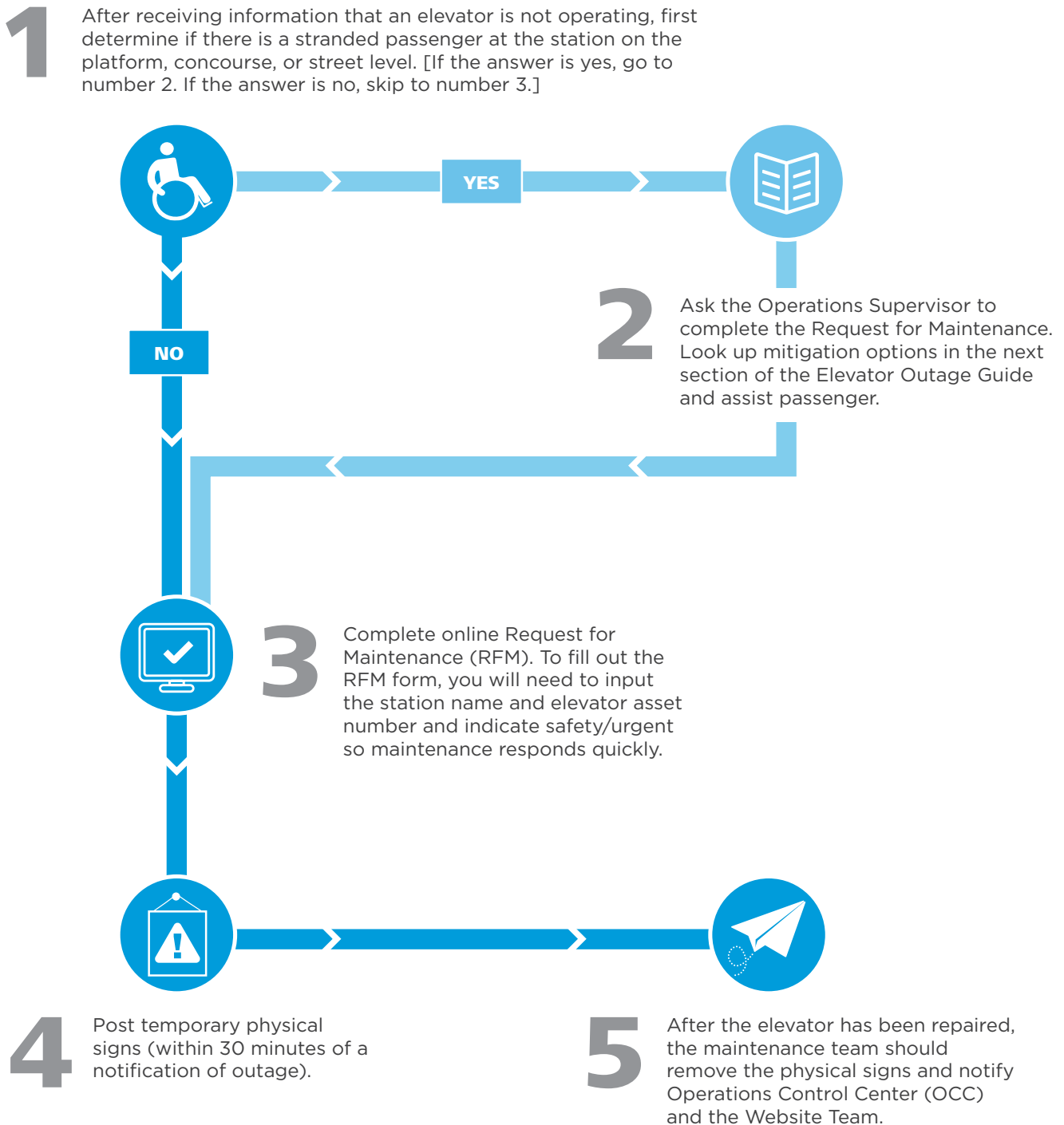
Mitigation Shuttle: In some cases BART may decide to set up a Mitigation Shuttle to wait at a station and provide trips to and from a station with a working elevator.

An example of when a shuttle might be set up would be a high use station without backtracking or good transit options during peak commute hours. Riders can obtain more information about any Mitigation Shuttles from Station Agents.

INSTRUCTIONS FOR STAFF

This guide provides you with the information needed to assist a passenger in need if an elevator is out of service at the station where you work or if a passenger was planning to travel to a station where they or you know an elevator is out of service. *While this guide suggests specific mitigation options for each elevator, the preferred type of mitigation option ultimately is the passenger's choice.*

The below flow chart presents the steps you should take in the event of an elevator outage at your station. Further explanation about these steps are provided in the following pages.



INSTRUCTIONS FOR STAFF

HOW TO ARRANGE A MITIGATION TRIP

A passenger will likely need the most assistance if they request a Mitigation Trip.

Scenarios that could indicate the need for an on demand Mitigation Trip include:

- Bus transit is not available because of location, time, and/or day;
- Traveling after dark;
- Bad weather;
- Traveling on the last train of the night;
- The designated waiting area feels unsafe;
- The rider is at the end of the line and backtracking or transit is severely limited or not available; or
- Other reasons at discretion of staff or rider.

If you or the passenger determine that the passenger needs a Mitigation Trip, follow the below steps to arrange the pickup:

- The Station Agent or the staff person arranging the trip should ask the passenger for the following information:
 - *What is your full name?*
 - *What is the address of your pickup and destination?*
 - *What is your contact information (if available)?*
- Station Agent should call extension 3000 to request a BART station access mitigation trip. Currently this extension goes directly to **East Bay Paratransit (EBP)** dispatch.
- If a Station Agent calls 3000 and there is no pick up, the agent should call COMSPEC at extension 4250 who will contact the appropriate Paratransit provider management.
- The Station Agent or the staff person will direct the passenger to designated pickup/dropoff area.

HOW TO ASSIST A TRANSIT TRIP

The Station Agent of Operations supervisor should contact Accessible Services to request mutual aid from the transit agency so that the rider does not have to pay a fare. Station Agent should assist the rider with finding the necessary transit line by using the resource maps in the station or by helping the passenger call 511 or look at it on a smartphone.

BART MITIGATION SHUTTLE

In some cases, BART may decide to arrange a Mitigation Shuttle. Criteria that could indicate the need for a shuttle include:

- A planned or unplanned elevator outage of greater than four hours;
- More than 100 disabled passengers use the station on an average weekday;
- An elevator outage occurs during a busy time (i.e. weekday peak);
- An elevator outage occurs during bad weather;
- Backtracking is not available; or
- Transit alternative is not available or requires excessive time.

BART Operations will decide if a Mitigation Shuttle needs to be set up and will arrange it. They will notify you of the specific station and waiting area where the shuttle will be staged.

STATION QUICK REFERENCE GUIDE

For definitions of mitigations, please see page 4.

Station Name	Elevator Out of Service	Mitigation	Page Number
12th St. Oakland City Center	Street Elevator (11th Street/ Convention Center)	Take an alternate elevator/ path	10
	Street Elevator (14th Street/ Ogawa Plaza)		11
	Platform Elevator	Take bus to/from next station	
16th St. Mission	Street Elevator	Take bus to/from next station	12
	Platform Elevator		13
19th St. Oakland	Street Elevator	Take bus to/from next station	14
	Platform Elevator		15
24th St. Mission	Street Elevator	Take bus to/from next station	16
	Platform Elevator		17
Antioch	Street Elevator (Concourse to Walkway)	Take bus to/from next station / Request Mitigation Trip weekend evenings	18
	Platform Elevator (Walkway to Platform)		19
Ashby	Street Elevator (Adeline next to Ed Roberts Campus)	Take an alternate elevator/ path	20
	Platform Elevators 1 and 2		21
Balboa Park	Station Elevator	Take bus to/from next station	22
Bay Fair	Station Elevator	Take bus to/from next station	24
Castro Valley	Station Elevator	Take bus to/from next station	25
Civic Center/UN Plaza	Street Elevator	Take bus to/from next station	26
	Platform Elevator		27
Coliseum	Station Elevator (Concourse to Platform)	Request Mitigation Trip	28
	Street Elevator to Pedestrian Bridge	Take an alternate elevator/ path	29
Colma	Station Elevator	Take bus to/from next station	30
Concord	Station Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	31
Daly City	Platform 1 and 2 Elevator (Dublin/Pleasanton, Antioch, Warm Springs/South Fremont)	Backtrack to next station	32
	Platform 3 Elevator (SFO/ Millbrae)		
	Elevator to Pedestrian Tunnel (1)	Take an alternate elevator/ path	33
	Elevator to Pedestrian Tunnel (2)		
Downtown Berkeley	Street Elevator	Take bus to/from next station	34
	Platform Elevator		35
Dublin/Pleasanton	Station Elevator	Take bus to/from next station	36
El Cerrito del Norte	Platform 1 Elevator (Richmond)	Backtrack to next station	38
	Platform 2 Elevator (Warm Springs/South Fremont, SFO/ Millbrae)		39

