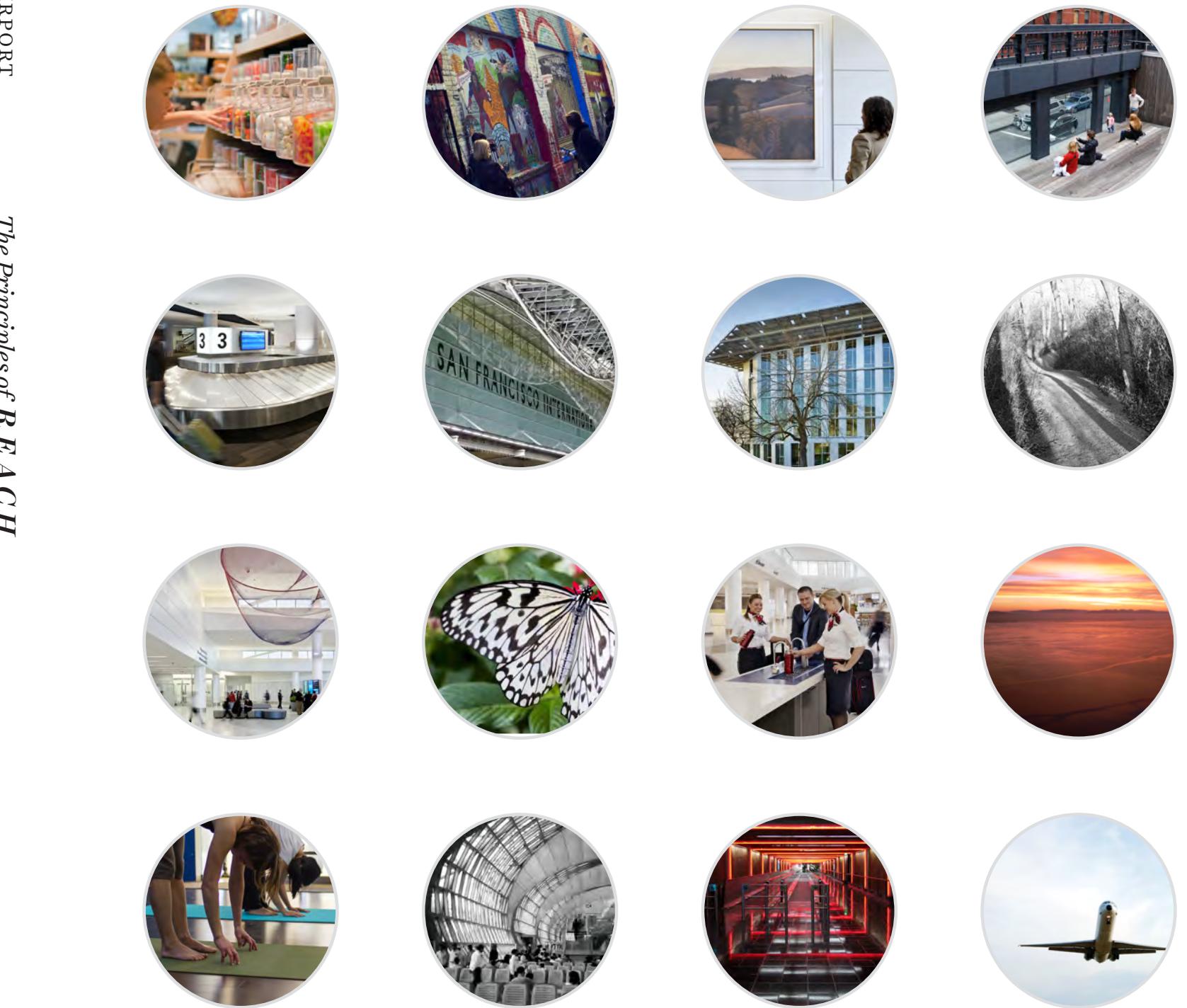




The Principles of **R.E.A.C.H.**

REVENUE ENHANCEMENT AND CUSTOMER HOSPITALITY



SAN FRANCISCO INTERNATIONAL AIRPORT

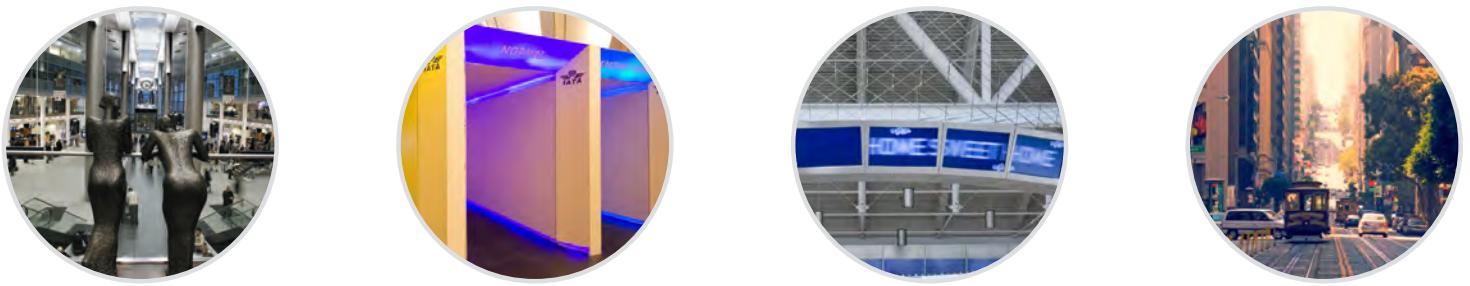
The Principles of R.E.A.C.H.

2013



SAN FRANCISCO INTERNATIONAL AIRPORT

SFO



INTRODUCTION

The Principles of R.E.A.C.H. is an aspirational document for architects, designers, tenants and SFO employees who work in and with the San Francisco International Airport (SFO). This document has been created in an effort to enhance the customer experience, drive revenue generation and bring a cohesive character to the entire airport campus. The document is designed to provide an overview of SFO and how the terminals work and function as a whole. In addition, the document explores the different typologies of passengers who frequent the airport in order to better understand their needs.

A majority of the document is devoted to recognizing and highlighting the values which are important to the airport. It applies these values and lessons about different types of customers to areas found in every terminal which are referred to as ‘journey moments.’ At each journey moment, current and future trends are addressed with the goal of ensuring that designers are thinking about the evolution of airport design and customer experience.

This document is meant to orient the reader to the goals and aspirations of SFO. It is not a rigid set of guidelines nor a prescriptive design direction but rather, an informational and inspirational perspective that seeks to inform designers and consultants about SFO’s unique point of view, existing conditions, and dynamic passenger demographics.

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Executive Summary

Key goals for REACH:

1. Achieve the highest customer satisfaction ratings
2. Create socially and ecologically sustainable business models
3. Become a top generator nationally

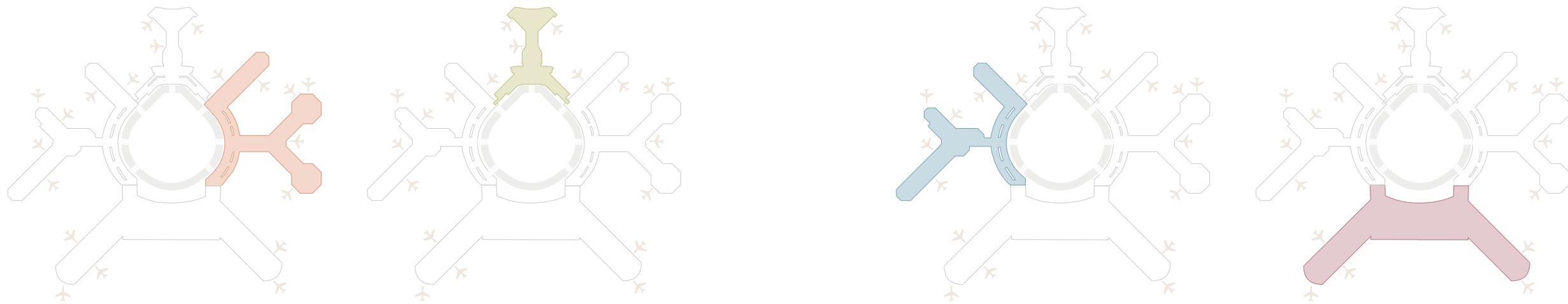
Following the success of recent airport projects such as the Terminal 2 renovation in 2011, the San Francisco International Airport (SFO) wanted to document design qualities which have enhanced the passenger experience. This has been developed into a program called R.E.A.C.H. which stands for Revenue Enhancement And Customer Hospitality.

The Principles of R.E.A.C.H. 2013 is designed to serve as an aspirational guide for SFO's longterm passenger experience levels facilitating growth, improvement strategies, operational innovations and efficiency. This document is organized into four major parts: background on the airport, defining passenger typologies, understanding key SFO values and defining general journey moments in an airport terminal.

The Principles of R.E.A.C.H. 2013 is a roadmap for focusing SFO staff, airline staff, tenants and design consultants and is focused on the goals listed above. It allows SFO to articulate their unique point of view to passengers and employees while attracting businesses that enrich the local flavor of the Bay Area and increase social and sustainable practices.



SFO Statistics



	TERMINAL 1	TERMINAL 2	TERMINAL 3	INTERNATIONAL TERMINAL
ALSO KNOWN AS	T1, includes Boarding Area B (B/A B) and Boarding Area C (B/A C)	T2, also known as Boarding Area D (B/A D). Originally known as the "Central Terminal," it used to be SFO's main airport terminal.	T3, includes Boarding Area E (B/A E) and Boarding Area F (B/A F). Also known as the United Airlines hub.	ITB, includes Boarding Area A (B/A A) and Boarding Area G (B/A G). The BART stop is located adjacent to Boarding Area G.
DATE OPENED	1963	1954	1979	2000
TOTAL NUMBER OF GATES	32 (23 gates in B/A B, 9 gates in B/A C)	14	36 (9 gates in B/A E, 25 gates in B/A F)	28 (13 gates in B/A A, 15 gates in B/A G)
TOTAL PASSENGERS IN 2012	5.4 million passengers	3.5 million passengers	7.7 million passengers	5.5 million passengers
TOTAL REVENUE GENERATED IN 2012	\$53 million	\$49 million	\$98 million	\$165 million
TOTAL AREA FOR CONCESSIONS	27,258 sq ft	29,286 sq ft	54,596 sq ft	87,775 sq ft

Document Brief

1 BACKGROUND INFORMATION

SFO VISION

A narrative which explains SFO's vision, focusing in particular on SFO's aspiration to become the top airport in customer satisfaction and provide passengers with the best possible airport experience.

FIVE YEAR STRATEGY

In 2011 SFO developed a 5-year strategy and this is the summary of that strategy.

WHAT IS R.E.A.C.H.?

A breakdown of *The Principles of R.E.A.C.H.*

SFO IN NUMBERS

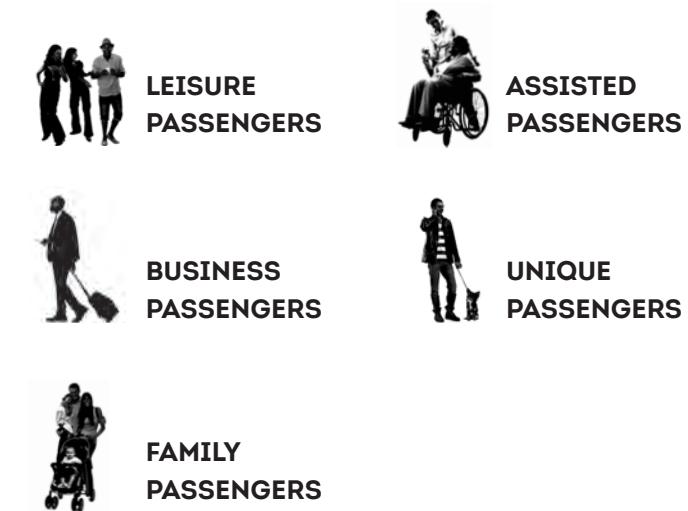
To gain a better understanding of SFO, this is a compilation of data about the various terminals, from total area to amount of revenue generated.

