

## HUB REVIEW FINDINGS - SAN FRANCISCO INTERNATIONAL AIRPORT (SFO)

### Date of Hub Review:

October 24, 2006

### Participants:

Carolyn Clevenger Metropolitan Transportation Commission (MTC); Laura Timothy BART; Vicki Sundstrom San Francisco International Airport (SFO); Elizabeth Mingle, SFO, Ted Yurek SamTrans/Caltrain, Carol Levine, Wilbur Smith Associates; Harley Goldstrom, Harley & Associates.

### Existing Hub Conditions:

The San Francisco International Airport (SFO) is located approximately 13 miles south of San Francisco, near the junction of Highways 101 and 380. SFO is a distinguished world-class airport that hosts over 30 domestic and international airlines and serves over 30 million passengers annually. In addition, SFO is also a major ground transportation hub served by an AirTrain people-mover system, Bay Area Rapid Transit (BART), nearby connection to Caltrain at Millbrae CalTrain/BART Station, and local SamTrans buses.

Within the airport, all terminals are connected by AirTrain which also provides frequent and convenient access to terminal parking garages, the BART Station and the Rental Car Center. AirTrain service operates on two lines: 1) Red Line - Connecting all terminals, garages and the BART Station, and 2) Blue Line - Connecting all terminals, garages and the BART Station with the Rental Car Center.

BART service to the Airport began in 2003 effectively providing regional connections between SFO, San Francisco, the North Bay (via Golden Gate Transit connections), the East Bay, and the South Bay (via Caltrain). BART connects SFO to the Caltrain rail system at the Millbrae Station. Caltrain provides rail service between San Francisco and San Jose, with weekday commute-hour service to Gilroy and weekday express during commute hours. Additionally, SamTrans offers connecting local and express bus service between SFO and the Transbay Terminal in San Francisco. To and from the south, bus service is provided to Palo Alto with express service between SFO and Hillsdale along US 101, becoming local service on El Camino Real between Hillsdale and Palo Alto.

## CORRECTIVE ACTIONS

### WAYFINDING:

SFO's existing signage program offers perhaps the greatest opportunity for improvement. Comments from the hub review team noted a lack of comprehensive directional signage to BART and the SamTrans bus loading areas. Existing signage presents information in fragments. Notably, the distance between directional signs to transit is excessive, creating wide gaps and discontinuity between important decision points. Implementation of consistent, easy to read, easy to find, hierarchical information would facilitate passenger flow between entries, transit services, and exits. Overall, a new wayfinding program would improve convenience, add to customer experience, and benefit the transit operators who serve SFO.

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The following proposed wayfinding corrective actions would clarify SFO's many transit connections for passengers:

### Identification of station or transit operator

- Provide a more prominent BART logo at the entrance to the station (see checklist questions #2, photo #1);
- Be consistent on how BART station is referenced on signage and directories. It is sometimes called BART/Caltrain with BART logo, BART Station with BART and Caltrain logo, SFO BART Station with BART logo or BART/Caltrain with no logos (see checklist question #4, photos #2-5);

### Moving around or entering or exiting the station

- While directional signage does exist at many decision points, there are gaps. This is most evident for passengers trying to find the BART station and/or SamTrans bus boarding areas. Install more visible signage to connect these regional transit connections. (see checklist question #9).
- Clarification is needed that the BART Station does not provide direct access to Caltrain, i.e. that Caltrain is accessible via BART (see checklist question #11). BART and Caltrain are grouped together on signage until the BART Station where there is no prominent mention or signage for Caltrain (see checklist question #11);
- Replace No Smoking and No Food/Drink on signage entering BART with more useful wayfinding information (photo #5);
- Temporary blue directional signs in the BART Station should be replaced with more permanent appearing signage installations (photos #6, 7);
- Include operator logos on all directional signs (see checklist question #6);
- Use a consistent set of graphics, fonts, and colors for directional signs (see checklist questions #6, 17);

### Identification of where to board or wait for transit

- Establish largely visible and prominent transit provider logos on SamTrans bus stop signs (see checklist questions #7, 21; photo #8);
- Include text with direction of route and connecting information on bus stop signs (see checklist question #25);
- Clarify boarding platform for San Francisco-bound or Millbrae-bound trains (see checklist question 38, photo #6).