Station Name	Elevator Out of Service	Mitigation	Page Number
El Cerrito Plaza	Platform 1 Elevator (Richmond)		<u>40</u>
	Platform 2 Elevator (Warm Springs/South Fremont, SFO/Millbrae)	Backtrack to next station	<u>41</u>
Embarcadero	Street Elevator	Take bus to/from next station / Request Mitigation Trip weekend evenings	<u>42</u>
	Platform Elevator		<u>43</u>
Fremont	Station Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	<u>44</u>
Fruitvale	Platform 1 Elevator (Dublin/Pleasanton, Warm Springs/South Fremont)	Backtrack to next station	<u>46</u>
	Platform 2 Elevator (Richmond, Daly City)		<u>47</u>
Glen Park	Station Elevator	Take bus to/from next station	<u>48</u>
Hayward	Platform 1 Elevator (Warm Springs/South Fremont)	Backtrack to next station	<u>50</u>
	Platform 2 Elevator (Richmond, Daly City)		<u>51</u>
Lafayette	Station Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	<u>52</u>
Lake Merritt	Street Elevator	Take bus to/from next station	<u>54</u>
	Platform Elevator		<u>55</u>
MacArthur	Platform 1 and 3 Elevator (Antioch, Richmond)	Backtrack to next station	<u>56</u>
	Platform 2 and 4 Elevator (SFO/Millbrae, Warm Springs/South Fremont)		<u>57</u>
Millbrae	Street Elevator	Take an alternate elevator/path	<u>58</u>
	Platform Elevator (All Destinations)		<u>59</u>
	Caltrain Elevators (Southbound and Northbound)		
Montgomery St.	Street Elevator	Take bus to/from next station	<u>60</u>
	Platform Elevator		<u>61</u>
North Berkeley	Station Elevator	Take bus to/from next station	<u>62</u>
North Concord/Martinez	Station Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	<u>63</u>
Oakland International Airport/Coliseum	OAK Airport Platform Elevators 1 and 2	Take bus to/from next station	<u>64</u>
Orinda	Station Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	<u>65</u>
Pittsburg Center	Station Elevator	Take bus to/from next station	<u>66</u>
Pittsburg/Bay Point	Street Elevator	Take bus to/from next station / Request Mitigation Trip nights and weekends	<u>68</u>
	Platform Elevator		<u>69</u>
Pleasant Hill/Contra Costa Centre	Platform 1 Elevator (Antioch)	Backtrack to next station	<u>70</u>
	Platform 2 Elevator (SFO/Millbrae)		<u>71</u>

Station Name	Elevator Out of Service	Mitigation	Page Number
Powell St.	Street Elevator	Take an alternate elevator/ path	<u>72</u>
	Platform Elevator	Take bus to/from next station	<u>73</u>
Richmond	Street Elevator (East)	Take an alternate elevator/ path	<u>74</u>
	Street Elevator (West)	Take bus to other side of station or next station	<u>75</u>
	Platform Elevator	Take bus to/from next station	
	Amtrak Elevator	Request Mitigation Trip	<u>76</u>
Rockridge	Station Elevator	Take bus to/from next station	<u>77</u>
San Bruno	Station Elevator	Take bus to/from next station	<u>78</u>
San Francisco International Airport	Platform Elevators (Millbrae, Antioch)	Take an alternate elevator/ path	<u>79</u>
San Leandro	Platform 1 Elevator (Dublin/ Pleasanton, Warm Springs/ South Fremont)	Backtrack to next station	<u>80</u>
	Platform 2 Elevator (Richmond, SFO/Millbrae)		<u>81</u>
South Hayward	Station Elevator - Concourse to Platform 1 (Warm Springs/ South Fremont) and Bridge	Take bus to/from next station	<u>82</u>
	Platform Elevator - Bridge to Platform 2 (Richmond, SFO/ Millbrae)	Backtrack to next station	<u>83</u>
South San Francisco	Station Elevator	Take bus to/from next station	<u>84</u>
Union City	Platform 1 Elevator (Warm Springs/South Fremont)	Backtrack to next station	<u>86</u>
	Platform 2 Elevator (Richmond, Daly City)		<u>87</u>
Walnut Creek	Platform 1 Elevator (Antioch)	Backtrack to next station	<u>88</u>
	Platform 2 Elevator (SFO/ Millbrae)		<u>89</u>
Warm Springs/South Fremont	Street Elevators 1 and 2	Take an alternate elevator/ path	<u>90</u>
	Platform Elevators 1 and 2 (Daly City, Richmond)		<u>91</u>
West Dublin/Pleasanton	Parking Garage Elevator 1 (North side of Station/Dublin)	Take an alternate elevator/ path	<u>92</u>
	Parking Garage Elevator 1 (South side of Station/ Pleasanton)		
	Parking Garage Elevator 2 (North side of Station/Dublin)		<u>93</u>
	Parking Garage Elevator 2 (South side of Station/ Pleasanton)		
	Platform Elevator		Take bus to/from next station
West Oakland	Platform 1 Elevator (SFO/ Millbrae, Daly City)	Backtrack to next station	<u>94</u>
	Platform 2 Elevator (Dublin/ Pleasanton, Antioch, Richmond, Warm Springs/ South Fremont)		<u>95</u>

12th St. Oakland City Center



Number of elevators: 2 street elevators and 1 platform elevator



Location of street elevator(s): 1) Between 11th and 12th Street on Broadway, and 2) Between 14th and 15th Street on Broadway

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is between 11th and 12th Street, near elevator entrance. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

STREET ELEVATOR (11TH STREET/CONVENTION CENTER)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the 14th Street/Ogawa Plaza elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the 14th Street/Ogawa Plaza elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **19th St. Oakland** is 0.3 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the 14th Street/Ogawa Plaza elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the 14th Street/Ogawa Plaza elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **19th St. Oakland** is 0.3 miles walking/rolling.

OUT OF SERVICE: STREET ELEVATOR (14TH STREET/OGAWA PLAZA)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the 11th Street /Convention Center elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the 11th Street/Convention Center elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **19th St. Oakland** is 0.3 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the 11th Street/Convention Center elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the 11th Street/Convention Center elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **19th St. Oakland** is 0.3 miles walking/rolling.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **19th St. Oakland**.

Alternative Option: Rider can walk to **19th St. Oakland**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 35 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **19th St. Oakland** are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **19th St. Oakland**.

Alternative Option: Rider can walk from **19th St. Oakland**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 35 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **19th St. Oakland** are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

16th St. Mission



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): The intersection of 16th Street and Mission Street on the northeast side

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is a white zone just east of the 49/14 bus stop on Mission Street, adjacent to the Walgreens. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **24th St. Mission**.

Alternative Option: Rider can walk to **24th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 25 to 30 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **24th St. Mission** are also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **24th St. Mission**.

Alternative Option: Rider can walk from **24th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 25 to 30 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **24th St. Mission** are also out of service, rider could take Muni from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **24th St. Mission**.

Alternative Option: Rider can walk to **24th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 25 to 30 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **24th St. Mission** are also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **24th St. Mission**.

Alternative Option: Rider can walk from **24th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 25 to 30 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **24th St. Mission** are also out of service, rider could take Muni from another station or request a Mitigation Trip.

19th St. Oakland



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): 1750 Broadway between 17th Street and 19th Street
Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop in front of the 19th Street elevator. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR



ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk to **12th St. Oakland City Center**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.
Alternative Option: Rider can walk from **12th St. Oakland City Center**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk to 12th St. **Oakland City Center**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk from **12th St. Oakland City Center**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

24th St. Mission



Number of elevators: 1 street elevator and 1 platform elevator



Elevator(s) to trains are located: Inside of paid area

Location of street elevator(s): The intersection of 24th Street and Mission Street on the northeast side



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is in an extended Taxi zone just east of 49/14 bus stop on Mission, adjacent to the El Farolito. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **16th St. Mission**.

Alternative Option: Rider can walk to **16th St. Mission**, 0.9 miles walking/rolling

Time Added to Trip

Transit: 20 to 30 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **16th St. Mission** are also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **16th St. Mission**.

Alternative Option: Rider can walk from **16th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **16th St. Mission** are also out of service, rider could take Muni from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **16th St. Mission**.

Alternative Option: Rider can walk to **16th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If either of the elevators at **16th St. Mission** are also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **16th St. Mission**.

Alternative Option: Rider can walk from **16th St. Mission**, 0.9 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If either of the elevators at **16th St. Mission** are also out of service, rider could take Muni from another station or request a Mitigation Trip.

Antioch



Number of elevators: 1 elevator from street to walkway and 1 elevator from walkway to platform



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop next to the transit stops. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

STREET ELEVATOR (CONCOURSE TO WALKWAY)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Tri Delta Transit to another BART station. The closest station is **Pittsburg Center**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Pittsburg Center**.

Time Added to Trip

Transit: 55 to 115 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 30 to 35 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Pittsburg Center** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Pittsburg Center**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Pittsburg Center**.

Time Added to Trip

Transit: 55 to 115 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 30 to 35 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Pittsburg Center** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

OUT OF SERVICE:**PLATFORM ELEVATOR (WALKWAY TO PLATFORM)**

ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take Tri Delta Transit to another BART station. The closest station is **Pittsburg Center**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Pittsburg Center**.

Time Added to Trip

Transit: 55 to 115 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 30 to 35 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Pittsburg Center** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Pittsburg Center**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Pittsburg Center**.

Time Added to Trip

Transit: 55 to 115 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 30 to 35 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Pittsburg Center** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

Ashby



Number of elevators: 1 street elevator and 2 platform elevators



Location of street elevator(s): Adeline Street outside of Ed Roberts Campus

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop in front of Ed Roberts Campus on Adeline Street. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

STREET ELEVATOR (ADELINE NEXT TO ED ROBERTS CAMPUS)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the ramp to the BART parking lot or use the elevator inside of Ed Roberts Campus (open between 8:00 a.m. and 6:00 p.m.).

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator or path is unavailable, rider could take AC Transit to another station or request a Mitigation Trip. The next station is **Downtown Berkeley** and it is 1.3 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the ramp to the parking lot or use the elevator inside of Ed Roberts Campus (open between 8:00 a.m. and 6:00 p.m.).

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator or path is unavailable, rider could take AC Transit from another station or request a Mitigation Trip. The next station is **Downtown Berkeley** and it is 1.3 miles walking/rolling.

OUT OF SERVICE: PLATFORM ELEVATORS 1 AND 2

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take the other platform elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other platform elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **Downtown Berkeley** is 1.3 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should take the other platform elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other platform elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **Downtown Berkeley** is 1.3 miles walking/rolling.