2 THE PASSENGER EXPERIENCE

Stages of the Passenger Journey



Passenger Typologies



3 SFO VALUES



4 JOURNEY MOMENTS

1 APPROACH	2 TICKETING	3 CHECKPOINT
4 RECOMPOSE	5 PLAZAS	6 CONCOURSE
7 CONCESSIONS	8 WAITING & LOUNGE	9 PLAY AREAS
10 RESTROOMS	11 PASSENGER AMENITIES	12 ARTS & EXHIBITS
13 MEET & GREET	14 BAGGAGE CLAIM ARRIVALS CURBSIDE	15
16 CONNECTORS & TUNNELS		

SFO Vision

As a world-class airport, San Francisco International Airport (SFO) serves millions of passengers annually and needs to appeal to a diverse variety of visitors and employees. In the past, travel was considered an exciting mini-adventure, but today with budget constraints and cutbacks, that essence is often lost. At SFO there is a unique opportunity to increase function and ease as well as redefine and refresh the excitement around travel.

SFO is committed to becoming the top airport in customer satisfaction and providing passengers with a better quality of time spent in the airport. Wait time can be frustrating, but SFO aims to make it more productive and enjoyable by providing different types of spaces to satisfy passengers of all types.

SFO has the opportunity to connect passengers with the culturally rich aspects of San Francisco. While the city has well-established landmarks, it is also important to look at what makes San Francisco truly unique: the technology, the cuisine, the appreciation of the outdoors and the neighborhoods. SFO strives to integrate a local sense of place and reflect a truly authentic experience of the Bay Area.

SFO truly cares about the customer experience and is committed to delivering a unique experience for every passenger.



Five-year Strategy

1 Customer/ Passenger

Be ranked #1 by passengers in customer satisfaction as a U.S. international gateway airport by two industry specific surveys.

Be considered a world-class airport by customers.

Be nimble about meeting passenger demands and needs for services.

Be the airport of choice for premium passengers.

Have the most efficient airport ground transportation system in the country.

2 Airlines/ Aircraft/ Routes

Ensure SFO can meet passenger traffic growth in the next five years and improve airlines' on time arrival performance.

Ensure competitive air service.

Increase current international passenger traffic.

Maintain average cost per enplaned passenger below \$18.90 in constant fiscal year 07-08 dollars in order to maintain and attract airline service.

3 Non-Airline Revenue

As part of maintaining average cost per enplaned passenger below \$18.90, increase non-airline revenues & per passenger spending.

4 Employees & Organization

Be ranked one of the Bay Area's best employers in San Francisco Business Times' annual list.

Be known for innovation, expertise, and management excellence in the aviation industry.

5 Environmental Sustainability

Be one of the first airports to mitigate its carbon footprint and maintain it thereafter.

Continue to reduce baseline Greenhouse Gas emissions from SFO-controlled operations.

Increase solid waste recycling rate.

Achieve LEED Gold certification in all new buildings.

6 Safety/ Security

To be an airport innovative leader in safety and security and implement at least two new industry leading security programs in the next five years.

Maintain SFO's airfield in as safe as possible condition through the use of technology, procedures, inspection and continual evaluation of airfield best practices.

Be the least vulnerable US airport to terrorist activity and possess the best integrated response capability.

Coordinate the sharing of information and planning among all federal and local law enforcement agencies to ensure all the dots are continually connected.

7 Infrastructure

As part of maintaining average cost per enplaned passenger below \$18.90, strategically invest in capital projects.

Minimize overall life cycle costs of facilities.

Maintain the airport's infrastructure in optimal condition.

Continue to invest in capital projects that make the airport environmentally sustainable.

Implement projects that will generate net revenue to the extent possible, while meeting the airport's mission.

8 External Relations

Support awareness among government entities of SFO as a successful enterprise that is well managed and a valuable asset to San Francisco and the Bay Area communities.

Develop and maintain productive relationships with government agencies and local cities & counties.

Increase local business participation with SFO.

Develop and maintain a model employment development program for the benefit of the communities that SFO serves.

In 2011, SFO underwent a planning process that identified eight strategic goals, with outlined objectives for each goal. These goals and objectives formed the five year strategic plan for the airport. As a result, the airport assembled task forces to help achieve the goals and SFO's overall future aspiration, "Reaching for #1."

What is REACH?

R.E.A.C.H. stands for:

**REVENUE
ENHANCEMENT
AND
CUSTOMER
HOSPITALITY**

San Francisco International Airport (SFO) sits just south of downtown San Francisco and as an international airport, it is an important hub for both international and domestic communities.

The R.E.A.C.H. Program is an effort to upgrade all facilities to support the efforts of "Reaching for #1" and make SFO a world-renowned facility and premium gateway to the Pacific. Overall goals include: achieving the highest customer satisfaction ratings, creating socially and ecologically sustainable business models and becoming a top revenue generator nationally.

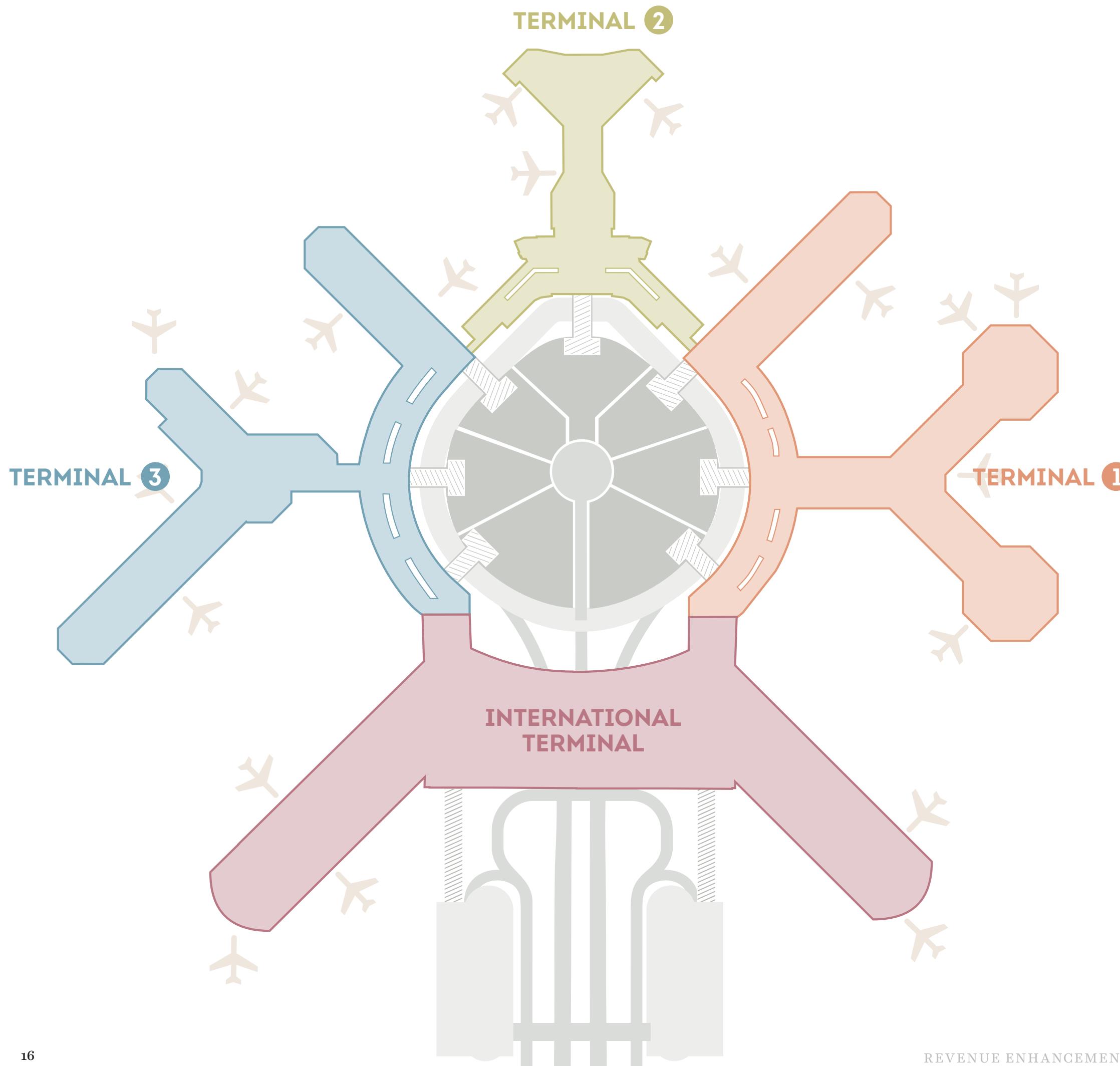
The R.E.A.C.H. program is a road map for focusing SFO's staff, airline staff, tenants and design consultants on providing aspiration and guidance to SFO's

long term passenger experience levels. This in turn is designed to facilitate growth and improvement strategies, operational innovations and efficiency.

This document is designed to articulate SFO's unique point of view, provide guidance for designing a premium passenger experience and encourage interaction with businesses that enrich the local flavor of SFO and increase social and sustainable practices.

It is our hope that this will lead to future innovation in the passenger experience while elevating SFO in domestic and international appeal for both originating and transferring passengers.





SFO in Numbers

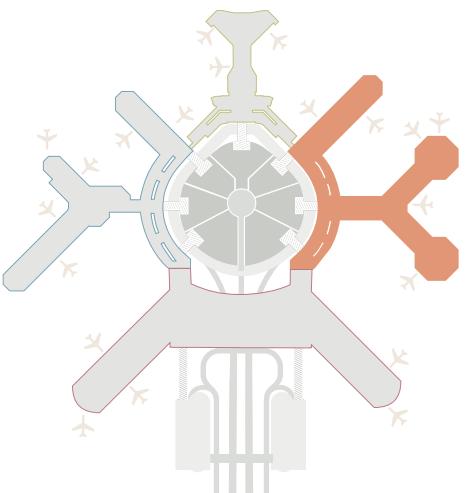
The San Francisco International Airport is made up of four terminals, each with its own distinct personality. Terminals 1,2, and 3 service domestic passengers while the International Terminal services primarily International passengers. All terminals are connected by walkways and AirTrain. Bay Area Rapid Transit (BART) sits adjacent to the the International Terminal.

All terminals serve significant functions for the airport and each one contributes to the overall revenue generation at the airport. This section provide an overview to the terminal and the revenues generated.



Terminal 1

Terminal 1 first opened in 1963 and includes B/A B and B/A C. It services domestic airlines which include: Air Tran Airways, Alaska Air, Southwest, US Airways, Delta and Frontier. It has 32 gates total and services the second highest number of domestic passengers. It is slated for a major renovation beginning in 2015.



ALSO KNOWN AS

T1 Boarding Area B (B/A B)
Boarding Area C (B/A C)

DATE OPENED

1963

TOTAL NUMBER OF GATES

32 23 gates in B/A B
9 gates in B/A C

2012 TOTAL PASSENGERS

5.4 million

2012 REVENUE GENERATED

\$53 million

TOTAL CONCESSIONS AREA

27,258 ft²

YELP RATING



TERMINAL PROFILE

A Mixed Bag

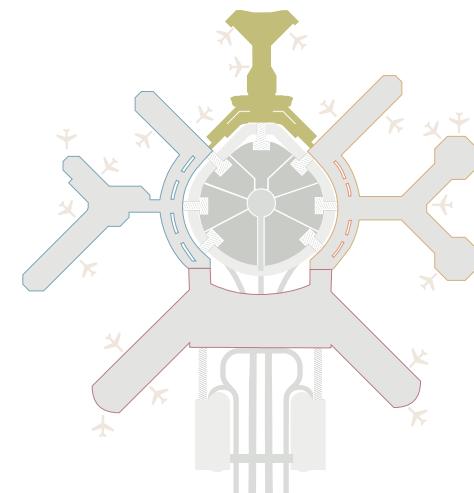
Terminal 1 is used by family and business travelers alike. It has good access to natural light and its granite columns give the terminal a more classic feel. It serves more passengers per square foot than any other terminal. The terminal feels ready for an update.



Terminal 2

Terminal 2 was first constructed in 1954, when it was called Central Terminal. Since its initial opening, it has undergone two renovations, the most recent in 2011.

Terminal 2 is home to both American Airlines and Virgin America Airlines. The space focuses on traveler convenience, comfort and sustainability. A reinvisioned concessions program rendered with a market like atmosphere and strategically located within gazing distance of most gates affords passengers an enjoyable airport experience. Terminal 2 was the first US airport terminal to achieve LEED Gold certification. Since its opening in 2011, T2 has continued to receive praise from the aviation industry, architectural and design critics, and travelers.