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### CUSTOMER INFORMATION:

In general, customer information at SFO is generously provided and presented in a clear manner. Information counters and kiosks are described as “well marked” and “thorough”, providing schedules, contact numbers, and service information. Airport terminal maps are noted for including all transit operators and providing color coded information with the appropriate symbols. However, there are areas where customer information could be improved. Customer information displays should be coordinated with wayfinding signage at key locations within the facility including the following customer information elements:

#### Regional Transit Information (RTIC)

The San Francisco International Airport does not have a 511.org RTIC but instead has developed its own display case with appropriate ground transportation information (photo #18).

- Replace SFO regional transportation display with 511.org RTIC with the following elements:
  1. The regional 511.org transit map; and
  2. Subregional or system map for local operators.
- Provide directional signage to the RTIC (see checklist question #31);
- Incorporate the RTIC installations with local transit information wherever possible (see checklist questions#28-30);

#### Local Transit Information

- Local transit information would include:
  1. Subregional or system map for local operators (photo #18);
  2. Schedules and service hours;
  3. Fares and specific system information;
  4. Hub layout map (photo #16); and
  5. Local vicinity map (photo #14).
- Although most of the above elements can be found within SFO, they are often not grouped together or with the RTIC. Locate local transit information with RTIC installations wherever possible (see checklist questions #28-30)

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### REAL-TIME SIGNAGE:

#### Existing Real-Time Signage

Currently, transit real-time information is only provided at the BART and AirTrain platforms.

#### Future Real-Time Signage Installation

Based on reviewer comments, extending the provision of real-time information at specific locations within SFO would be a welcome addition and greatly compliment existing customer information. As such, future real-time information should include but not be limited to the following:

- Customer information could be improved through real-time scrolling message signs placed at the agent booths or central locations (see checklist question #19, 20, 21);
- Provide real time schedule frequency and information on last scheduled departure in SamTrans boarding areas (see checklist question #20, 25, photo #19)
- Provide customer information electronically (e.g. 511.org) at a computer terminal (see checklist question #39)

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## STATION PHOTOGRAPHS



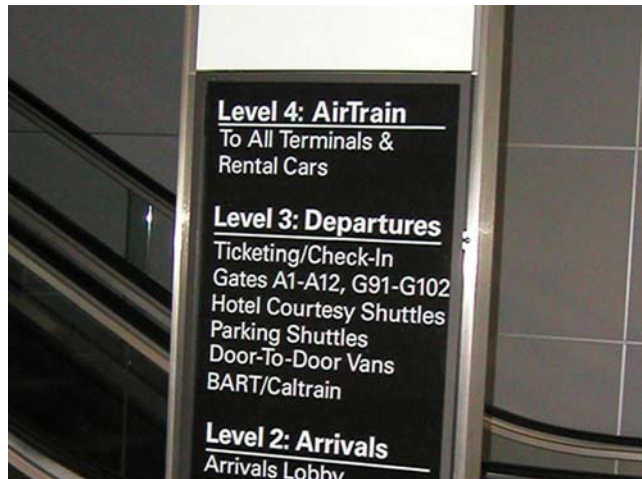
1. BART entrance. Note indistinct BART signage.



2. Two types of BART station references on adjacent signs: BART/Caltrain and SFO BART Station



3. BART Station sign with BART and Caltrain logos.



4. Sign with no BART or Caltrain logos

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5. Entrance to BART Station. Note the prominent location of 'No Smoking/Food/Drink' could maybe be better used for important wayfinding information.



6. BART boarding platforms. Note blue temporary directional signs.



7. Directional signage to international terminal from BART station lobby. Note temporary sign

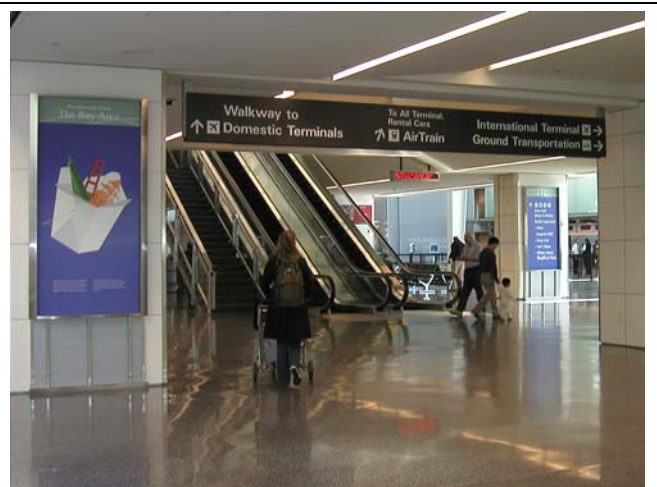


8. Bus Stop: Lacks operator logo

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9. SamTrans: Schedule and Route information