Balboa Park



Number of elevators: 1 station elevator



Elevator(s) to trains are located: Outside of paid area

Location of street elevator(s): The corner where the northbound 280 freeway onramp that intersects with Geneva Avenue



Station usage: Medium

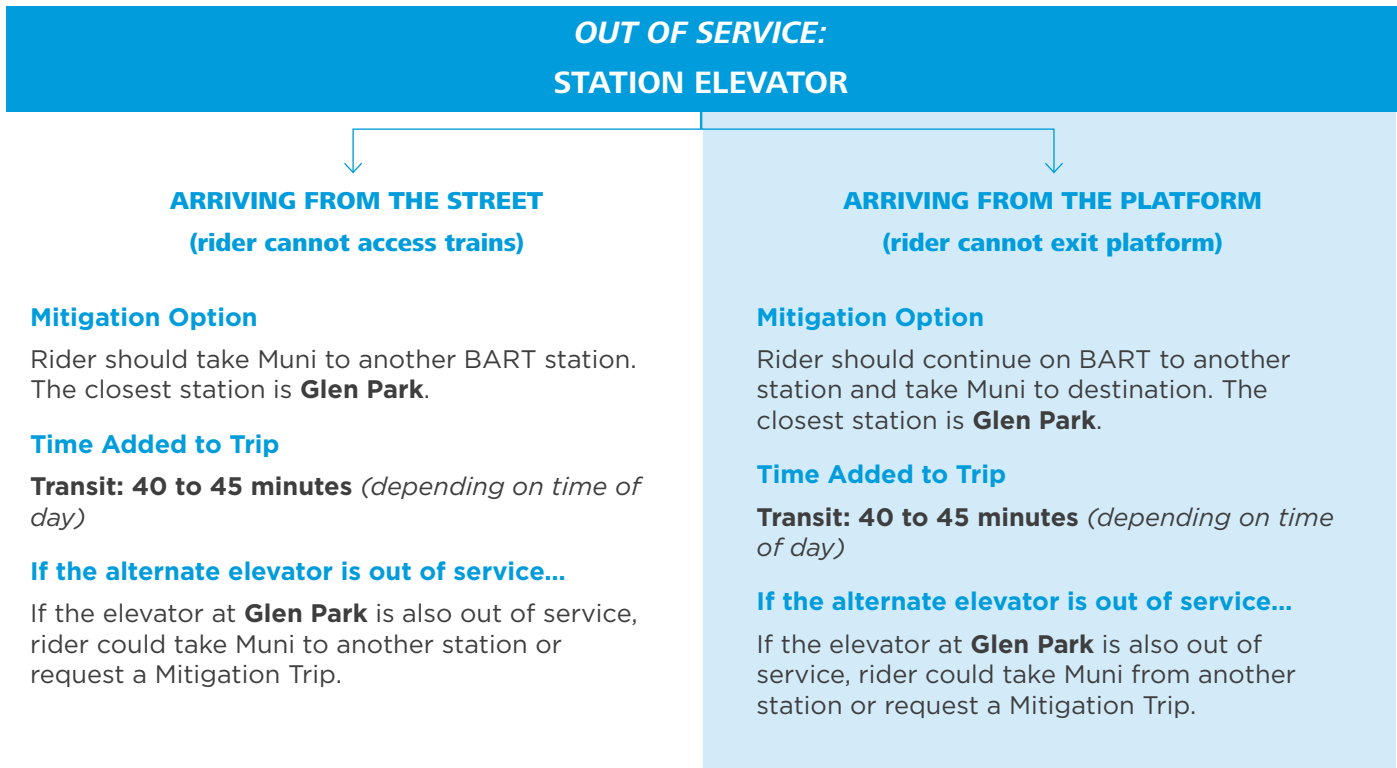


Mitigation Trip is available if necessary: Recommended stop is at the eastern end of the 49 stop on Ocean Avenue; use the new Ocean Avenue pathway into station to get to concourse elevator. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.



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Bay Fair



Number of elevators: 1 station elevator



Location of street elevator(s): 60 feet north of station in parking lot

Elevator(s) to trains are located: Outside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the inner bus terminal near the AC Transit pickup. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **San Leandro**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **San Leandro**.

Time Added to Trip

Transit: 30 to 55 minutes *(depending on time of day)*

Mitigation Trip: 30 to 35 minutes on top of wait time *(depending on time of day)*

If the alternate elevator is out of service...

If either of the elevators at **San Leandro** are also out of service, rider could take AC Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **San Leandro**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **San Leandro**.

Time Added to Trip

Transit: 30 to 55 minutes *(depending on time of day)*

Mitigation Trip: 30 to 35 minutes on top of wait time *(depending on time of day)*

If the alternate elevator is out of service...

If either of the elevators at **San Leandro** are also out of service, rider could take AC Transit or the Mitigation Trip from another station.

Castro Valley



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop at the dropoff circle. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Hayward**.

Time Added to Trip

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Hayward**.

Time Added to Trip

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

Civic Center/UN Plaza



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Market Street between 7th Street and 8th Street

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is on Market Street just east of Hyde and 8th Streets. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Powell St.**

Alternative Option: Rider can walk to **Powell St.**, 0.4 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Powell St.** is also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Powell St.**

Alternative Option: Rider can walk from **Powell St.**, 0.4 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Powell St.** is also out of service, rider could take Muni from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Powell St.**

Alternative Option: Rider can walk to **Powell St.**, 0.4 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the elevator at **Powell St.** is also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Powell St.**

Alternative Option: Rider can walk from **Powell St.**, 0.4 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the elevator at **Powell St.** is also out of service, rider could take Muni from another station or request a Mitigation Trip.

Coliseum



Number of elevators: 1 station elevator, 1 pedestrian bridge elevator, and 2 airport platform elevators (see OAK/Coliseum for mitigation options for airport elevators)



Location of street elevator(s): 120 feet north of where the paid area is located

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop north of the station just beyond the elevated walkway. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

STATION ELEVATOR (CONCOURSE TO PLATFORM)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should request a Mitigation Trip to another BART station. The closest station is **Fruitvale**.

Time Added to Trip

Mitigation Trip: 25 to 35 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

N/A

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

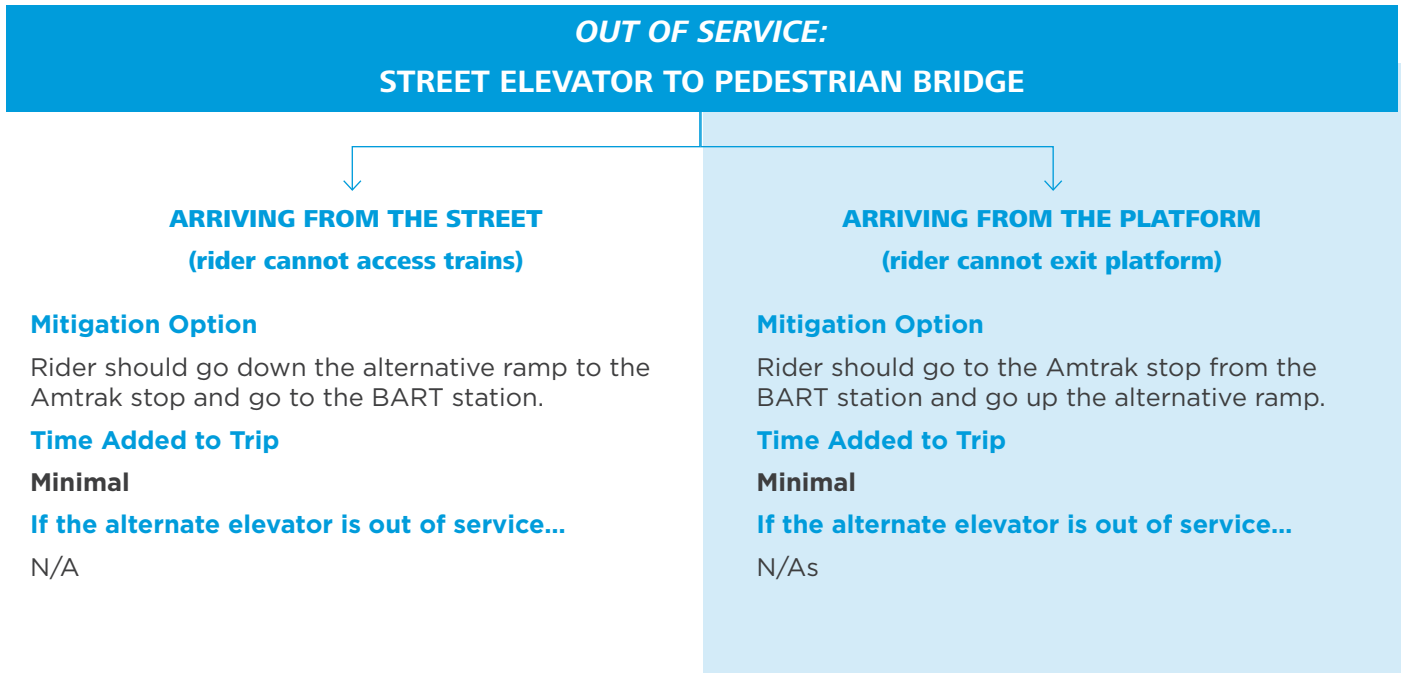
Rider should continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Fruitvale**.

Time Added to Trip

Mitigation Trip: 25 to 40 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

N/A



Colma



Number of elevators: 1 station elevator



Location of street elevator(s): Inside station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the first bus bay. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take SamTrans to another BART station. The closest station is **South San Francisco**.

Time Added to Trip

Transit: 25 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **South San Francisco** is also out of service, rider could take SamTrans to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take SamTrans to destination. The closest station is **South San Francisco**.

Time Added to Trip

Transit: 25 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **South San Francisco** is also out of service, rider could take SamTrans from another station or request a Mitigation Trip.

Concord



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Outside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the curb in front of station, next to the passenger pickup/dropoff. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take County Connection to another BART station. The closest station is **North Concord/Martinez**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **North Concord/Martinez**.

Time Added to Trip

Transit: 40 to 100 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **North Concord/Martinez** is also out of service, rider could take County Connection or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take County Connection to destination. The closest station is **North Concord/Martinez**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **North Concord/Martinez**.

Time Added to Trip

Transit: 40 to 100 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **North Concord/Martinez** is also out of service, rider could take County Connection or the Mitigation Trip from another station.

Daly City



Number of elevators: 2 platform elevators and 2 tunnel elevators



Location of street elevator(s): Tunnel elevators outside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the south end of the station next to the parking garage and shuttle stops.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORMS 1 AND 2 ELEVATOR (DUBLIN/PLEASANTON, ANTIOCH, WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 3 elevator and backtrack to **Colma** and board desired train.

Alternative Option: Rider can take Muni to another BART station. The closest station is **Balboa Park**.

Time Added to Trip

Backtracking: 15 to 20 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 3 elevator is also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Balboa Park** and backtrack back to **Daly City** and exit using Platform 3 elevator.