ALSO KNOWN AS

T2 Boarding Area D (B/A D)

Originally known as the "Central Terminal," it used to function as SFO's main airport terminal.

DATE OPENED

1954

TOTAL NUMBER OF GATES

14

2012 TOTAL PASSENGERS

3.5 million

2012 REVENUE GENERATED

\$49 million

TOTAL CONCESSIONS AREA

29,286 ft²

YELP RATING



TERMINAL PROFILE

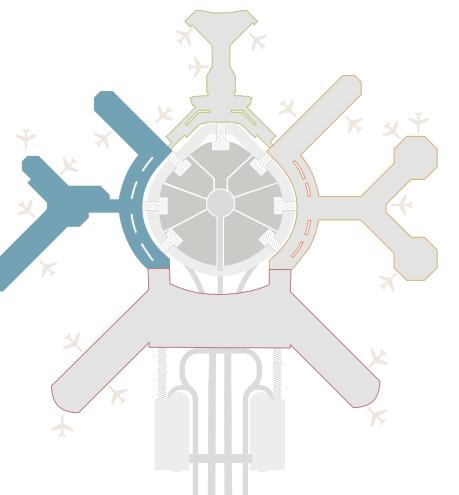
Hip & New

A clean, modern design paired with innovative approaches to passenger amenities makes T2 a favorite place to fly to and from. From interactive children's play areas designed with local artists to excellent concessions and expanded, high end restroom facilities, T2 has had a real impact on setting the standard for premium passenger experience.



Terminal 3

Terminal 3 is commonly known as the United Airlines hub, and has the highest number of passengers compared to the other terminals. It also generates the greatest revenue, exceeded only by the International Terminal and the car rental facility. It includes Boarding Area E and F, and is comprised of 36 gates.



ALSO KNOWN AS

T3 Boarding Area E (B/A E)
Boarding Area F (B/A F)

"The United Airlines hub"

DATE OPENED

1979

TOTAL NUMBER OF GATES

36 9 gates in B/A E
18 gates in B/A F
9 Frontal Gates

2012 TOTAL PASSENGERS

7.7 million

2012 REVENUE GENERATED

\$93 million

TOTAL CONCESSIONS AREA

54,596 ft²

YELP RATING



TERMINAL PROFILE

Active & Businesslike

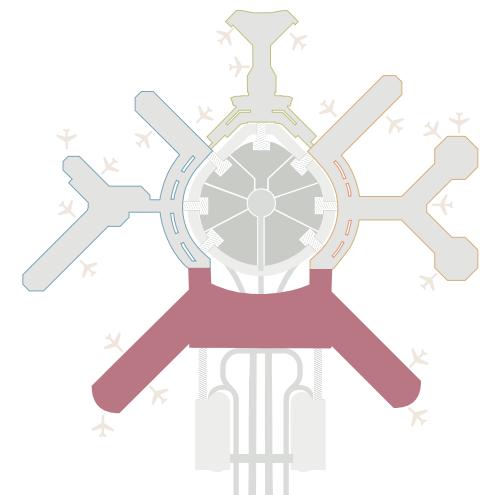
One of the busiest terminals, it's not surprising that this terminal is often crowded. Dressed in blues and grays, it has a more traditional feel than the rest of the terminals.



International Terminal

SFO's International Terminal opened in December 2000. International flights coming in and out of San Francisco are primarily serviced through this terminal.

It yields the highest number of passengers, and generates the highest revenue of all the terminals, due to Duty Free services. The International Terminal includes Boarding Area A (B/A A) and Boarding Area G (B/A G). The BART station, adjacent to the International Terminal also connects the airport with the city of San Francisco.



ALSO KNOWN AS

ITB Boarding Area A (B/A A)
Boarding Area G (B/A G)

The BART stop is located adjacent to Boarding Area G.

DATE OPENED

2000

TOTAL NUMBER OF GATES

28 13 gates in A
15 gates in G

2012 TOTAL PASSENGERS

5.5 million

2012 REVENUE GENERATED

\$165 million

TOTAL CONCESSIONS AREA

87,775 ft²

YELP RATING

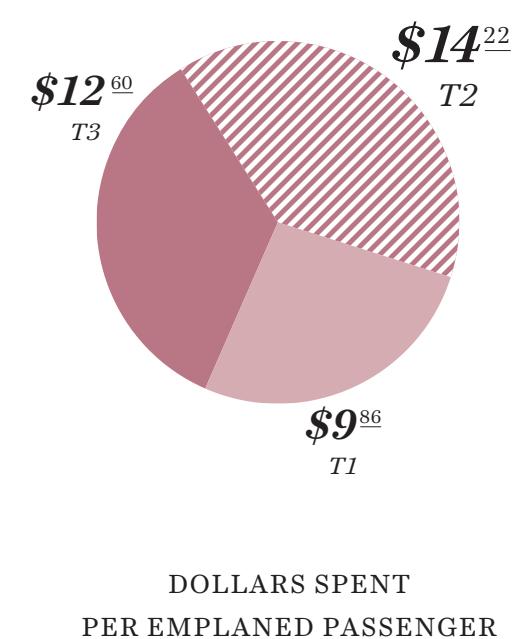
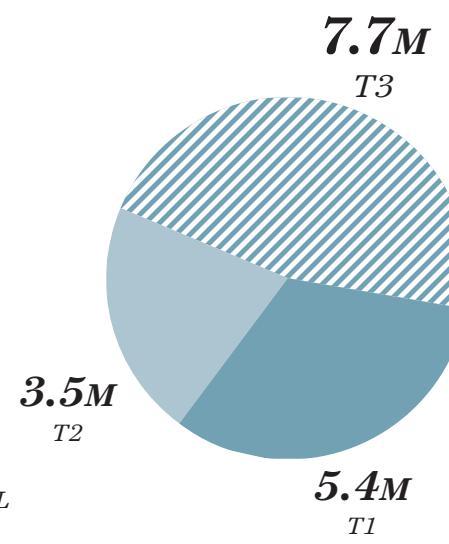
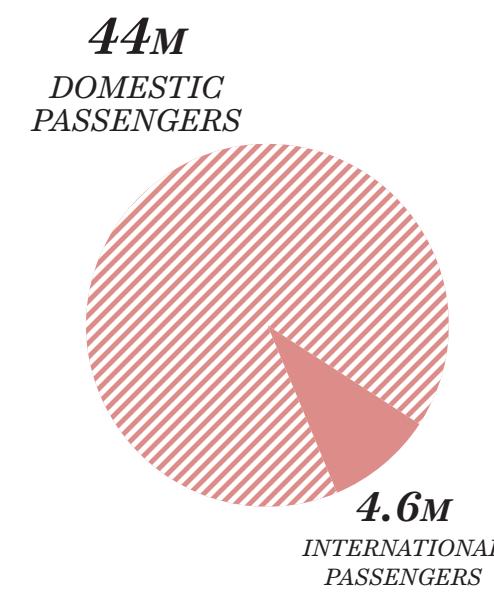
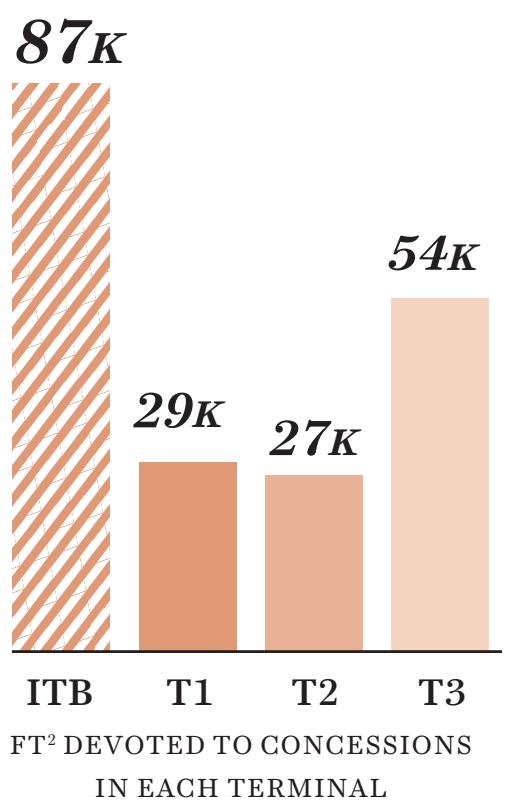
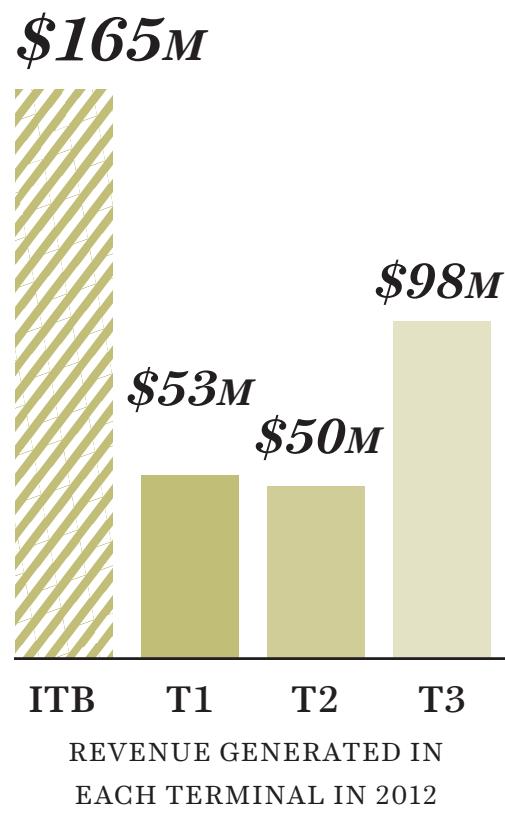


TERMINAL PROFILE

Iconic & Dramatic

The International Terminal in the Main Hall has the greatest volume of all terminals, with very tall ceilings. Most of the space is compartmentalized as the hold rooms are on the Arrivals level and the concessions are on the Departure level.

Revenue at SFO



In 2012, the International Terminal generated the most revenue...

...and has the greatest area dedicated to concessions.

However, SFO primarily services domestic passengers...

...and of its domestic terminals, Terminal 3 had the highest number of passengers...

...but Terminal 2 generates the greatest spend per domestic passenger.



The Passenger Experience



In order to create the best passenger experience possible, it is essential to understand what is important to different types of passengers as they travel through the airport. This section gives an overview of what these different types of passengers might need at various stages in their journey. Getting the fundamentals right is the first step in creating and designing a positive experience at SFO.

In thinking about the passenger journey, it is important to consider that there are three main types of airport experiences: Departing, Connecting and Arriving. Depending on a passengers stage in their journey, they may experience SFO in any one, or all three of these stages.

There are many different types of passengers that travel through the airport. In light of this, interviews were conducted at SFO regarding the passenger experience. Using this data, five major passenger typologies were identified as follows: Leisure, Business, Family, Assisted and Unique Passengers. Their fictional journeys are described in the following pages in order to help identify areas of opportunity for SFO.

Different Types of Travel

The passenger journey is comprised of three major kinds of airport experiences: departing, connecting and arriving. While all passengers will depart and arrive, not all will connect. Additionally some passengers might experience SFO from only one of the vantage points.

Departing and Connecting Passengers typically spend the longest time at the airport and will have greater and more varied needs than the Arriving Passenger. Differences in each of these stages are important to understand as they impact the overall passenger experience.



DEPARTING PASSENGER

This is the first sequence of a passenger experience and likely the one where the passenger has the most concerns. The departing passenger is typically at the airport 1-2 hours in advance of their boarding time.

Anxiety about baggage handling, security, delays, and lengthy queues are typically high on the worry list during the departure sequence.



CONNECTING PASSENGER

The main concern for the connecting passenger is navigation through the airport, particularly if it's a new location and time is of the essence. Connecting times can vary as little as a few minutes to several hours.

Making wayfinding clear and easy is extremely important for the connecting passenger who is trying to board their next flight quickly. For international passengers who may experience longer layovers due to time zone differences, having a wide variety of amenities and activities is important.



ARRIVING PASSENGER

The shortest of all sequences, the arriving passenger usually zips through the airport to the exit as quickly as possible, particularly if loved ones are meeting or picking them up. Amenities on the arrivals level should be seen as an underutilized opportunity. Also consider the importance of the meet and greet areas for these passengers. Basic necessities such as restrooms should not be ignored.

Passenger Typologies

1 | LEISURE PASSENGERS

Leisure passengers travel for pleasure, which can range from adventure to relaxation. Some people like to travel in groups, while others may enjoy more independent travel.