10. Signage leading from BART to AirTrain and International Terminal.

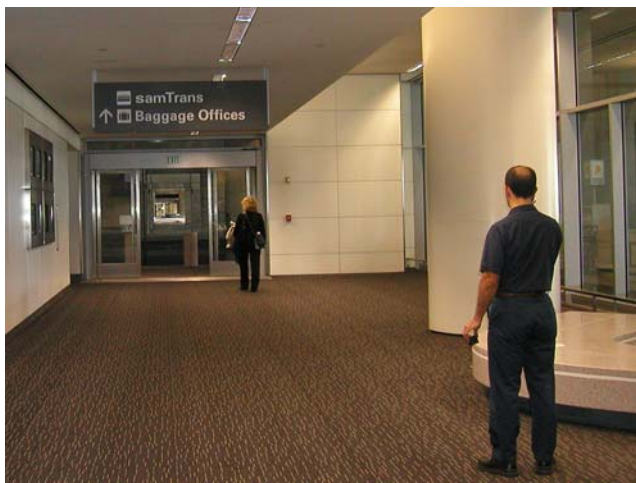


11. Directional signage to Ground Transportation. Note lack of operator logos.



12. Directional signage is visually out of balance with surrounding signs/advertisements. Note size and readability.

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13. SamTrans directional sign. Note placement is far from the last Ground Transportation sign



14. BART Station and Local Area Map.



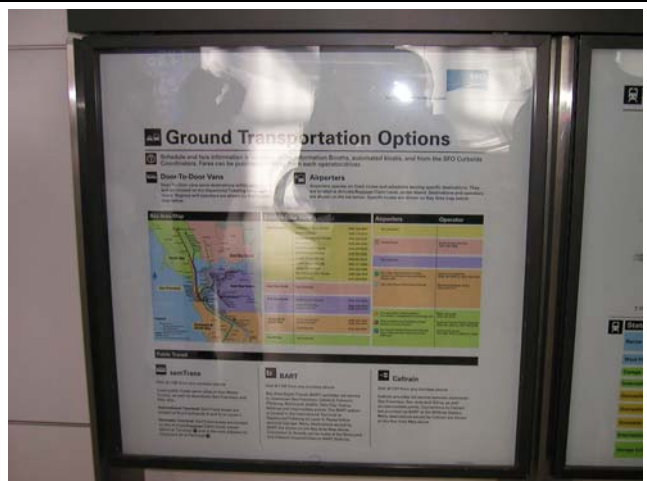
15. Information Booth - Provides information even without an attendant



16. Ground Transportation Information



17. Information kiosk with regional and local information and printed materials.



18. Regional ground transportation information.

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19. SamTrans Boarding Area: Would benefit from Real-Time next bus signage