Alternative Option: Rider can continue on BART to another station and take Muni to destination. The closest station is **Balboa Park**.

Time Added to Trip

Backtracking: 10 to 25 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 3 elevator is also out of service, rider could take Muni from another station or request a Mitigation Trip.

**OUT OF SERVICE:
PLATFORM 3 ELEVATOR (SFO/MILLBRAE)**

<p style="text-align: center;">ARRIVING FROM THE STREET (rider cannot access trains)</p> <p>Mitigation Option Rider should take Platforms 1 and 2 elevator and backtrack to Balboa Park and board desired train.</p> <p>Alternative Option: Rider can take Muni to another BART station. The closest station is Balboa Park.</p> <p>Time Added to Trip Backtracking: 10 to 25 minutes (depending on time of day) Transit: 35 to 50 minutes (depending on time of day)</p> <p>If the alternate elevator is out of service... If the Platforms 1 and 2 elevator is also out of service, rider could take Muni to another station or request a Mitigation Trip.</p>	<p style="text-align: center;">ARRIVING FROM THE PLATFORM (rider cannot exit platform)</p> <p>Mitigation Option Rider should continue on BART to Colma and backtrack back to Daly City and exit using Platforms 1 and 2 elevator.</p> <p>Alternative Option: Rider can continue on BART to another station and take Muni to destination. The closest station is Balboa Park.</p> <p>Time Added to Trip Backtracking: 15 to 20 minutes (depending on time of day) Transit: 35 to 50 minutes (depending on time of day)</p> <p>If the alternate elevator is out of service... If the Platforms 1 and 2 elevator is also out of service, rider could take Muni from another station or request a Mitigation Trip.</p>
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**OUT OF SERVICE:
ELEVATORS TO PEDESTRIAN TUNNEL**

<p style="text-align: center;">ARRIVING FROM THE STREET (rider cannot access tunnel)</p> <p>Mitigation Option Rider should take a different path on the street level or ask BART personnel for assistance.</p> <p>Time Added to Trip Minimal</p> <p>If the alternate elevator is out of service... N/A</p>	<p style="text-align: center;">ARRIVING FROM THE PLATFORM (rider cannot exit tunnel)</p> <p>Mitigation Option Rider should take a different path on the street level or ask BART personnel for assistance.</p> <p>Time Added to Trip Minimal</p> <p>If the alternate elevator is out of service... N/A</p>
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Downtown Berkeley



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Intersection of Shattuck Avenue and Center Street

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is near the corner of Center Street and Shattuck Avenue next to elevator. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Ashby**.

Alternative Option: Rider can walk to another station. **North Berkeley** is 1 mile and **Ashby** is 1.3 miles walking/rolling.

Time Added to Trip

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Ashby**.

Alternative Option: Rider can walk from another station. **North Berkeley** is 1 mile and **Ashby** is 1.3 miles walking/rolling.

Time Added to Trip

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Ashby**.

Alternative Option: Rider can walk to another station. **North Berkeley** is 1 mile and **Ashby** is 1.3 miles walking/rolling.

Time Added to Trip

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Ashby**.

Alternative Option: Rider can walk to another station. **North Berkeley** is 1 mile and **Ashby** is 1.3 miles walking/rolling.

Time Added to Trip

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

Dublin/Pleasanton



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the bus bay behind the AC Transit stop. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take LAVTA Wheels to another BART station. The closest station is **West Dublin/Pleasanton**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **West Dublin/Pleasanton**.

Time Added to Trip

Transit: 30 to 55 minutes (depending on time of day)

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **West Dublin/Pleasanton** is also out of service, rider could take LAVTA Wheels or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take LAVTA Wheels to destination. The closest station is **West Dublin/Pleasanton**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **West Dublin/Pleasanton**.

Time Added to Trip

Transit: 30 to 55 minutes (depending on time of day)

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **West Dublin/Pleasanton** is also out of service, rider could take LAVTA Wheels or the Mitigation Trip from another station.

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El Cerrito del Norte



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located at the outer bay terminal near Solano Express (90). Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: PLATFORM 1 ELEVATOR (RICHMOND)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **El Cerrito Plaza** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **El Cerrito Plaza**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **El Cerrito Plaza** is 2.1 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Richmond** and backtrack back to **El Cerrito del Norte** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **El Cerrito Plaza**.

Time Added to Trip

Backtracking: 20 to 25 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **El Cerrito Plaza** is 2.1 miles walking/rolling.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (WARM SPRINGS/SOUTH FREMONT, SFO/MILLBRAE)**

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ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **Richmond** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **El Cerrito Plaza**.

Time Added to Trip

Backtracking: 20 to 25 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **El Cerrito Plaza** is 2.1 miles walking/rolling.

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ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **El Cerrito Plaza** and backtrack back to **El Cerrito del Norte** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **El Cerrito Plaza**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **El Cerrito Plaza** is 2.1 miles walking/rolling.

El Cerrito Plaza



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Outside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the curb next to the passenger pickup/dropoff area. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: PLATFORM 1 ELEVATOR (RICHMOND)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **North Berkeley** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **El Cerrito del Norte**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **El Cerrito del Norte** is 2.1 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **El Cerrito del Norte** and backtrack back to **El Cerrito Plaza** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **El Cerrito del Norte**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **El Cerrito del Norte** is 2.1 miles walking/rolling.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (WARM SPRINGS/SOUTH FREMONT, SFO/MILLBRAE)****ARRIVING FROM THE STREET****(rider cannot access trains)****Mitigation Option**

Rider should take Platform 1 elevator and backtrack to **El Cerrito del Norte** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **El Cerrito del Norte**.

Time Added to Trip

Backtracking: 15 to 30 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **El Cerrito del Norte** is 2.1 miles walking/rolling.

ARRIVING FROM THE PLATFORM**(rider cannot exit platform)****Mitigation Option**

Rider should continue on BART to **North Berkeley** and backtrack back to **El Cerrito Plaza** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **El Cerrito del Norte**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **El Cerrito del Norte** is 2.1 miles walking/rolling.

Embarcadero



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Corner of Market Street and Drumm Street

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is on California Street between Davis Street and Drumm Street. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Montgomery St.**

Alternative Option: Rider can request a Mitigation Trip to another BART station on weekend nights. The closest station is **Montgomery St.** **Montgomery St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day) Note: No weekend evening service.

Mitigation Trip: 20 minutes on top of wait time

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni or the Mitigation trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Montgomery St.**

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination on weekend nights. The closest station is **Montgomery St.** **Montgomery St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day) Note: No weekend evening service.

Mitigation Trip: 20 minutes on top of wait time

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni or the Mitigation trip from another station.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Montgomery St.**

Alternative Option: Rider can request a Mitigation Trip to another BART station on weekend nights. The closest station is **Montgomery St.** **Montgomery St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 20 minutes on top of wait time

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni or the Mitigation trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Montgomery St.**

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination on weekend nights. The closest station is **Montgomery St.** **Montgomery St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 25 minutes (depending on time of day) *Note: No weekend evening service.*

Mitigation Trip: 20 minutes on top of wait time

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni or the Mitigation trip from another station.

Fremont



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the west side of station, next to the passenger pickup/dropoff area. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Warm Springs/South Fremont**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Warm Springs/South Fremont**.

Time Added to Trip

Transit: 60 minutes (depending on time of day)
Note: No night or weekend service.

Mitigation Trip: 30 to 40 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Warm Springs/South Fremont Station** are also out of service, rider could take AC Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Warm Springs/South Fremont**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Warm Springs/South Fremont**.

Time Added to Trip

Transit: 60 minutes (depending on time of day)
Note: No night or weekend service.

Mitigation Trip: 30 to 40 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Warm Springs/South Fremont Station** are also out of service, rider could take AC Transit or the Mitigation Trip from another station.

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Fruitvale



Number of elevators: 2 station elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located on the outer bus bay near 34th Avenue and AC Transit Routes O and 14. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORM 1 ELEVATOR (DUBLIN/PLEASANTON, WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Lake Merritt** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **Lake Merritt**.

Time Added to Trip

Backtracking: 15 to 30 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Coliseum** and backtrack back to **Fruitvale** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **Lake Merritt**.

Time Added to Trip

Backtracking: 15 to 30 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

**OUT OF SERVICE:
PLATFORM 2 ELEVATOR (RICHMOND, DALY CITY)**

**ARRIVING FROM THE STREET
(rider cannot access trains)**

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **Coliseum** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **Lake Merritt**.

Time Added to Trip

Backtracking: 15 to 30 minutes *(depending on time of day)*

Transit: 40 to 50 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

**ARRIVING FROM THE PLATFORM
(rider cannot exit platform)**

Mitigation Option

Rider should continue on BART to **Lake Merritt** and backtrack back to **Fruitvale** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **Lake Merritt**.

Time Added to Trip

Backtracking: 15 to 30 minutes *(depending on time of day)*

Transit: 40 to 50 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

Glen Park



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is in the white zone on Diamond Street, closest to the Monterey Street off ramp. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Balboa Park**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Balboa Park**.

Time Added to Trip

Transit: 35 to 55 minutes (depending on time of day)

Mitigation Trip: 20 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Balboa Park** is also out of service, rider could take Muni or the Mitigation trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Balboa Park**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Balboa Park**.

Time Added to Trip

Transit: 35 to 55 minutes (depending on time of day)

Mitigation Trip: 20 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Balboa Park** is also out of service, rider could take Muni or the Mitigation trip from another station.

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Hayward



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the north side of the station near the ADA parking located off of B Street. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORM 1 ELEVATOR (WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Bay Fair** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **South Hayward**.

Time Added to Trip

Backtracking: 15 to 30 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **South Hayward** and backtrack back to **Hayward** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **South Hayward**.

Time Added to Trip

Backtracking: 20 to 35 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (RICHMOND, DALY CITY)**

↓

ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **South Hayward** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **South Hayward**.

Time Added to Trip

Backtracking: 20 to 35 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

↓

ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Bay Fair** and backtrack back to **Hayward** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **South Hayward**.

Time Added to Trip

Backtracking: 15 to 35 minutes (depending on time of day)

Transit: 40 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

Lafayette



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the taxi zone on the curb outside the station. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take County Connection to another BART station. The closest station is **Orinda**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Walnut Creek**.