Leisure passengers can include retirees, luxury seekers, budget travelers, and honeymooners. They can be found in all terminals and while most begin their journey at SFO, many are connecting passengers. According to a survey conducted in 2012, over 40% of passengers flying through SFO are traveling for pleasure.

Many leisure passengers are excited to be traveling, but are frequently less experienced fliers and may have even higher levels of anxiety than other passengers. While this group may be more relaxed once past security, their inexperience can cause anxiety, especially when navigating the front-end experience of arrivals, ticketing and checkpoint.

2 | BUSINESS PASSENGERS

Business passengers account for 33% of the total number of passengers flying through SFO—a number that has steadily increased over the past three years.

As technology has become ubiquitous in everyday life, today's business passenger is likely to be connected via varying forms of technology while traveling. As a result, airports need to be more connected both in software (e.g. available Wi-Fi, social media, apps and websites) as well as hardware applications (e.g. adequate power outlets available for passengers).



TYPICAL NEEDS:

Having an enjoyable time and not missing that flight to somewhere special!

COMMON FRUSTRATIONS:

Lines are a waste of time. The security line in particular is a big downer and a source of anxiety but beyond that, leisure passengers are ready to have a good time. International travelers may be frustrated with navigation through an airport trying to make connecting flights. Another frustration can be the lack of amenities that appeal to their interests.



TYPICAL NEEDS:

Getting to their destination on time and being able to work while traveling.

COMMON FRUSTRATIONS:

Not enough outlets available to recharge mobile devices. Cramped, noisy seating areas. Business passengers have little patience with anyone or anything that impedes the process of getting to their ultimate destination, most of all flight delays.

3 | FAMILY PASSENGERS

Family passengers travel in groups, often with young children and sometimes with grandparents. The type of travel that family passengers do is usually leisure travel, the majority of which revolves around the school year, with higher frequency during winter and summer breaks.

Family passengers responsible for the group are typically more tense than the average leisure traveler as they have to corral family members, make sure everything is in order, and see that they all get where they need to be on time.



TYPICAL NEEDS:

Keeping track of all members of the group and making sure nothing and no one is forgotten.

COMMON FRUSTRATIONS:

Dealing with many things at once. Having to juggle family members and baggage with security and other needs, like bathroom breaks.



4 | ASSISTED PASSENGERS

Passengers with special needs can include customers with physical, hearing, visual or cognitive disabilities, and they often require assistance while traveling. Assisted passengers may be in a wheelchair or have impaired vision and/or hearing.

There are also passengers with developmental disabilities, such as autism spectrum disorder. These passengers face challenges in the entire journey and may have difficulty with the screening process.

TYPICAL NEEDS:

Getting to and from the boarding area. Orienting to new areas and locating accessible amenities.

COMMON FRUSTRATIONS:

Being singled out due to their disability or being unable to navigate independently because of a lack of ADA facilities can cause frustration and embarrassment. Assisted passengers may also experience frustration with the extra waiting that occurs as a result of needing assistance (e.g. waiting for wheelchair assistance at the gate, difficulties getting equipment through security.)



5 | UNIQUE PASSENGERS

Unique passengers are those who don't necessarily fit into the other categories. They may require special assistance, not due to any disability, but because of their status (celebrities or high profile politicians) or because they are traveling with animals. This group can also include passengers who have phobias of flying, or speak very little English, all of which may also require assistance.

TYPICAL NEEDS:

Getting to the boarding area without creating a disturbance or too much attention.

COMMON FRUSTRATIONS:

Disorientation in a new place, anxiety at not knowing where to go.



Don, Jane & Carol

LEISURE PASSENGERS

Don, Jane, and Carol are all in their early 40's and traveling to Los Cabos for a two week vacation. As leisure passengers, they've waited all year for this vacation and the party starts the minute they've left their homes.

What They Want

POSITIVE INTERACTION

People make the place and having helpful, friendly people around makes all the difference!

ENTERTAINMENT

Being on leisure travel means they have time and a desire to be entertained.

Events, shows and art are good distractions from waiting

Opportunities for SFO

VARIETY

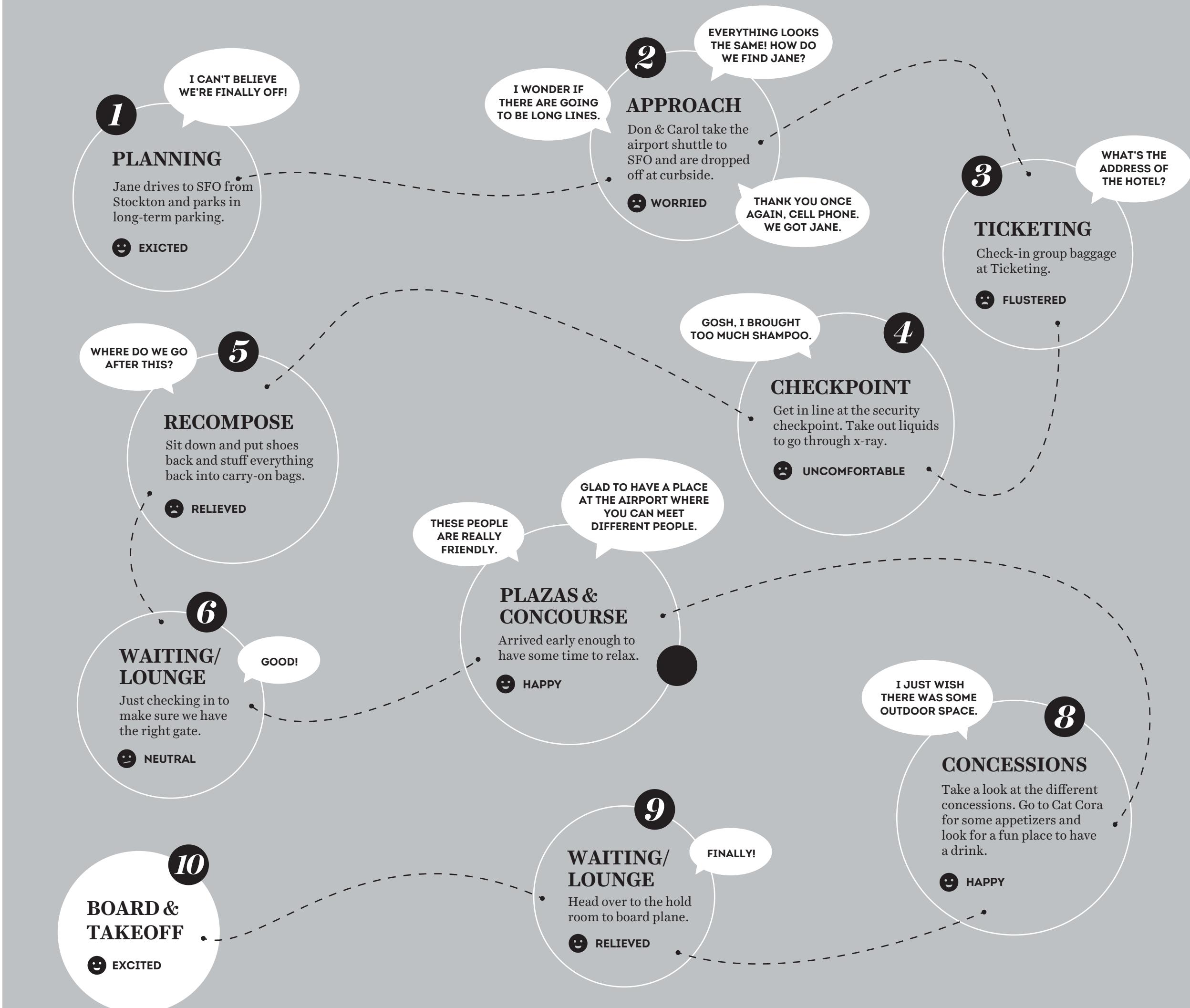
Consider having a variety of services and concessions that can appeal to different types of travelers.

TECHNOLOGY

Add wait time technologies at security checkpoints.

COMMUNITY SPACE

Consider having more social spaces versus quiet spaces when planning seating areas to appeal to a wider variety of passengers.





Mark

BUSINESS PASSENGER

Mark is in his early 30's and works in advertising. He's traveling to Seattle for business and flies there every couple of months. As a frequent flier, he's got his airport routine down pat so the only thing that can produce delays in his journey is the weather.

What Mark Wants

THE WHOLE PACKAGE

A generation ago, the decision about which airline to fly was based primarily on the airline itself. Today, Mark considers the entire airport experience, leading him to choose an airline based on the terminal, the miles, the credit card, etc.

CONNECTIVITY

Having wireless access and being able to plug in is extremely important. Staying connected helps him keep up with work even through flight delays.

Opportunities for SFO

SPEED

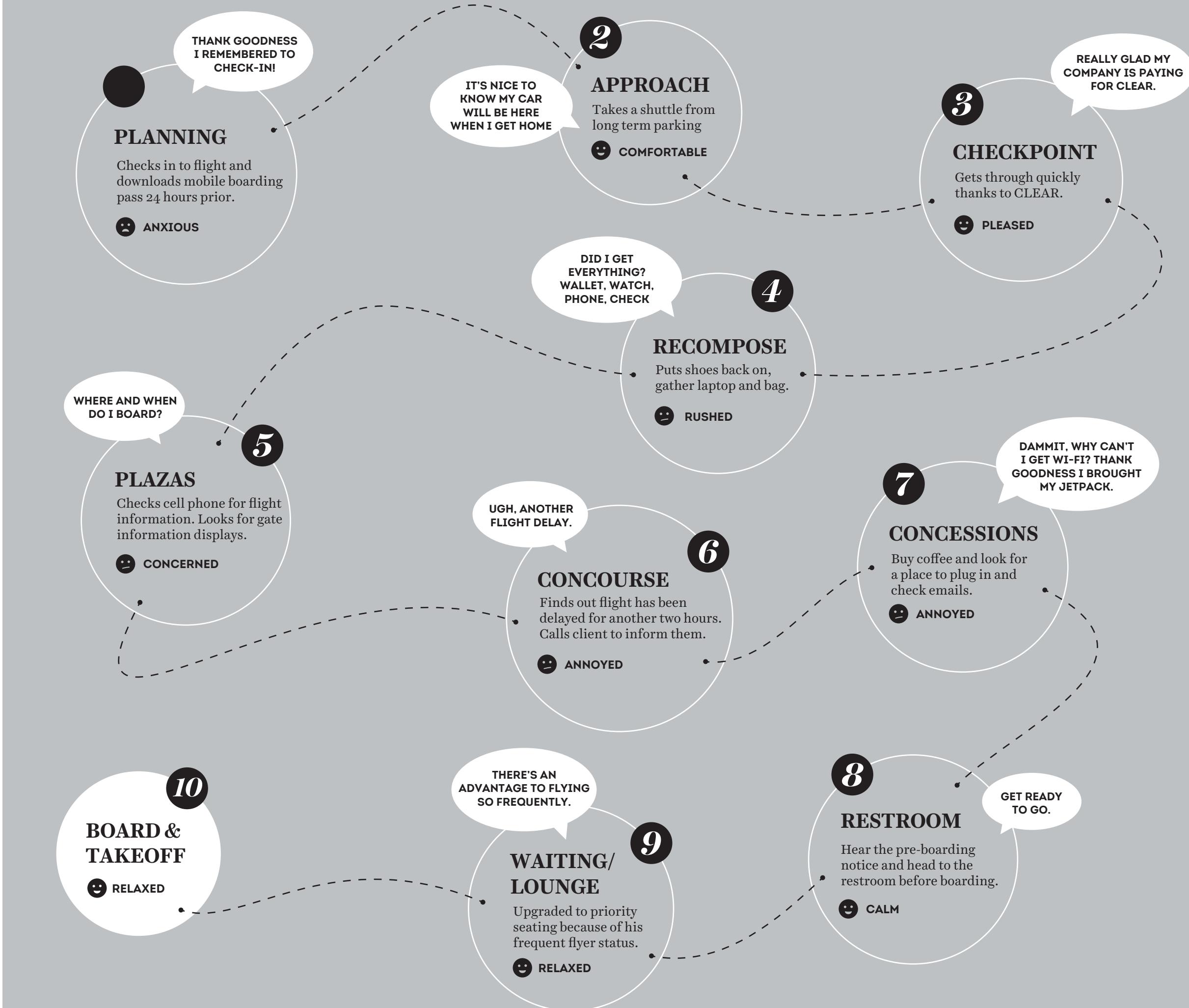
Consider different ways of expediting the Business Passenger's journey through the airport.