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<b>Hub Review Checklist Summary</b>			
<b>WAYFINDING</b>			
<b>Identification of station or transit operator</b>			
Yes	No	N/A	
3	1		<p>1. The hub is clearly identified, visible from surrounding roadways by vehicular and pedestrian traffic.</p> <ul style="list-style-type: none"> <li>Well maintained for freeway access</li> </ul>
3			<p>2. Entrances into the hub are clearly identified, visible from approaches by vehicular and pedestrian traffic.</p> <ul style="list-style-type: none"> <li>BART logo needs to be more prominent</li> <li>Highway turnoff is confusing</li> <li>The only way to identify the BART station from the outside is to see the train arriving or departing</li> </ul>
1		1	<p>3. Transit operators serving the hub are clearly identified at the entrances with their logo and name.</p> <ul style="list-style-type: none"> <li>BART logo used by Airport is not the standard BART logo. Caltrain logo is not used by the Airport.</li> <li>AirTrain signs do not make it clear that you need to take AirTrain to BART</li> </ul>
2			<p>4. Station identification reinforces information on printed maps and schedules.</p> <ul style="list-style-type: none"> <li>Written and verbal AirTrain signage, terminal information, and maps is good</li> <li>BART station information is consistent and clear going from airport to BART. However there is some confusion as you leave BART regarding which train to take.</li> </ul>
	1	1	<p>5. Station name is identified on the entrance sign along with agency logo.</p>
<b>Moving around or entering or exiting the station</b>			
Yes	No	N/A	
4	1		<p>6. Agency logos are included with names on directional signs within the facility.</p> <ul style="list-style-type: none"> <li>From domestics to BART/Caltrain arrows, logos, and names of operators are present</li> <li>No logos are present for SamTrans</li> <li>When included, signs are small and in black and white</li> <li>Logos are not sufficient as inbound international travelers do not know what BART is or where it goes.</li> </ul>
3	1		<p>7. Turnstile level street exit directional signs also include connection agency names and logs.</p> <ul style="list-style-type: none"> <li>Not all signs have BART logos. Generally, they are small and not entirely visible.</li> <li>Have many logos</li> </ul>

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5			<p>8. Vital connections information is grouped together on signs.</p> <ul style="list-style-type: none"> <li>• Informational kiosks are thorough</li> <li>• Information is grouped at BART and by the Airport</li> </ul>
4	1		<p>9. Connection directions are provided at each decision point and there are no gaps in the connection directional information flow.</p> <ul style="list-style-type: none"> <li>• Good overall directional flow</li> <li>• Some gaps exist in finding BART and SamTrans transit connections</li> </ul>
1	1	1	<p>10. Exiting directional signs list a hierarchy of the popular destinations and connecting services to reach these destinations.</p> <ul style="list-style-type: none"> <li>• BART needs a better system to direct tourists and visitors to the right stations for Hotels, Moscone Center, etc.</li> </ul>
1	1		<p>11. Where connecting transit service is not within the station, clear directional signage (including walking distance) is provided to these services. All sign placement complies with 2004 ADAAG guidelines.</p>
3	1		<p>12. In stations with multiple track/gate or train/ferry service, confirmation of agency, destination, and real-time departure is associated with those services.</p> <ul style="list-style-type: none"> <li>• No real-time signage to BART or SamTrans.</li> <li>• Temporary blue signs have been added to clarify BART directions</li> <li>• Providers are in individual areas, but signs are clear</li> </ul>
4			<p>13. Clear sightlines are maintained to signs and all sign placement complies with 2004 ADAAG guidelines.</p>
3	2		<p>14. Exiting connection information is color-coded to emphasize and make it easier to find directions and connections.</p> <ul style="list-style-type: none"> <li>• More important directional information is in white letters on black background, others are black on white.</li> <li>• Maps are color coded by transit providers</li> </ul>
5			<p>15. Signs are legible with adequate message size appropriate for viewing distance, proper contrast ratios, and illumination levels.</p>
4			<p>16. Arrows are of consistent design and are bold in visual balance with text and are closely associated with their messages.</p> <ul style="list-style-type: none"> <li>• Old and new signs have different arrows</li> </ul>
			<b>Identification of where to board or wait for transit</b>
Yes	No	N/A	
5	1		<p>17. Transit boarding platforms are clearly and boldly identified.</p> <ul style="list-style-type: none"> <li>• SamTrans is clear, directions lead you from baggage claim</li> <li>• BART overhead signs need to show BART and BART logo.</li> <li>• Directional signal signs to AirTrain need to be included</li> <li>• Replace No Smoking and No Food/Drink on Fare Gates to BART with wayfinding information</li> </ul>