Time Added to Trip

Transit: 60 to 90 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take County Connection or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take County Connection to destination. The closest station is **Orinda**

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Walnut Creek**.

Time Added to Trip

Transit: 60 to 90 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the other elevators are also out of service, rider could take County Connection or the Mitigation Trip from another station.

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Lake Merritt



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Corner of 8th Street and Oak Street

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the Oak Street station entrance, next to the elevator entrance. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk to **12th St. Oakland City Center**, 0.6 miles walking/rolling.

Time Added to Trip

Transit: 25 to 35 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk from **12th St. Oakland City Center**, 0.6 miles walking/rolling.

Time Added to Trip

Transit: 25 to 35 minutes (depending on time of day)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk to **12th St. Oakland City Center**, 0.6 miles walking/rolling.

Time Added to Trip

Transit: 25 to 35 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.

Alternative Option: Rider can walk from **12th St. Oakland City Center**, 0.6 miles walking/rolling.

Time Added to Trip

Transit: 25 to 35 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the platform elevator at **12th St. Oakland City Center** is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

MacArthur



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is near the shuttle stops on the east side of the station.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORMS 1 AND 3 ELEVATOR (ANTIOCH, RICHMOND)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platforms 2 and 4 elevator and backtrack to **19th St. Oakland** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **19th St. Oakland**.

Time Added to Trip

Backtracking: 20 to 60 minutes *(depending on time of day)*

Transit: 30 to 40 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platforms 2 and 4 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **Rockridge** is 1.5 miles and **Ashby** is 1.8 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Rockridge** or **Ashby** and backtrack back to **MacArthur** and exit using Platforms 2 and 4 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **19th St. Oakland**.

Time Added to Trip

Backtracking: 20 to 40 minutes *(depending on time of day)*

Transit: 30 to 40 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platforms 2 and 4 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **Rockridge** is 1.5 miles and **Ashby** is 1.8 miles walking/rolling.

OUT OF SERVICE:**PLATFORMS 2 AND 4 ELEVATOR (SFO/MILLBRAE, WARM SPRINGS/SOUTH FREMONT)****ARRIVING FROM THE STREET****(rider cannot access trains)****Mitigation Option**

Rider should take Platforms 1 and 3 elevator and backtrack to **Rockridge** or **Ashby** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **19th St. Oakland**.

Time Added to Trip

Backtracking: 20 to 40 minutes (depending on time of day)

Transit: 30 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platforms 1 and 3 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **Rockridge** is 1.5 miles and **Ashby** is 1.8 miles walking/rolling.

ARRIVING FROM THE PLATFORM**(rider cannot exit platform)****Mitigation Option**

Rider should continue on BART to **19th St. Oakland** and backtrack back to **MacArthur** and exit using Platforms 1 and 3 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **19th St. Oakland**.

Time Added to Trip

Backtracking: 20 to 60 minutes (depending on time of day)

Transit: 30 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platforms 1 and 3 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **Rockridge** is 1.5 miles and **Ashby** is 1.8 miles walking/rolling.

Millbrae



Number of elevators: 1 street elevator, 1 platform elevator, and 2 Caltrain elevators



Location of street elevator(s): East entry plaza

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the Redi-Wheels paratransit stop on the outer bus bay next to the SamTrans stop. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the Caltrain elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevators are out of service, rider could go to alternative street access or ask BART personnel for assistance.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the Caltrain elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevators are out of service, rider could go to alternative street access or ask BART personnel for assistance.



Montgomery St.



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Corner of Market Street and Sutter Street

Elevator(s) to trains are located: Outside of paid area



Station usage: High

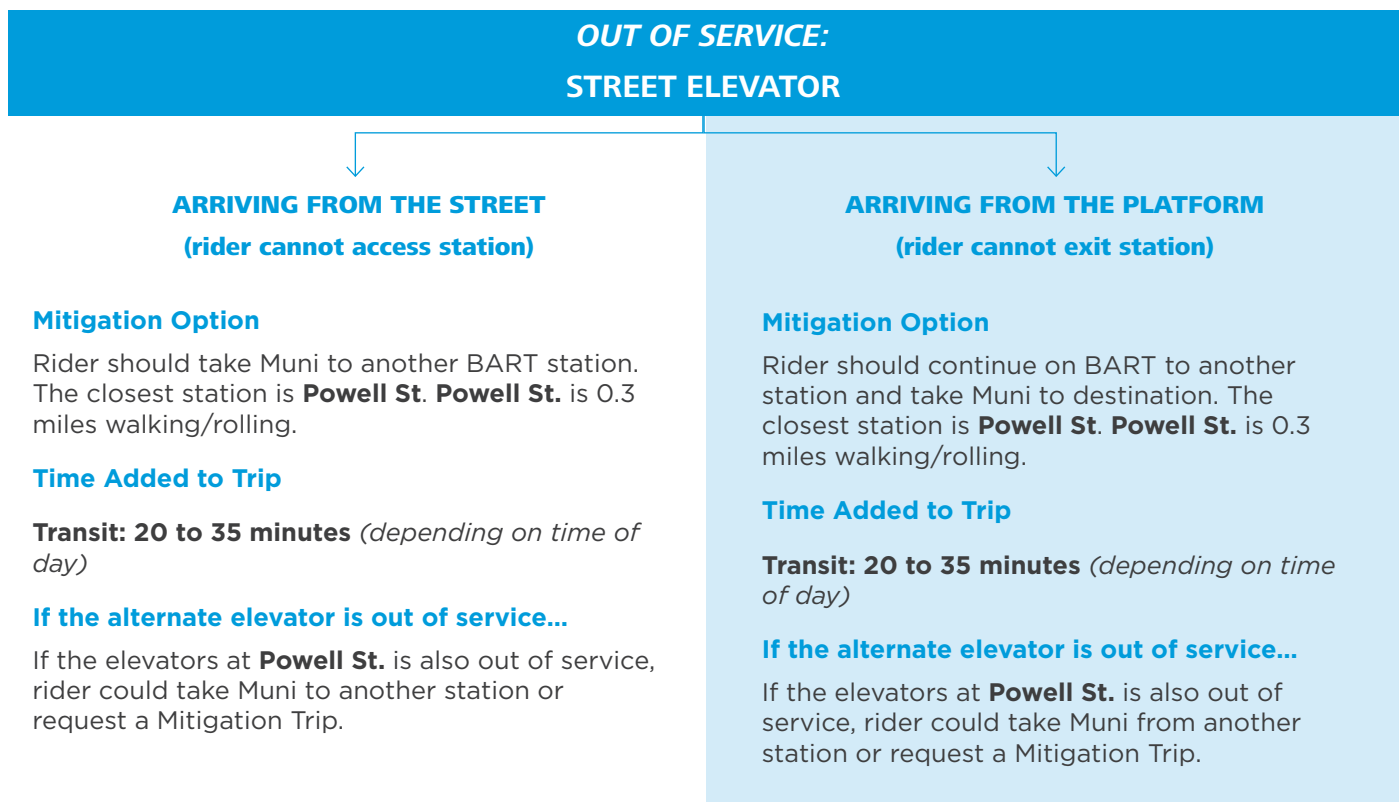


Mitigation Trip is available if necessary: Recommended stop is at the loading zone on Market Street just east of the 38/5 bus stop, or the existing passenger loading zone on Sansome Street just before portal entry in front of Citigroup Center. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.



OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access station)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Powell St. Powell St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the street elevator at **Powell St.** is also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Powell St. Powell St.** is 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the street elevator at **Powell St.** is also out of service, rider could take Muni from another station or request a Mitigation Trip.

North Berkeley



Number of elevators: 1 station elevator



Location of street elevator(s): Corner of Sacramento Street and Delaware Street

Elevator(s) to trains are located: Outside of paid area (in parking lot)



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the passenger pickup/dropoff location in front of the station entrance. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Downtown Berkeley**. **Downtown Berkeley** is 1 mile walking/rolling.

Time Added to Trip

Transit: 25 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Downtown Berkeley** are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.



ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Downtown Berkeley**. **Downtown Berkeley** is 1 mile walking/rolling.

Time Added to Trip

Transit: 25 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Downtown Berkeley** are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

North Concord/Martinez



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located on the outer bay next to the station entrance. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take County Connection to another BART station. The closest station is **Concord**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Concord**.

Time Added to Trip

Transit: 40 to 90 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take County Connection or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take County Connection to destination. The closest station is **Concord**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Concord**.

Time Added to Trip

Transit: 40 to 90 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take County Connection or the Mitigation Trip from another station.

OAK/Coliseum



Number of elevators: 2 airport platform elevators (1 elevator at Coliseum BART and 1 elevator at Oakland Airport)



Location of street elevator(s): N/A

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop north of the Coliseum station just beyond the elevated walkway. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: OAK AIRPORT PLATFORM ELEVATORS 1 AND 2	
<p>↓</p> <p>ARRIVING FROM THE STREET (rider cannot access trains)</p> <p>Mitigation Option Rider should take AC Transit between Coliseum BART and the Oakland Airport.</p> <p>Time Added to Trip Transit: 30 to 45 minutes (depending on time of day)</p> <p>If the alternate elevator is out of service... If the elevator at Coliseum is also out of service, rider could take AC Transit or a Mitigation Trip to another station.</p>	<p>↓</p> <p>ARRIVING FROM THE PLATFORM (rider cannot exit platform)</p> <p>Mitigation Option Rider should take AC Transit between Coliseum BART and the Oakland Airport.</p> <p>Time Added to Trip Transit: 30 to 45 minutes (depending on time of day)</p> <p>If the alternate elevator is out of service... If the elevator at Coliseum is also out of service, rider could take AC Transit or a Mitigation Trip from another station.</p>

Orinda



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Outside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located next to the Orindawoods Shuttle, next to the station entrance. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take County Connection to another BART station. The closest station is **Lafayette**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Lafayette**.

Time Added to Trip

Transit: 70 to 240 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Lafayette** is also out of service, rider could take County Connection or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take County Connection to destination. The closest station is **Lafayette**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Lafayette**.

Time Added to Trip

Transit: 70 to 240 minutes (depending on time of day) Note: No night or weekend service.