ALWAYS WORKING

Consider different needs of the Business Passenger such as network connectivity, power outlets, and different types of furniture for work in the various areas of the airport.

AWARENESS

Inform Business travellers about unique business amenities SFO provides.





Kevin

FAMILY PASSENGER

Kevin is in his late 40's and is traveling with his wife and two kids (one age 4 and the other a newborn) to Vietnam to visit family for two weeks. As a family passenger, there is more stress involved with traveling because there are multiple travelers and everyone has different needs.

What Kevin Wants

KID-FRIENDLY

Just being able to sit still is a treat so having space for a group of four to rest and collect themselves is important. Also, child-friendly areas are a welcome addition that provide peace of mind in a busy environment, especially when there are activities to keep the kids distracted during long waits.

SECURED BELONGINGS

Not only does Kevin have to coordinate people, but also belongings. Keeping an eye on the bags and making sure everyone has it together after security and before boarding becomes a more difficult task.

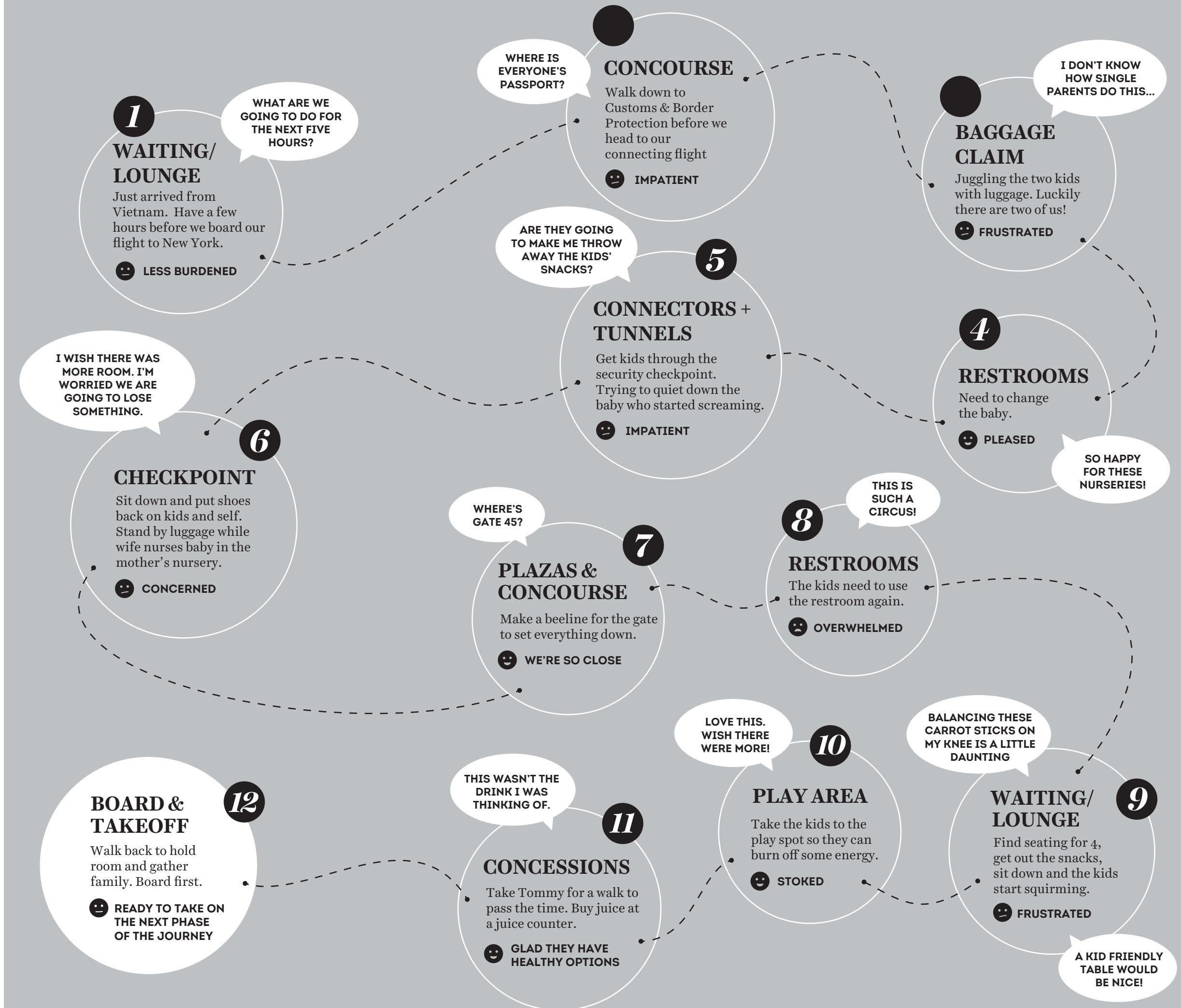
Opportunities for SFO

FAMILY NEEDS

Consider various sizes and needs of families when planning out queuing and waiting spaces, e.g. stroller sizes, entertainment for kids.

TECHNOLOGY

Consider integration of technology to enrich the passenger experience for kids and adults.





Roberta

ASSISTED PASSENGER

Roberta is an energetic 67 year-old but needs wheelchair assistance when walking long distances. Today she is flying to visit her granddaughter in Florida for one week. Though the trip has been planned for several months, being uncertain who will assist her at the airport makes Roberta nervous.

What Roberta Wants

Opportunities for SFO

THOUGHTFUL ATTENTION

Roberta is accompanied by airport personnel while in the terminal. Her experience is easily affected by her interactions with those who are assisting her. It is important that all services and spaces are accessible.

BEING COMFORTABLE AND INFORMED

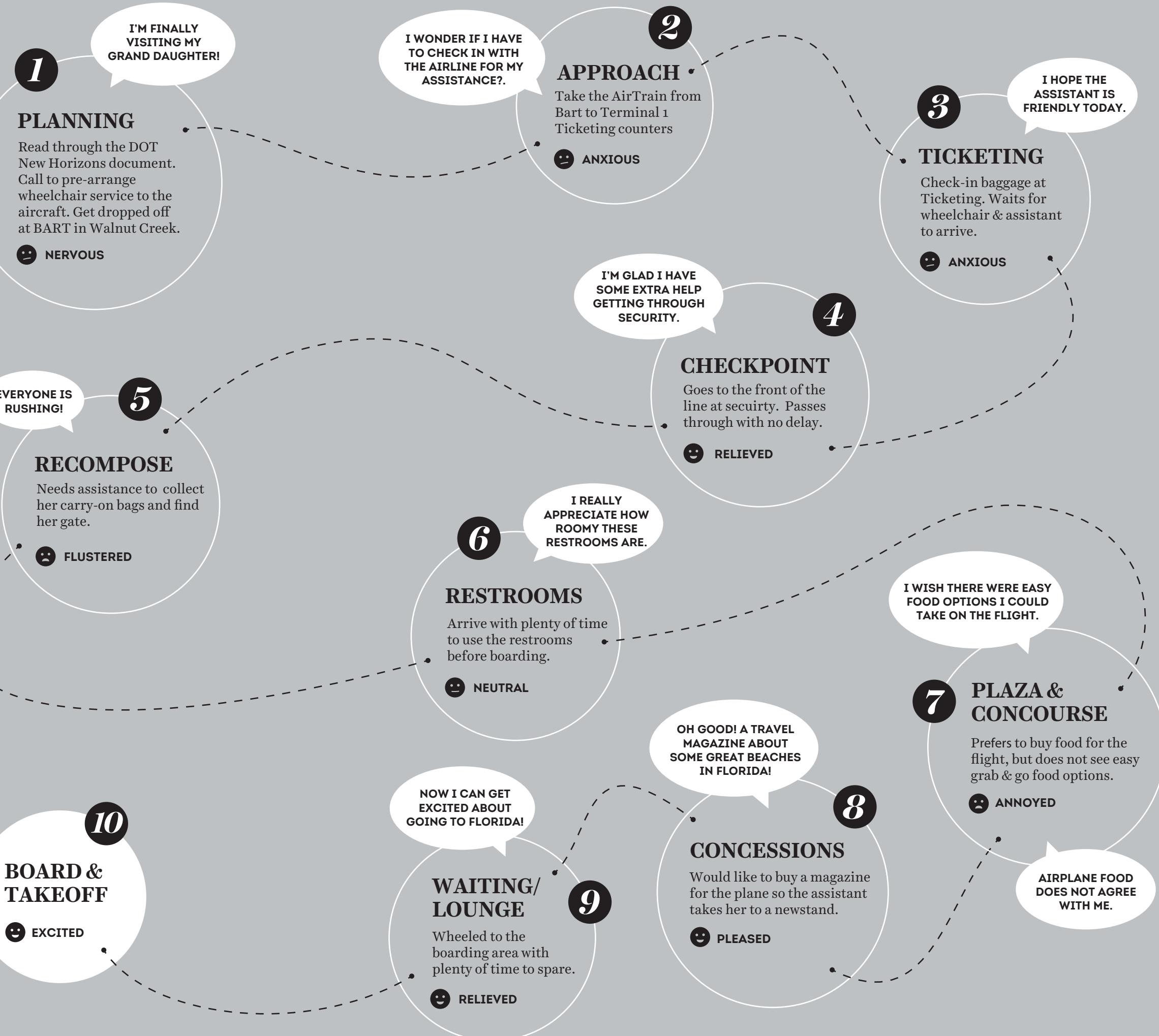
Roberta can feel vulnerable when in the hands of another. She has come to greatly appreciate when she is kept informed of any changes or obstacles by someone who is calm, friendly and informed.

WHEELCHAIR NEEDS

Plan out the journey for passengers in the wheelchair and look for areas to make improvement. (e.g. storage of wheelchairs, separate line through Checkpoint, etc.)

TECHNOLOGY

Consider integrating private booths with voice over IP or Skype-like video communications for passengers with hearing disabilities to communicate with sign language to either an airline or airport representative.





Mitch

UNIQUE PASSENGER

Mitch is traveling to Chicago to visit his parents for the holidays. He is traveling with his dog, Rocky. Rocky is very old and needs complicated medication so Mitch prefers to bring him rather than worry about finding a trusted caretaker.

What Mitch Wants

ABILITY TO CUSTOMIZE THE EXPERIENCE

Unique needs require a variety in choice. Having different scales of retail and food and beverage can be the first step in giving people choices.