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1		2	18. Where a particular transit route utilizes different boarding points for opposite directions of travel, directional signage is provided to the different boarding point including platform route number, name, and route terminus (a place name).
3	1	1	19. At commuter rail, ferry terminals or bus stations, the boarding area identification number is large and bold with service agency, destination, number, and "real-time" departure is provided. <ul style="list-style-type: none"> <li>• SamTrans is labeled well, includes logo and name. SamTrans logo could be shown with bus icon.</li> <li>• SamTrans stop #4 is also a stop for BART access. Direction to BART (through terminal) is not clearly marked. It is also unclear how to enter the terminal.</li> <li>• No real-time signs</li> </ul>
4	1		20. Schedule frequency and last departure information are provided at transit boarding platforms and are consistent with 2004 ADAAG guidelines. <ul style="list-style-type: none"> <li>• Color BART map and regional maps are needed at the Airport Information Booth</li> <li>• Schedule frequency at SFO would be ideal</li> </ul>
2	1	1	21. Bus stop signs have agency logos large and bold. <ul style="list-style-type: none"> <li>• Need a SamTrans logo on a pole, it is difficult to see bus stop signs when existing terminal</li> <li>• SamTrans logo should be larger</li> <li>• Many SamTrans at bus stops, but not enough logos</li> </ul>
1	2		22. Bus stop signs have accessibility and parking restrictions as auxiliary signs below the basic bus stop signs.
4			23. Bus route identification on bus stop signs comply with 2004 ADAAG Guidelines - minimum 2" route number character height.
4			24. Bus stop sign faces are visible from each approach direction. <ul style="list-style-type: none"> <li>• SamTrans has good bus stop sign with route information</li> </ul>
1	1	2	25. Bus shelters have associated bus stop signs which are consistent with the design guidelines described in this checklist. <ul style="list-style-type: none"> <li>• Getting from SamTrans stop to terminal is confusing. Buses go in both directions at each stop and direction is not clear.</li> <li>• No shelters at SamTrans stop. Could use a shelter at stop #4</li> </ul>
<b>CUSTOMER INFORMATION</b>			
<b>Regional Transit Information (RTIC)</b>			
Yes	No	N/A	
1	2	2	26. Transit information in Regional Transit Information Display Cases is accurate and easy to read. <ul style="list-style-type: none"> <li>• No RTIC, airport has developed their own information</li> </ul>
1	2	1	27. Transit operator and route maps for the nine-county San Francisco Bay Area are posted in the Regional Transit Information Display Cases.

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2		2	<p>28. Hub specific information is provided in a case adjacent to the Regional Transit Information Display Case and at other critical locations at the hub.</p> <ul style="list-style-type: none"> <li>Airport terminal maps are good, including appropriate operators, colors, and symbols</li> </ul>
5			<p>29. Hub layout maps are provided in the hub information display case.</p> <ul style="list-style-type: none"> <li>Layout maps are shown on display throughout Airport.</li> <li>Also includes information counters where Information is available even without attendant.</li> </ul>
2		1	<p>30. Map of hub vicinity with landmarks and attractions is posted in the hub information case.</p>
5			<p>31. Posted transit information (i.e. maps, schedules) is well maintained, accurate and easy to find.</p>
4			<p>32. Schedules, fare, transfer information and hub layout maps are located near bus stops and loading platforms.</p> <ul style="list-style-type: none"> <li>SamTrans has route, schedules, and maps at its bus stops. BART sign gives hours of operation before reaching AirTrain.</li> </ul>
4		1	<p>33. Printed schedules and maps distributed at the hub contain accurate information and are consistent with the information provided in the Regional Transit Information Display Cases.</p> <ul style="list-style-type: none"> <li>Information centers are well marked, have schedules, and service information that is color coded and provide contact numbers</li> </ul>
			<b>REAL-TIME SIGNAGE</b>
			<b>Existing Real-Time Signage</b>
Yes	No	N/A	
2			<p>34. Real-time signage is provided at the hub.</p> <ul style="list-style-type: none"> <li>The only real time sign is for the airport shuttle</li> </ul>
			<p>35. Location of signs (indicate on station diagram).</p> <ul style="list-style-type: none"> <li>BART platform</li> <li>AirTrain platform</li> </ul>
			<p>36. Description and photo of signage types.</p>
			<p>37. Identification of transit services included on real-time signage (Include operator and mode).</p>
			<b>Future Real-Time Signage Installations</b>
			<p>38. Describe location(s) for future real-time signage locations (indicate on station diagram). Refer to Appendix A Real-Time Technology Guidelines page A-24</p>
			<p>39. Describe transit services that would be included in real-time signage displays. Refer to Appendix A pages A-24-26.</p> <ul style="list-style-type: none"> <li>At Information Desk at international baggage claim.</li> <li>Needs 511.org information, currently has a computer that is not working</li> </ul>