Mitigation Trip: 20 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Lafayette** is also out of service, rider could take County Connection or the Mitigation Trip from another station.

Pittsburg Center



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located at the bus roundabout at California Avenue and Railroad Avenue. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Tri Delta Transit to another BART station. The closest station is **Pittsburg/Bay Point**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Pittsburg/Bay Point**.

Time Added to Trip

Transit: 45 to 80 minutes (depending on time of day)

Mitigation Trip: 20 to 25 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Pittsburg/Bay Point** are also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Pittsburg/Bay Point**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Pittsburg/Bay Point**.

Time Added to Trip

Transit: 45 to 80 minutes (depending on time of day)

Mitigation Trip: 20 to 25 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Pittsburg/Bay Point** are also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

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Pittsburg/Bay Point



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): In front of the main entrance of the station

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located on the northern end of the station, right beyond the Tri Delta Transit stops. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR



ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Tri Delta Transit to another BART station. The closest station is **Concord**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Concord**.

Time Added to Trip

Transit: 55 to 85 minutes (*depending on time of day*) *Note: No night or weekend service.*

Mitigation Trip: 20 to 40 minutes on top of wait time (*depending on time of day*)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Concord**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Concord**.

Time Added to Trip

Transit: 55 to 85 minutes (*depending on time of day*) *Note: No night or weekend service.*

Mitigation Trip: 20 to 40 minutes on top of wait time (*depending on time of day*)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Tri Delta Transit to another BART station. The closest station is **Concord**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Concord**.

Time Added to Trip

Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*

Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to another station and take Tri Delta Transit to destination. The closest station is **Concord**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Concord**.

Time Added to Trip

Transit: 55 to 85 minutes (depending on time of day) *Note: No night or weekend service.*

Mitigation Trip: 20 to 40 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Concord** is also out of service, rider could take Tri Delta Transit or the Mitigation Trip from another station.

Pleasant Hill/ Contra Costa Centre



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the County Connection bus bay. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: PLATFORM 1 ELEVATOR (ANTIOCH)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Walnut Creek** and board desired train.

Alternative Option: Rider can take County Connection to another BART station. The closest station is **Walnut Creek**.

Time Added to Trip

Backtracking: 25 to 40 minutes (depending on time of day)

Transit: 30 to 85 minutes (depending on time of day) Note: No weekend evening service.

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take County Connection to another station or request a Mitigation Trip. **Walnut Creek** is 2 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Concord** and backtrack back to **Pleasant Hill/Contra Costa Centre** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take County Connection to destination. The closest station is **Concord**.

Time Added to Trip

Backtracking: 25 to 40 minutes (depending on time of day)

Transit: 55 to 60 minutes (depending on time of day) Note: No weekend evening service.

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take County Connection from another station or request a Mitigation Trip. **Walnut Creek** is 2 miles walking/rolling.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (SFO/MILLBRAE)****ARRIVING FROM THE STREET****(rider cannot enter station)****Mitigation Option**

Rider should take Platform 1 elevator and backtrack to **Concord** and board desired train.

Alternative Option: Rider can take County Connection to another BART station. The closest station is **Walnut Creek**.

Time Added to Trip

Backtracking: 25 to 40 minutes *(depending on time of day)*

Transit: 30 to 85 minutes *(depending on time of day) Note: No weekend evening service.*

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take County Connection to another station or request a Mitigation Trip. **Walnut Creek** is 2 miles walking/rolling.

ARRIVING FROM THE PLATFORM**(rider cannot exit station)****Mitigation Option**

Rider should continue on BART to **Walnut Creek** and backtrack back to **Pleasant Hill/Contra Costa Centre** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take County Connection to destination. The closest station is **Walnut Creek**.

Time Added to Trip

Backtracking: 25 to 40 minutes *(depending on time of day)*

Transit: 30 to 85 minutes *(depending on time of day) Note: No weekend evening service.*

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take County Connection from another station or request a Mitigation Trip. **Walnut Creek** is 2 miles walking/rolling.

Powell St.



Number of elevators: 1 street elevator and 1 platform elevator



Location of street elevator(s): Corner of Market Street and Ellis Street

Elevator(s) to trains are located: Outside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is at the loading bay near 845 Market Street or near the northwest corner of Ellis Street at Stockton Street. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the elevator in Westfield Shopping Center (open between 10 a.m. and 8:30 p.m.) or the Muni elevator at Market and 5th Street/Hallidie Plaza (open between 6 a.m. and 9 p.m.).

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevators are unavailable, rider could take Muni to another station or request a Mitigation Trip. The next station is **Montgomery St.** and it is 0.3 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the elevator in Westfield Shopping Center (open between 10 a.m. and 8:30 p.m.) or the Muni elevator at Market and 5th Street/Hallidie Plaza (open between 6 a.m. and 9 p.m.).

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevators are unavailable, rider could take Muni from another station or request a Mitigation Trip. The next station is **Montgomery St.** and it is 0.3 miles walking/rolling.

OUT OF SERVICE: PLATFORM ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Muni to another BART station. The closest station is **Montgomery St.**

Alternative Option: Rider can walk to **Montgomery St.**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take Muni to destination. The closest station is **Montgomery St.**

Alternative Option: Rider can walk from **Montgomery St.**, 0.3 miles walking/rolling.

Time Added to Trip

Transit: 20 to 30 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **Montgomery St.** are also out of service, rider could take Muni from another station or request a Mitigation Trip.

Richmond



Number of elevators: 2 street elevators, 1 platform elevator, and 1 Amtrak elevator



Location of street elevator(s): 1 each near west and east station entrances

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located at the curb next to the AC Transit stops. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATOR (EAST)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the ramp if they are coming from east of the station, or use the other street elevator if they are coming from west of the station.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator or path is unavailable, rider could ask BART personnel for assistance.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the ramp if they are going to east of the station, or use the other street elevator if they are going to west of the station.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator or path is unavailable, rider could ask BART personnel for assistance.

OUT OF SERVICE: STREET ELEVATOR (WEST)	
ARRIVING FROM THE STREET (rider cannot enter station)	ARRIVING FROM THE PLATFORM (rider cannot exit station)
<p>Mitigation Option</p> <p>Rider should take AC Transit to the east side of the station or to another BART station if they are coming from the west side of station. The closest station is El Cerrito del Norte.</p> <p>Alternative Option: Rider can request a Mitigation Trip to the west side of station from east side or another BART station. The closest station is El Cerrito del Norte.</p> <p>Time Added to Trip</p> <p>Transit: 35 to 50 minutes <i>(depending on time of day)</i></p> <p>If the alternate elevator is out of service...</p> <p>If either of the other elevators are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.</p>	<p>Mitigation Option</p> <p>Rider should take the ramp or elevator to the east side of the station and take AC Transit to destination, or continue on BART to another station and take AC Transit to destination. The closest station is El Cerrito del Norte.</p> <p>Alternative Option: Rider can request a Mitigation Trip to the west side of station from east side or another BART station. The closest station is El Cerrito del Norte.</p> <p>Time Added to Trip</p> <p>Transit: 35 to 50 minutes <i>(depending on time of day)</i></p> <p>If the alternate elevator is out of service...</p> <p>If either of the other elevators are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.</p>

OUT OF SERVICE: PLATFORM ELEVATOR	
ARRIVING FROM THE STREET (rider cannot enter station)	ARRIVING FROM THE PLATFORM (rider cannot exit station)
<p>Mitigation Option</p> <p>Rider should take AC Transit to another BART station. The closest station is El Cerrito del Norte.</p> <p>Time Added to Trip</p> <p>Transit: 35 to 50 minutes <i>(depending on time of day)</i></p> <p>If the alternate elevator is out of service...</p> <p>If either of the elevators at El Cerrito del Norte are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.</p>	<p>Mitigation Option</p> <p>Rider should continue on BART to another station and take AC Transit to destination. The closest station is El Cerrito del Norte.</p> <p>Time Added to Trip</p> <p>Transit: 35 to 50 minutes <i>(depending on time of day)</i></p> <p>If the alternate elevator is out of service...</p> <p>If either of the elevators at El Cerrito del Norte are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.</p>

OUT OF SERVICE: AMTRAK ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should request a Mitigation Trip to another Amtrak station.

Time Added to Trip

Mitigation Trip: 35 to 55 minutes on top of wait time *(depending on time of day)*

If the alternate elevator is out of service...

N/A

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should request a Mitigation Trip from another Amtrak station to destination.

Time Added to Trip

Mitigation Trip: 35 to 55 minutes on top of wait time *(depending on time of day)*

If the alternate elevator is out of service...

N/A

Rockridge



Number of elevators: 1 station elevator



Location of street elevator(s): On College Avenue between Miles Street and Keith Avenue

Elevator(s) to trains are located: Outside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the curb on College Avenue, next to the AC Transit stops. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **MacArthur**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **MacArthur**. **MacArthur** is 1.5 miles walking/rolling.

Time Added to Trip

Transit: 35 to 55 minutes (depending on time of day)

Mitigation Trip: 25 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **MacArthur** are also out of service, rider could take AC Transit or the Mitigation Trip to another station.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **MacArthur**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **MacArthur**. **MacArthur** is 1.5 miles walking/rolling.

Time Added to Trip

Transit: 35 to 55 minutes (depending on time of day)

Mitigation Trip: 25 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **MacArthur** are also out of service, rider could take AC Transit or the Mitigation Trip from another station.

San Bruno



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop on Huntington Avenue. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take SamTrans to another BART station. The closest station is **South San Francisco**.

Time Added to Trip

Transit: 25 to 45 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **South San Francisco** is also out of service, rider could take Samtrans to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take SamTrans to destination. The closest station is **South San Francisco**.

Time Added to Trip

Transit: 25 to 45 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **South San Francisco** is also out of service, rider could take Samtrans from another station or request a Mitigation Trip.