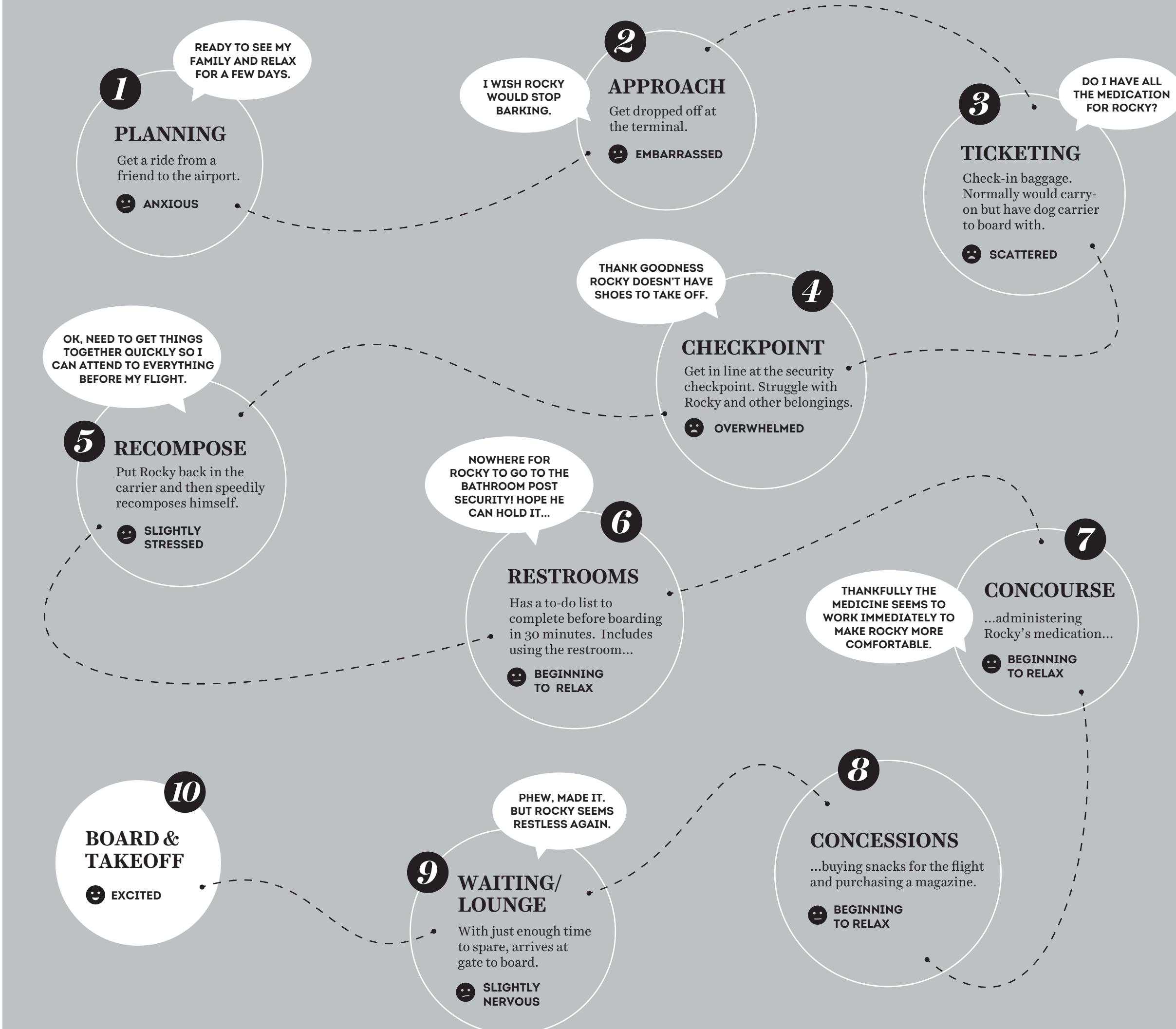
PRE AND POST SECURITY

Having a variety of spaces available pre- and post-security and on the arrivals level is important. Helpful areas might be pet relief areas or different types of concessions.

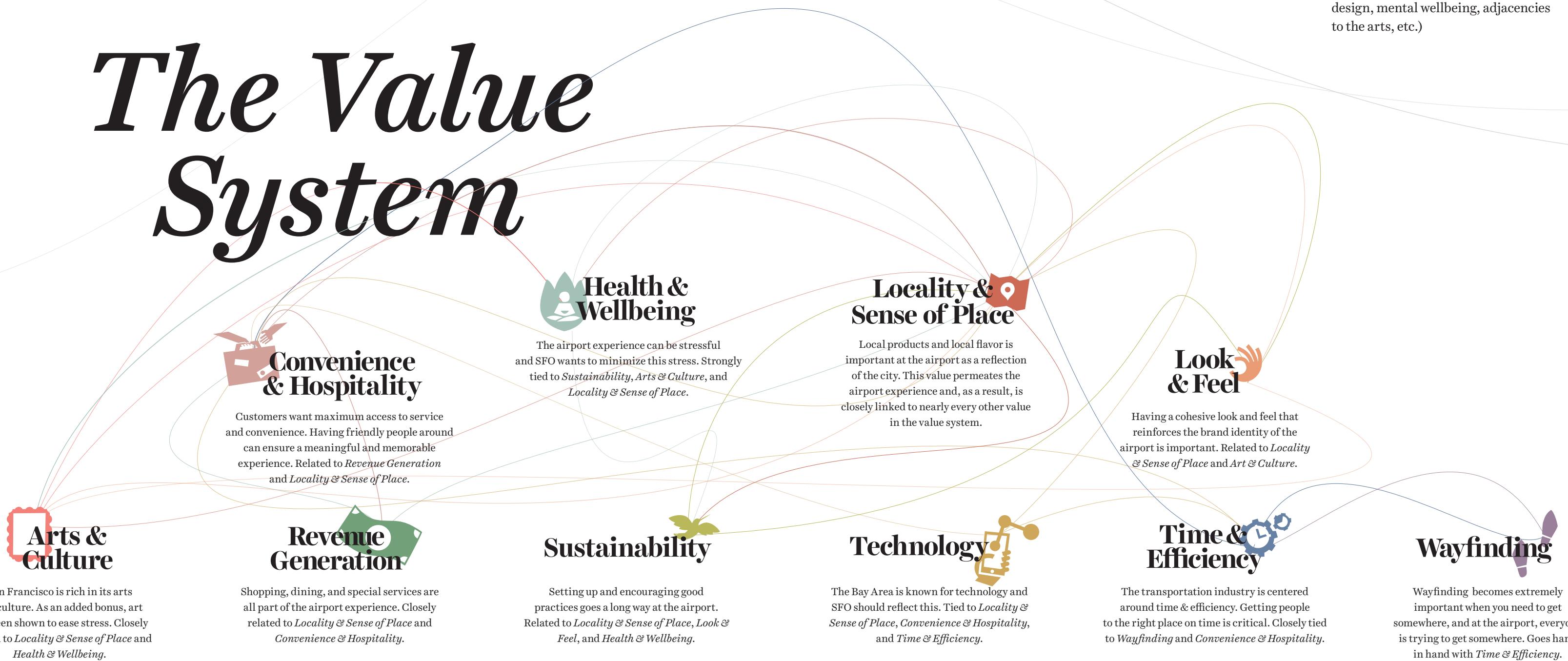
Opportunities for SFO

UNIQUE NEEDS

The opportunities for unique passengers are as varied as they are. Consider pet relief areas, quiet spaces for passengers who have anxiety about travel, assistance for those traveling with difficult or large luggage and private areas for public figures.



The Value System



Through interviews and workshops with SFO employees and executives, certain values surfaced as the most important principles that guide the airport in their goals. These values form the Value System which addresses key issues at the airport that all future design and services should address. These values surface at every moment of a passenger's journey through the airport and strive to inform not only programmatic concerns, but conceptual comforts as well (such as healthy building design, mental wellbeing, adjacencies to the arts, etc.)

Locality & Sense of Place

Creating a unique sense of place is a value that relates to all other values. Being authentic and capturing the local flavor of San Francisco is an essential concept for design at SFO.



VALUES

Locality & Sense of Place

Revenue Generation
Convenience & Hospitality
Wayfinding
Time & Efficiency
Arts & Culture
Health & Wellbeing
Sustainability
Look & Feel
Technology

LOCALITY & SENSE OF PLACE



THE ACT OF PLACEMAKING

To most people, an airport conjures the image of a characterless space, a kind of maze they must try to navigate. In rare cases, people recall fond airport experiences: the old Santa Barbara terminal open to fresh air, the green walls and interesting retail at the Portland International Airport, the museum and resting spaces placed beneath relaxing ambient films in Amsterdam's Schiphol airport. In general, however, the airport remains etched in our memory by the deprivation of place.

WHAT KIND OF PLACE IS THE AIRPORT?

The airport is a highly specialized place, fit for a specific purpose. As a hub of transit set apart from the city, the airport is a place of transition. It bridges its own region with the world, and while the airport's sense of place is largely informed by the area to which it belongs, it is like no place else — except other airports. Owing to both its isolated location

and concentrated activity, the airport tends to become its own mini-world and marketplace. It is a transitional zone from the passenger's point of view as well. People going through the airport are in-between places and have left behind for a time their own homes and everyday habits.

Airports are also inherently innovative, often pushed in that direction by the need to keep pace with changing business models, aircraft, and operational needs and technology. As a cultural type, they are sometimes consciously futuristic - as with Eero

Saarinen's TWA Terminal at JFK and, more recently, the international airports in East Asia and the Persian Gulf. More often, airports reflect a global or cosmopolitan impulse - "gateways to the world" - yet with an increasing desire to be "local."

Airports are buildings of considerable volume. This aspect of scale paired with the complexities of security and check-in generate two main kinds of spaces: knots of high density at check-in, security, gates, and baggage claim, and vast corridors that link these and other crucial journey moments. Also

singular to the airport experience is that once past security, you remain there until either boarding a plane or leaving the building all together. These features tend to be disorienting but are also necessary and universal to airport design. The question is, on the one hand, how to make the passage through these spaces easier and more enjoyable and, on the other, how to distinguish SFO from other airports.



WHAT IS PLACE?

As a quality and value, place describes the way different things come together into a distinct whole, with coherence and character. More than any one thing, place refers to how an underlying purpose or vision guides and connects different constituent elements, binding them together by what they share, and by what makes them distinct from other places. It is foundational and pervasive, rather than cosmetic. As place encompasses all of the other values, it is considered a primary value. The identity and brand of SFO grows out of the airport itself and the degree to which it is felt by people as a real place. "Sense of Place" is a measure of the success

PLACE IS FOUNDATIONAL AND PERVERSIVE, RATHER THAN COSMETIC.

of the place and the outcome of successful place-making. All of the design elements jointly partake in the process of creating a place: the choices in structural design, materials used, the qualities of air and light. With this foundation, art and culture play a role aesthetically, anchoring the airport in relation to the San Francisco Bay Area, and guiding the

passenger's journey within the airport by offering distinct visual cues. Often neglected in airports, the inclusion of nature—be it views of the sky, hills and city, or plant life - allow people to synchronize and imagine themselves outside of the restricted confines of the airport. Bringing nature into the airport counters the containment and claustrophobia of being locked in a terminal between gate and flight. Also, one of the hallmarks of San Francisco is its natural beauty, and its people's own appreciation and commitment to the environment and sustainability. This incorporation draws this local spirit into the airport.

SFO T2 AS AN EXAMPLE OF PLACE-MAKING

Given its success, we can look at SFO's T2 as an example of successful place-making in an airport context. From the start, the terminal is clean and open. With natural light filtered through the clerestories and low velocity circulation, there is a basic ease to the space. Passengers flow through the corridors, guided by intuitive visual cues that depend less on signage. Even the security checkpoint maintains continuity with the general feel of the terminal in its inclusion of inspiring art. Suspended over the recompose zone just beyond the checkpoint is Janet Echelman's "Every Beating Second." Visible from the security line, the piece serves to orient and draw passengers forward, as well as to welcome and soften the transition. This elasticity, the ability for the differentiation of spaces and use, builds a stronger place and identity.

The design choices for the restrooms—the use of real stone, earth tones and efficient fixtures add to the cleanliness and elegant simplicity of the space and in turn, the overall design aesthetic of the airport. The choice of locally inspired retail reinforces the sense of place. Whether through local foods, crafts, art and design, there are many ways of fostering links to the Bay Area's cultural heritage while enriching the airport experience. These elements add a sense of continuity and care to the space and are points of recognition.

"T2 strives to create a facility that provides travelers with an easy and memorable experience while capturing the spirit of the local SF community."

— SAN FRANCISCO INTERNATIONAL AIRPORT



THE HIGHLINE, NEW YORK CITY

Vignettes of New York City along a pedestrian pathway

The highline is an aerial greenway built along the former elevated New York Central Railroad spur called the West Side Line. Its enormous popularity in New York has made the highline an ideological touchpoint in new urban planning and community building. The sharply curated materiality and variety of types of spaces make the highline an easily identifiable landmark in the city. A similar meandering park concept could apply to airport design and works quite well with the terminal and pier status quo. Consider too, pairing it with the idea of a parcour, intended on making the journey fun *and* healthy.



PROXY, HAYES VALLEY, SAN FRANCISCO

Temporary engagement in a permanent location

Hayes Valley has now become a must-do for any visitor to San Francisco and has also become the home to a temporary two-block project filled with shipping containers called Proxy.

Proxy allows the city to explore different urban uses such as food, art, retail and events while also serving as a transition to more permanent housing in the future.

The shipping containers currently house a cafe, biergarten, and ice cream shop.



Strategies for implementing Locality & Sense of Place

1

AUTHENTICITY

Focusing on the opportunities to provide an authentic experience is the number one strategy for creating a sense of place. Focus on creating real experiences, not derivative caricatures. Design to concept and re-test each design against the concept. Create spaces for pause and gathering that convey the projects regional flavor. Consider the Napa Farms marketplace. The materiality and layout of the space speak to what we recognize as a high end indoor farmers market, yet the space isn't mimicking what already exists.

2

MATERIALITY

3

IMAGERY AND GRAPHICS

A sense of place is informed greatly by tactility and visual aesthetics. Rather than using materials that are valued solely for durability, consider incorporating materials that speak to a place. Perhaps it's stone from a local quarry or local reclaimed redwood. The venues for obtaining these types of materials have greatly expanded in recent years and should be taken advantage of.

4

EMOTIONAL DESIGN

5

Anticipate the emotional state of the passenger at each point in the journey. Design a response to these states through the filter of your concept as much as possible.

ROBIN CHIANG

ROLE AT AIRPORT: Member of the DRC, Principal at Robin Chiang and Co.

WHAT ARE SOME LOCAL FEATURES OF SAN FRANCISCO THAT CAN BE FEATURED AT THE AIRPORT?

San Francisco is celebrated for its setting, topography and iconic monuments, but there's opportunity in focusing on the secondary features of the city.

WHAT ARE THE CITY'S SECONDARY FEATURES?

Good food, healthy lifestyles, diversity of neighborhoods, creative regional businesses, and the fresh air.

HOW DOES THE DIVERSITY OF NEIGHBORHOODS GET INCORPORATED IN THE AIRPORT?

SFO has already been doing so with the difference between ITB (which is a classic example of high tech) and T2 (a sleek interpretation of modernism) which allows passengers to visit different looking and feeling environments within one airport - instead of having all buildings look uniform.

Play up on the positive aspects of different styles of architecture. Architectural diversity is a positive characteristic if a building is spatially functional.

YOU MENTIONED CREATIVE REGIONAL BUSINESSES EARLIER. WHICH ONES ARE YOU REFERRING TO?

The most famous are tech and biotech companies. But there are also design and craft companies including a garment industry.

CAN YOU ELABORATE ON THE FRESH AIR?

Plants are associated with fresh air. The plants look beautiful and make us feel better - in a way that architecture or good design cannot.

IS THERE ANYTHING ELSE THAT PEOPLE SHOULD BE AWARE OF AT THE AIRPORT?

A SFO program that deserves more praise and exposure is the Information Booth. Volunteers are mostly retirees who know a lot about the area as well as SFO. Having a personal touch is friendlier than signs.



Revenue Generation

Revenue generation and development at SFO is crucial to the health of the airport as a whole. Non-airline revenue is the life blood of a functioning airport. The balance and rhythm of commercial and non-commercial space is especially important to the successful development of a thriving airport experience.



VALUES

- Locality & Sense of Place
- Revenue Generation**
- Convenience & Hospitality
- Wayfinding
- Time & Efficiency
- Arts & Culture
- Health & Wellbeing
- Sustainability
- Look & Feel
- Technology

REVENUE GENERATION

REVENUE GENERATION AT SFO

As one of the busiest international airports in the US, SFO has made a commitment to providing an excellent passenger experience which can be tied to the concessions program. Non-airline revenue generation at SFO can be broken down into three main categories: Food and Beverage, Retail, and Services and is overseen by the Revenue Development group. Other revenue generation, such as parking — SFO's largest source of revenue — is overseen by a separate group, Aviation Management. The SFO Revenue Development team is

constantly searching for ways to raise the standard and provide innovative solutions that will make SFO unique. For the Revenue Development team, customer experience is the number one priority. Getting the passenger onto the plane happily and expeditiously is of utmost importance. It is the job of Revenue Development to ensure the passenger has what they need and also provide the type of concessions that make the experience exciting, unique and memorable.



LOCAL FOOD AND BEVERAGE

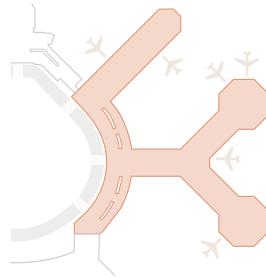
The Food and Beverage program at SFO is a leader in its field. True to the nature of San Francisco, the SFO Revenue Development team has prioritized working with local businesses, supporting local community and bolstering a unique sense of place at the airport. In 2003, the airport began a domestic program that focused on outreach to the local community in an effort to encourage the presence of more local vendors at SFO.

Virtually every Food and Beverage establishment at SFO has a storefront in the city of San Francisco. This program also worked with small 'mom and pop' restaurants to establish lease conditions under which they could flourish. Rent for Food and Beverage

leases is based on an adjustable Minimum Annual Guarantee (MAG) or tiered percentage rent. Essentially, the greater the sales tenants generate, the more rent the tenant pays. Food and Beverage rent is set at the initial stage of the competitive process to have potential companies focus on their proposed concepts, operation, business plan and customer service. This program has been enormously successful, with revenue increasing by 150% in the first 8 years.

In addition to encouraging more local businesses at SFO, the Revenue Development team has also pushed innovative food and beverage concepts at the airport. Napa Farms Market and Deli in Terminal 2 is an excellent case study regarding innovative food

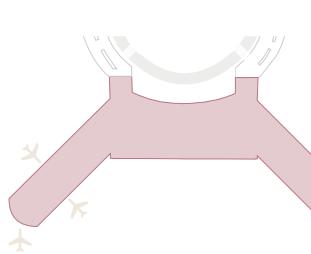
and beverage concepts in an airport environment. While there remains a conceptual connection between this food and beverage tenant and the overall terminal, it also feels like a unique destination due in part to a feeling of authenticity. Early critics worried, though, that the market hall model wouldn't apply to the airport passenger and expressed concern about the location - close to the security checkpoint and not within easy gazing distance of gates. However, Napa Farms continues to outperform other food and beverage concession at SFO - earning, along with Lark Creek Grill, 43% of the total revenue generated at T2. This exciting outcome reinforces that working with local business and taking chances on unique concepts pays in the end.



TERMINAL 1		
F&B	\$34.7M total	/ \$6.44 per person
RETAIL	\$18.4M total	/ \$3.41 per person
DFS	\$84.6K total	/ \$1.02 per person



TERMINAL 2		
F&B	\$34.2M total	/ \$9.76 per person
RETAIL	\$15.6M total	/ \$4.46 per person
DFS	--	--



TERMINAL 3		
F&B	\$65.9M total	/ \$8.53 per person
RETAIL	\$31.5M total	/ \$4.07 per person
DFS	\$589K total	/ \$1.80 per person

INTERNATIONAL TERMINAL		
F&B	\$34.4M total	/ \$6.25 per person
RETAIL	\$36.9M total	/ \$6.70 per person
DFS	\$94M total	/ \$21.95 per person

emplanned passengers per year (millions)

REVENUE GENERATION DIFFERS BY TERMINAL

Each terminal is different in terms of revenue generation. It's important to make the distinction between revenue volume and dollars spent by passengers. T3 might be a money maker in terms of overall revenue, but the passenger spend for food and beverage and retail is lower than that of passengers at T2. In the International Terminal, duty free shopping brings in tremendous revenue but is low elsewhere. International passengers, especially those from Asia, spend a lot more at airports with a focus on luxury goods purchased from duty free shops (DFS), hence the high passenger spend on DFS in the international terminal.

NATIONALLY FOCUSED RETAIL

Retail is more nationally brand-focused than Food and Beverage, with the largest drivers of revenue being the major newsstands. In an effort to provide a locally driven passenger experience while still gaining the benefits these large names bring, SFO has started a program that pairs the national brands with local companies. The large retailers have a mix of competitive MAG's and percentage leases and are encouraged

to fill their subleases with local shops to help provide an enhanced passenger experience. The addition of a 'pop up' shop, meant to be a short-term, rotating lease for locally owned San Francisco retailers, will be making its appearance at B/A E in 2014. This type of new retail experience is crucial in evolving the conversation and providing experiences that foster surprise and delight while concurrently bolstering the Bay Area economy.

While the average domestic passenger spend is approximately \$10 per person, some international passengers see the airport, and specifically duty free shopping, as an opportunity to do some serious shopping. In an effort to provide duty free shops with the space and resources they need, while continuing to strive for balance, SFO requires duty free shopping to have a certain number of Disadvantaged Business Enterprises in their subleases as well as demanding a fiercely competitive MAG.

SERVICES AS A REVENUE SOURCE

Services can be loosely defined as the revenue generating entities that don't fall into the Food and Beverage or Retail categories and include luggage cart rentals, wi-fi services from customers' selected cellular provider, pay phones, shoeshine, baggage storage, luggage wrap, travel agency, business center services, banking and Rental Cars—with the Rental Cars being the largest generator of revenue under the management of concessions. These leases and relationships with SFO vary

widely and are uniquely tailored to the individual service. It is important for designers to take into account the variety of physical spaces these services require.

Sustainability

SFO has also been a leader in integrating sustainable requirements into its leases - particularly in requiring Food and Beverage tenants to compost and provide disposable compostable materials. In addition to materials, SFO encourage food preparation to be part of the

experience and requires tenants to source hormone-free naturally raised meats and vegetables. Many of these types of precedents were started during the renovations at Terminal 2 but have now become a standard at SFO. This type of innovation is what makes SFO stand out as a leader in outstanding passenger experience.

LOOKING TOWARDS THE FUTURE

Creating a synergy among the various vendors at SFO is the necessary component for a successful concessions program. Location, look and feel, operations and the experience of the vendor all play a huge role in doing this successfully. Designers have the opportunity to shape space in a way that maximizes the successes of concessions without detracting from the overall airport experience. Terminal 2 has been successful with its unconventional planning and decisions about leaseholds. By pulling concessions away from the exterior walls it has created an open, market-like atmosphere in which passengers have a range of quality options within gazing distance of gates. Attention to customer hospitality will not only serve to make passengers happier but will also allow the airport to continue to enhance revenue generation.

DINING TERRACE WESTFIELD, CENTURY CITY

Indoor/Outdoor dining which appeals to different demographics

The newly renovated Dining Terrace at Westfield Century City has managed to evolve beyond the typical conception of food court dining to better appeal to the demographic it serves. With an outdoor/indoor connection and architectural landscaping throughout, the new dining terrace appeals to the sophisticated consumer and has changed the perception from 'have to' into 'want to'. Creating such an inviting common space benefits not only Westfield's image, but all the individual concession's as well.



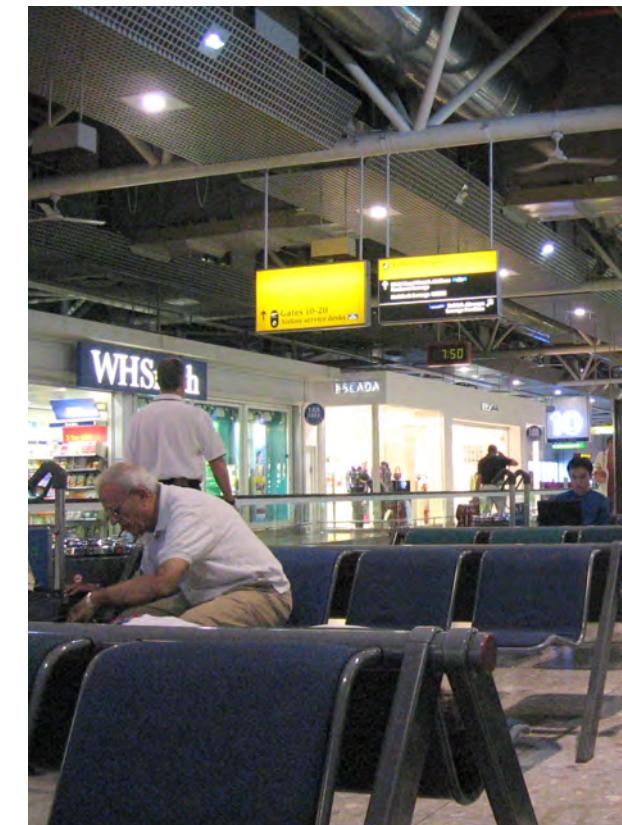
HEATHROW AIRPORT, LONDON

Ranking #1 in retail

In an April 2013 article in Forbes Magazine looking at the world's best airports, London Heathrow ranked at the top in the category of shopping.

Seating for waiting passengers is located amongst restaurants, cafes and retail shops rather than by the airfield. FIDs are found throughout the space with updates noting boarding times. As soon as a boarding time is listed, passengers proceed to their gate, and not a minute before.

The airport has worked to dispel gate glue by not providing seating by the gates, and encouraging lingering around food and beverage and retail space instead.



Strategies for Revenue Development

1

STOREFRONT EXPOSURE

Aim for 100% exposure of retail opportunities for 100% of passengers. Exposure is the greatest advertisement, make sure that all concessions spaces have visibility to passengers walking by.