San Francisco

International Airport



Number of elevators: 2 platform elevators



Location of street elevator(s): N/A

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the International Terminal at the second bay, where taxis and shuttles pickup. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: PLATFORM ELEVATORS (ALL DESTINATIONS)	
<p>ARRIVING FROM THE AIRTRAIN (rider cannot access trains)</p> <p>Mitigation Option Rider should take the other platform elevator.</p> <p>Time Added to Trip Minimal</p> <p>If the alternate elevator is out of service... Rider should ride the AirTrain to the International Terminal G stop, take the elevator in the terminal to the Departures level, and follow signs to the BART station entrance.</p>	<p>ARRIVING FROM THE PLATFORM (rider cannot exit platform)</p> <p>Mitigation Option Rider should take the other platform elevator.</p> <p>Time Added to Trip Minimal</p> <p>If the alternate elevator is out of service... If rider needs to travel to a terminal other than International Terminal G, rider should exit the BART fare gates, enter International Terminal G, and take the elevator to the AirTrain level. If rider is going to International Terminal G, they do not need to use an elevator to enter the terminal.</p>

San Leandro



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: High



Mitigation Trip is available if necessary: Recommended stop is near the second bus bay, near the passenger pickup. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORM 1 ELEVATOR (DUBLIN/PLEASANTON, WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Coliseum** and board desired train.

Alternative Option: Rider can take AC Transit to another station. The closest station is **Bay Fair**.

Time Added to Trip

Backtracking: 10 to 30 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Bay Fair** and backtrack back to **San Leandro** and exit using Platform 2.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **Bay Fair**.

Time Added to Trip

Backtracking: 10 to 35 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (RICHMOND, SFO/MILLBRAE)**

↓

ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **Bay Fair** and board desired train.

Alternative Option: Rider can take AC Transit to another station. The closest station is Bay Fair.

Time Added to Trip

Backtracking: 10 to 35 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

↓

ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Coliseum** and backtrack back to **San Leandro** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **Bay Fair**.

Time Added to Trip

Backtracking: 15 to 30 minutes (depending on time of day)

Transit: 30 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

South Hayward



Number of elevators: 1 station elevator from street to platform and bridge, and 1 elevator to platform and bridge



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is near the second bus bay, near the passenger pickup. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

STATION ELEVATOR - STREET TO PLATFORM 1 AND BRIDGE (WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take AC Transit to another BART station. The closest station is **Hayward**.

Time Added to Trip

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take AC Transit to destination. The closest station is **Union City**.

Time Added to Trip

Transit: 35 to 50 minutes (depending on time of day)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

OUT OF SERVICE:**PLATFORM ELEVATOR - BRIDGE TO PLATFORM 2 (RICHMOND, SFO/MILLBRAE)**


ARRIVING FROM THE STREET
 (rider cannot access trains)
Mitigation Option

Rider should take the station elevator to Platform 1 and backtrack to **Union City** and board desired train.

Alternative Option: Rider can take AC Transit to another station. The closest station is **Hayward**.


Time Added to Trip

Backtracking: 20 to 35 minutes (*depending on time of day*)

Transit: 35 to 50 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit to another station or request a Mitigation Trip.



ARRIVING FROM THE PLATFORM
 (rider cannot exit platform)
Mitigation Option

Rider should continue on BART to **Hayward** and backtrack back to **South Hayward** and exit using station elevator.

Alternative Option: Rider can take BART to another station and take AC transit to destination. The closest station is **Hayward**.

Time Added to Trip

Backtracking: 20 to 35 minutes (*depending on time of day*)

Transit: 35 to 50 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If either of the elevators at **Hayward** are also out of service, rider could take AC Transit from another station or request a Mitigation Trip.

South San Francisco



Number of elevators: 1 station elevator



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is next to the shuttle and taxi stops of the north side of the station.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See introduction for definitions of mitigation options.

OUT OF SERVICE: STATION ELEVATOR

ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take SamTrans to another BART station. The closest station is **Colma**.

Time Added to Trip

Transit: 30 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Colma** is also out of service, rider could take SamTrans to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to another station and take SamTrans to destination. The closest station is **Colma**.

Time Added to Trip

Transit: 30 to 40 minutes (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Colma** is also out of service, rider could take SamTrans from another station or request a Mitigation Trip.

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Union City



Number of elevators: 2 platform elevators



Location of street elevator(s): N/A

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located at the curb next to the bike racks. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORM 1 ELEVATOR (WARM SPRINGS/SOUTH FREMONT)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **South Hayward** and board desired train.

Alternative Option: Rider can take AC Transit to another station. The closest station is **South Hayward**.

Time Added to Trip

Backtracking: 30 to 40 minutes *(depending on time of day)*

Transit: 40 to 55 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to **Fremont** and backtrack back to **Union City** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **South Hayward**.

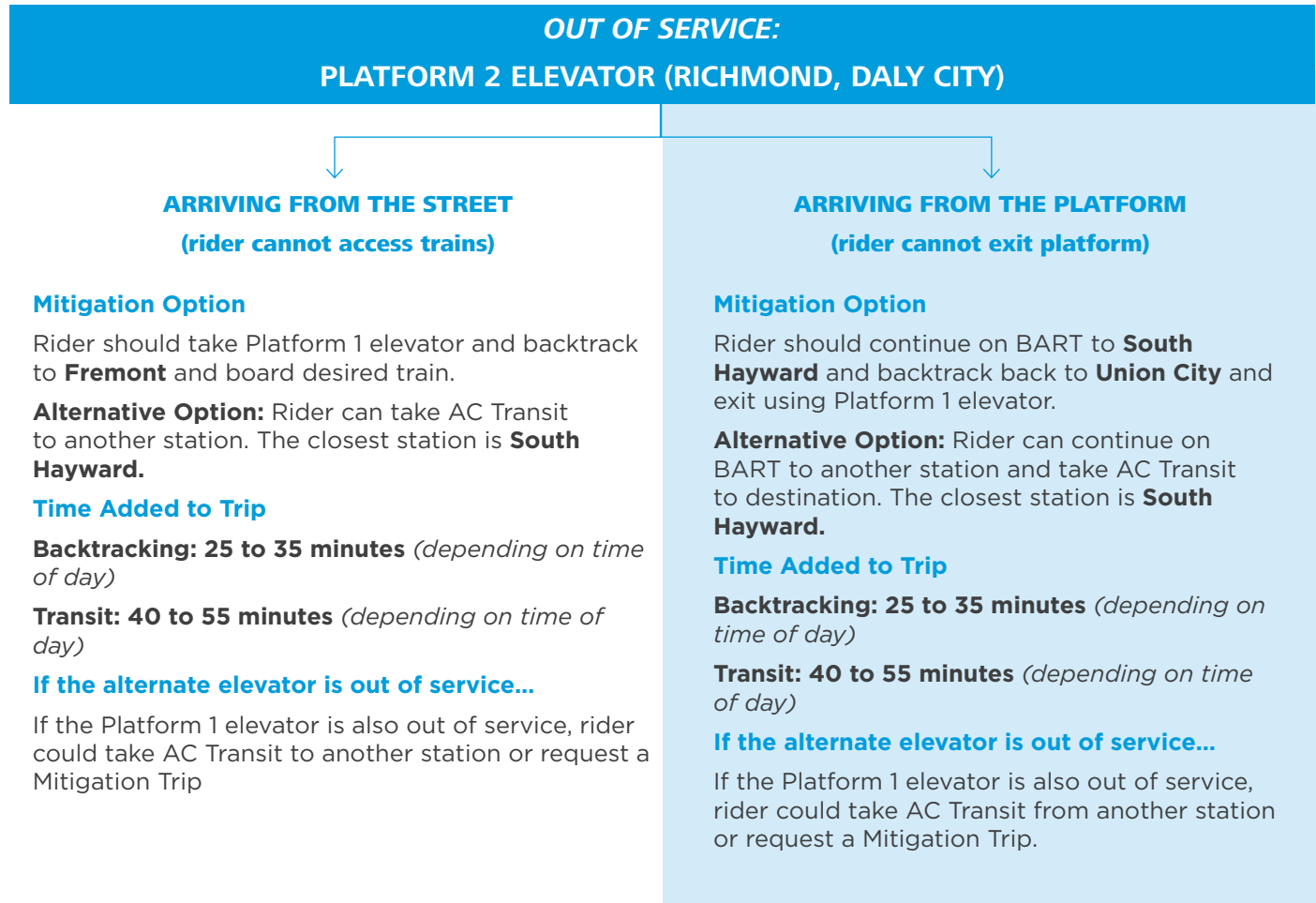
Time Added to Trip

Backtracking: 25 to 40 minutes *(depending on time of day)*

Transit: 40 to 55 minutes *(depending on time of day)*

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip.



Walnut Creek



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Outside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop located at the South Garage near the transit stops.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: PLATFORM 1 ELEVATOR (ANTIOCH)

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Lafayette** and board desired train.

Alternative Option: Rider can take County Connection to another station. The closest station is **Pleasant Hill/Contra Costa Centre**.

Time Added to Trip

Backtracking: 20 to 40 minutes (depending on time of day)

Transit: 35 to 105 minutes (depending on time of day) Note: No night service.

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take County Connection to another station or request a Mitigation Trip. **Pleasant Hill/Contra Costa Centre** is 2 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to **Pleasant Hill/Contra Costa Centre** and backtrack back to **Walnut Creek** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take County Connection to destination. The closest station is **Pleasant Hill/Contra Costa Centre**.

Time Added to Trip

Backtracking: 20 to 40 minutes (depending on time of day)

Transit: 35 to 105 minutes (depending on time of day) Note: No night service.

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take County Connection from another station or request a Mitigation Trip. **Pleasant Hill/Contra Costa Centre** is 2 miles walking/rolling.

OUT OF SERVICE: PLATFORM 2 ELEVATOR (SFO/MILLBRAE)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **Pleasant Hill/Contra Costa Centre** and board desired train.

Alternative Option: Rider can take County Connection to another station. The closest station is **Pleasant Hill/Contra Costa Centre**.

Time Added to Trip

Backtracking: 20 to 40 minutes (depending on time of day)

Transit: 35 to 105 minutes (depending on time of day) Note: No night service.

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take County Connection to another station or request a Mitigation Trip. **Pleasant Hill/Contra Costa Centre** is 2 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Lafayette** and backtrack back to **Walnut Creek** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take County Connection to destination. The closest station is **Pleasant Hill/Contra Costa Centre**.

Time Added to Trip

Backtracking: 20 to 40 minutes (depending on time of day)

Transit: 35 to 105 minutes (depending on time of day) Note: No night service.

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take County Connection from another station or request a Mitigation Trip. **Pleasant Hill/Contra Costa Centre** is 2 miles walking/rolling.

Warm Springs/ South Fremont



Number of elevators: 2 platform elevators and 2 street elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Low



Mitigation Trip is available if necessary: Recommended stop is at the paratransit stop on the outer bus bay next to the shuttles. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE: STREET ELEVATORS 1 AND 2

ARRIVING FROM THE STREET (rider cannot enter station)

Mitigation Option

Rider should take the other street elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take AC Transit to another station or request a Mitigation Trip.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should take the other street elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take AC Transit from another station or request a Mitigation Trip.

**OUT OF SERVICE:
PLATFORM ELEVATORS 1 AND 2 (DALY CITY, RICHMOND)**



**ARRIVING FROM THE STREET
(rider cannot access trains)**

Mitigation Option

Rider should take the other platform elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take AC Transit to another station or request a Mitigation Trip.



**ARRIVING FROM THE PLATFORM
(rider cannot exit platform)**

Mitigation Option

Rider should take the other platform elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take AC Transit from another station or request a Mitigation Trip.

West Dublin/ Pleasanton



Number of elevators: 4 street elevators from garage to walkway and 1 platform elevator



Location of street elevator(s): Inside of parking garages on each side of station
Elevator(s) to trains are located: Inside of paid area.



Station usage: Low

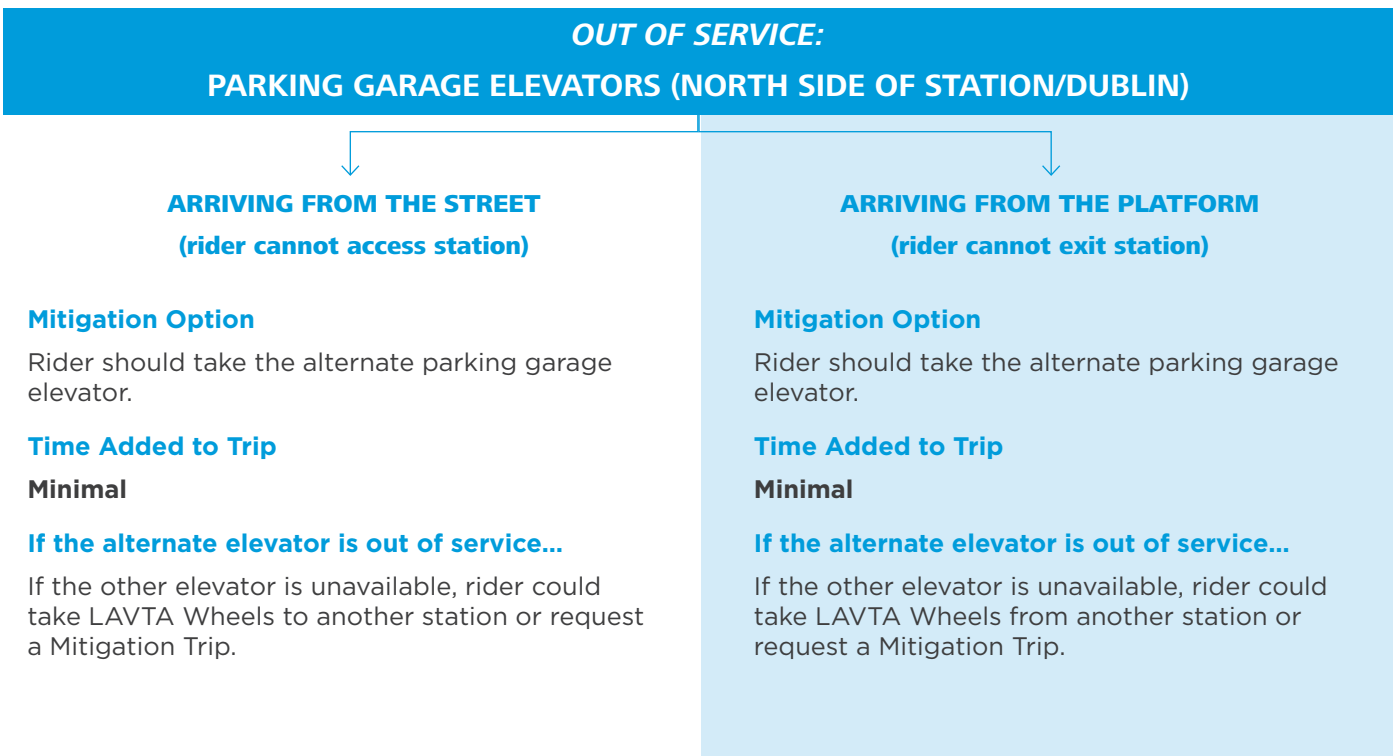


Mitigation Trip is available if necessary: Recommended stop is near the Wheels stop on the north side of the station by the parking garage. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.



**OUT OF SERVICE:
PARKING GARAGE ELEVATORS (SOUTH SIDE OF STATION/PLEASANTON)**

**ARRIVING FROM THE STREET
(rider cannot access station)**

Mitigation Option

Rider should take the alternate parking garage elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take LAVTA Wheels to another station or request a Mitigation Trip.

**ARRIVING FROM THE PLATFORM
(rider cannot exit station)**

Mitigation Option

Rider should take the alternate parking garage elevator.

Time Added to Trip

Minimal

If the alternate elevator is out of service...

If the other elevator is unavailable, rider could take LAVTA Wheels from another station or request a Mitigation Trip.

**OUT OF SERVICE:
PLATFORM ELEVATOR**

**ARRIVING FROM THE STREET
(rider cannot access trains)**

Mitigation Option

Rider should take LAVTA Wheels to another BART station. The closest station is **Dublin/Pleasanton**.

Alternative Option: Rider can request a Mitigation Trip to another BART station. The closest station is **Dublin/Pleasanton**.

Time Added to Trip

Transit: 30 to 55 minutes (depending on time of day)

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Dublin/Pleasanton** is also out of service, rider could take LAVTA Wheels or the Mitigation Trip to another station.

**ARRIVING FROM THE PLATFORM
(rider cannot exit platform)**

Mitigation Option

Rider should continue on BART to another station and take LAVTA Wheels to destination. The closest station is **Dublin/Pleasanton**.

Alternative Option: Rider can continue on BART to another station and request a Mitigation Trip to destination. The closest station is **Dublin/Pleasanton**.

Time Added to Trip

Transit: 30 to 55 minutes (depending on time of day)

Mitigation Trip: 25 to 30 minutes on top of wait time (depending on time of day)

If the alternate elevator is out of service...

If the elevator at **Dublin/Pleasanton** is also out of service, rider could take LAVTA Wheels or the Mitigation Trip from another station.

West Oakland



Number of elevators: 2 platform elevators



Location of street elevator(s): Inside of station

Elevator(s) to trains are located: Inside of paid area



Station usage: Medium



Mitigation Trip is available if necessary: Recommended stop is near the curb next to the passenger pickup/dropoff area. Station Agent to coordinate Mitigation Trip with dispatch.



Mitigation Shuttle: If a Mitigation Shuttle is set up, contact dispatch for service request and location.

See Introduction for definitions of mitigation options.

OUT OF SERVICE:

PLATFORM 1 ELEVATOR (SFO/MILLBRAE, DALY CITY)

ARRIVING FROM THE STREET (rider cannot access trains)

Mitigation Option

Rider should take Platform 2 elevator and backtrack to **Lake Merritt** or **12th St. Oakland City Center** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Time Added to Trip

Backtracking: 20 to 45 minutes (depending on time of day)

Transit: 35 to 45 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **12th St. Oakland City Center** is 1.5 miles walking/rolling.

ARRIVING FROM THE PLATFORM (rider cannot exit station)

Mitigation Option

Rider should continue on BART to **Embarcadero** and backtrack back to **West Oakland** and exit using Platform 2 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.

Time Added to Trip

Backtracking: 25 to 45 minutes (depending on time of day)

Transit: 35 to 45 minutes (depending on time of day)

If the alternate elevator is out of service...

If the Platform 2 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **12th St. Oakland City Center** is 1.5 miles walking/rolling.

OUT OF SERVICE:**PLATFORM 2 ELEVATOR (DUBLIN/PLEASANTON, ANTIOCH, RICHMOND, WARM SPRINGS/
SOUTH FREMONT)**


ARRIVING FROM THE STREET
(rider cannot access trains)

Mitigation Option

Rider should take Platform 1 elevator and backtrack to **Embarcadero** and board desired train.

Alternative Option: Rider can take AC Transit to another BART station. The closest station is **12th St. Oakland City Center**.

Time Added to Trip

Backtracking: 25 to 45 minutes (*depending on time of day*)

Transit: 35 to 45 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit to another station or request a Mitigation Trip. **12th St. Oakland City Center** is 1.5 miles walking/rolling.

ARRIVING FROM THE PLATFORM
(rider cannot exit platform)

Mitigation Option

Rider should continue on BART to **Lake Merritt** or **12th St. Oakland City Center** and backtrack back to **West Oakland** and exit using Platform 1 elevator.

Alternative Option: Rider can continue on BART to another station and take AC Transit to destination. The closest station is **12th St. Oakland City Center**.

Time Added to Trip

Backtracking: 20 to 45 minutes (*depending on time of day*)

Transit: 35 to 45 minutes (*depending on time of day*)

If the alternate elevator is out of service...

If the Platform 1 elevator is also out of service, rider could take AC Transit from another station or request a Mitigation Trip. **12th St. Oakland City Center** is 1.5 miles walking/rolling.

EXHIBIT K

Exhibit K

List of 14 Stations for Elevator Mitigation Pilot

1. Antioch
2. Bay Fair
3. Castro Valley
4. Concord
5. Dublin Pleasanton
6. Fremont
7. Lafayette
8. North Concord
9. Oakland Coliseum
10. Orinda
11. Pittsburg/Bay Point
12. Pittsburg/Center
13. Richmond
14. South Hayward

EXHIBIT L

Exhibit L

Stations with most limited mitigation alternatives

1. Antioch
2. Concord
3. Pittsburg/BP
4. Pittsburg/Center
5. Fremont
6. Coliseum
7. Bay Fair