2

CREATE TENANT NEIGHBORHOODS

Create a variety of tenant neighborhoods by considering the mixture of tenant leases and how they relate to one another. Provide tenant mix to appeal to passengers with short and flexible schedules. Provide a mixture of budget conscious and brand conscious tenants.

3

PARK-LIKE SEATING

Integrate seating throughout terminals that has views to gates and concessions. The goal is to allow people to move freely and flexibly, without losing sight of their gate.

4

TOWN CENTER DESIGN

Balance natural elements with built elements. Use exhibits and educational elements to reflect the region and build a sense of place. Ensure that tenant concessions fit within the overall architectural look and feel.

5

DIGITAL SHOPPING

Digital shopping technologies are beginning to pop up everywhere. Whether it's a great user interface on www.flysfo.com or an actual digital shopping wall in the holdrooms where customers can use their smart phones to purchase products in the airport, digital experiences can enhance revenue for airport retailers and create a buzz among customers.

6

APPROACH TO BRAND

Manage advertisements in a curatorial manner to avoid the 'Times Square' effect. Manage tenant signage to maximize exposure and visibility in a way which reinforces overall environmental quality and calm.

NANETTE HENDRICKSON

ROLE AT SFO: Former Senior Principal, Property Manager

CAN YOU GIVE US A LITTLE BACKGROUND ON THE CONCESSIONS REVENUE PROGRAM AT SFO?

There are three main categories for revenue generation at SFO:

1. *Retail*
2. *Food & Beverage*
3. *Services*

Food and Beverage is very local driven. Retail has more of a national brand focus and Duty Free is a whole other animal. Services include advertising, ATMs, SmartCartes and rental cars. Rental cars are our #1 source of revenue.

HOW DO THE CONCESSIONS AT SFO DIFFER FROM OTHER AIRPORTS?

SFO is the leader in getting local businesses involved. We started a program in 2003 to get some of the smaller businesses involved and it has increased revenue by 150%.

We have also put a greater emphasis on sustainability. Businesses need to have compostable products and if there's a grill, it needs to be open. There are more fresh, organic vegetables and low phosphate detergents being used. The Food & Beverage program is well-known now; a lot of people ask us about it and want to come see it.

HOW CAN BUSINESSES AT SFO INCREASE REVENUES?

The #1 priority is the Customer Experience. We need to satisfy customer needs first.

WHAT ARE SOME ASPECTS OF THE CITY THAT CAN BE CELEBRATED AT THE AIRPORT?

There's the Bay and the Marin Headlands. We talk a lot about greenery and trees but it would be great to incorporate some of the water as well.

San Francisco has a coolness factor with all their different neighborhoods, there's a lot of diversity in such a small place.

WHERE DO YOU SEE REVENUE GENERATION GOING?

There needs to be more synergy between retail and food.

Circulation is a key factor for revenue generation and certain areas of the airport have great circulation (where everything is visible) while other spaces struggle. You need to be able to see everything everywhere.



Convenience & Hospitality

Elements that make up convenience and hospitality at SFO are reducing anxiety and stress, leveraging operational systems that allow people to meet their basic needs, and providing a service model that borrows from the hospitality industry. It is also implicit that these values apply to all passengers and are not reserved for premium members only. In order for SFO to reach its goal of being the number one ranked airport, this value needs to be at the forefront of all things operational and design-related.



VALUES

Locality & Sense of Place

Revenue Generation

Convenience & Hospitality

Wayfinding

Time & Efficiency

Arts & Culture

Health & Wellbeing

Sustainability

Look & Feel

Technology

CONVENIENCE & HOSPITALITY

REDUCING STRESS AND PROVIDING CONSISTENT SERVICE

Reducing passenger stress and anxiety is of utmost importance for fulfilling the goals of providing an efficient, convenient and service oriented experience at SFO. Good communication is the key element to any great service experience and needs to be oriented towards not only providing essential information, but doing so in a way that considers the mental and emotional needs of passengers. Fine hotels are adept at this. The customer is never left in confusion - wondering where they should go or what they should do. Instead their questions are answered before they are even asked. Often this type of dynamic customer service is the direct result of a robust staffing ability and quality customer service training. Different passenger types require different kinds of

communication. For instance, an elderly passenger might be much more comfortable speaking with someone at an information booth while a young tech employee might prefer to navigate entirely using her mobile device. By establishing a multi-tiered approach to communication that ranges from totally mobile to in person, SFO has the opportunity to provide an excellent level of service to these different passenger demographics.

In addition to the types of communications listed above, another aspect that is of equal importance is architecture and the design of interiors. The nature of the interior space should communicate to the customer that special attention was given to passenger experience and comfort in the design process. Secondly, the hierachal organization and consistency of

visual elements that are necessary or desired in the airport should be recognized and planned for. Signage, furniture, millwork, kiosks, etc. will translate better to the passenger's consciousness if they are consistent throughout and maintain the same visual hierarchy. For instance, loose trash bins scattered without attention to placement will result in confusion for the passenger and may end up interfering with other elements in the environment such as art or ADA accessible signage. Terminal 2 has done an excellent job at this, with many necessary elements, like trash bins, being integrated in millwork. The designers also worked with advertising vendors and SFO's marketing department to ensure that advertisements were given clear and delineated space, existing cohesively in their larger context.



SIGNAGE, FURNITURE, MILLWORK AND KIOSKS WILL POSITIVELY IMPACT THE PASSENGER'S CONSCIOUSNESS IF THEY ARE CONSISTENT THROUGHOUT AND MAINTAIN THE SAME VISUAL HIERARCHY.



HOSPITALITY'S IMPACT ON BEHAVIOR

Providing a hospitable environment is challenging because of the many required components. A large part of the job falls upon the employees providing service. SFO has implemented a customer service training program in an effort to provide a consistent level of service built upon a single model. However, many of the employees that passengers come in contact with are not SFO employees but work for tenants, TSA and other third party organizations. Without direct control over these individuals and their respective companies' service models, SFO must rely on secondary and tertiary means to affect their behaviors. While the evidence is somewhat anecdotal, it is widely accepted, especially among marketing experts, that by providing a higher quality environment, employee and customer satisfaction is increased. Environmental psychologists

suggest that there are two types of basic behaviors influenced by environment, categorized as approach and avoidance. In essence, uplifting environments stimulate the approach reaction from individuals. Mary Jo Bitner uses the term 'servicescape' to describe the varied elements of the user experience and reactions to it. "Approach behaviors include all positive behaviors that might be directed at a particular place, such as desire to stay, explore, work, and affiliate." Bitner goes on to specifically cite airport environments as the type of servicescape that *inhibits* approach behavior. For example, assume that a traveler enters an airport and is confused because he or she cannot find signage giving directions to the assigned gate and is emotionally distressed because of crowds, poor acoustics, and high temperature. The traveler is unable to carry out the purpose for entering

the environment, at least not very easily. Here the servicescape directly inhibits the accomplishment of the customer's goal." Consequently, it can be assumed that by providing a quality servicescape a whole range of factors can be influenced. In employee behavior, a positive 'approach' response to a quality environment can manifest as expressions of commitment, affiliation, exploration, and - as a result of this - an enhanced delivery of customer service. For customers, these enhanced positive internal responses manifest as entering a space, lingering, spending money and building loyalty. This is perhaps best expressed at SFO by the greatly increased revenues of T2 - with the highest per passenger spend for non DFS retail and Food and Beverage.

THE SERVICESCAPE MODEL

PHYSICAL ENVIRONMENTAL DIMENSIONS

Ambient Conditions

Temperature
Air Quality
Noise
Music
Odor

Space Function

Layout
Equipment
Furnishings

Space, Symbols, and Artifacts

Signage
Personal Artifacts
Style of Decor
Art and Museum

PERCEIVED SERVICESCAPE

INTERNAL HUMAN RESPONSES

Cognitive
Beliefs
Categorization
Symbolic Meaning

Emotional

Mood
Attitude

Physiological

Pain
Comfort
Physical Fitness

INDIVIDUAL BEHAVIORS

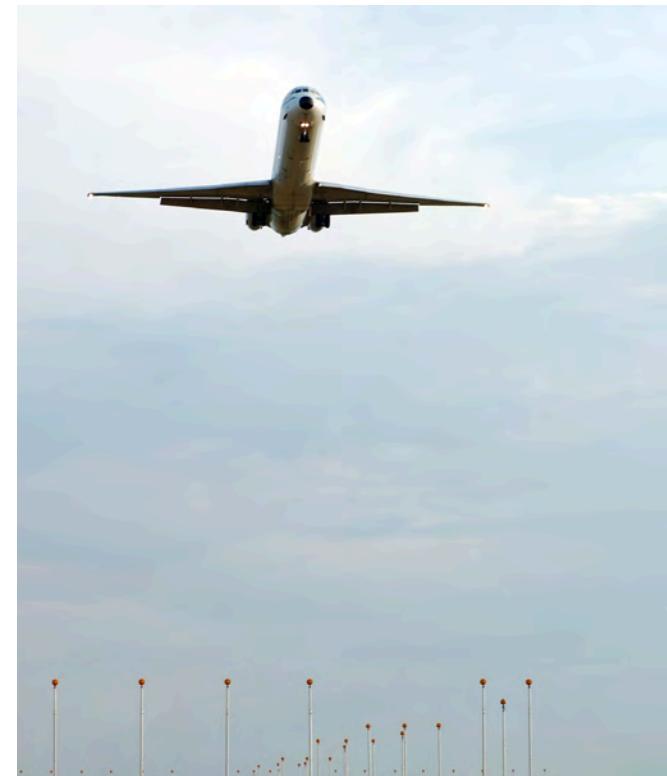
Approach
Affiliation
Exploration
Stay Longer
Commitment
Carry Out Plan
Loyalty

Avoid
Dissociation
Overlook
Leave quickly
Indifference

AIRPORT BUTLER, VANCOUVER INTL. AIRPORT, B.C.

Butler service in the airport

A third party organization operating at Vancouver International Airport is the Airport Butler Meet and Greet Concierge Service which has multiple services meant to ease a passengers journey through the airport. This model of extra services to help guide passengers through the bumpier parts of the journey can help expedite certain demographics. Third party organizations will continue developing these added services and need to be considered and integrated into the design.



CHANGI AIRPORT, SINGAPORE

A way to experience the city during a layover

Ever been in an airport on a long layover for a connecting flight wishing you could see more of the city? Changi airport has the ideal solution, allowing passengers to register for a 2-hour sightseeing tour of Singapore.

Passengers with a long layover (at least 5 hours) must register at least an hour in advance with tour times listed on the airport's website. Options include a Heritage Tour, which covers some of Singapore's most famous sights, or a City Lights tour, which is a great way to experience the vibrant culture of the city.



Strategies for implementing Convenience & Hospitality

1

COMMUNICATION

Communication is the number one priority for implementing a hospitable and convenient atmosphere at SFO. It is important to ensure that the passenger is coming into contact with the right information at the right time and that the information is clear and non-conflicting. Also, consider the variety of delivery methods for information—from the mobile website to the employee at the information booth.

2

REDUCE VISUAL CLUTTER

Visual clutter happens when there isn't a holistic approach to design. Everyone has different agendas and priorities and if these aren't addressed together at the beginning of a project, these priorities may end up competing. Ultimately everyone loses what they are trying to get -- the attention of the passenger. It is important to keep in mind the variety of physical elements required and allocate a place for them in the design. A good example is integrated advertising placed into the architecture, not on top of it.

3

REDUCE AMBIENT CLUTTER

Much like visual clutter, ambient clutter -- grating announcements, poor air quality, glare from over-lit conditions, the physical congestion of passengers in poorly planned spaces—has a major impact on the passenger experience. It is important to address these using proper acoustics, air systems and daylighting and circulation studies.

4

STRATEGIZE FOR EASE

When planning, continually check to ensure that no major obstacles or conflicts are occurring in the passenger journey. (Is that restroom wall blocking the customer's line of vision to customs? Is the beautifully designed light fixture causing glare on all the FID screens?) Additionally, consider the possibilities that new technologies provide. Would it be possible to use mobile tablet technology to speed up any necessary journey moments or provide entertainment for guests?

5

ENVIRONMENTAL

The environmental design of a space and the overall quality has a major impact on customers and employees alike. It is important to frequently check back in with the 'big picture' during the design process. From major architectural moves to the type of tile in the restrooms, each design decision matters. Consider how even the more temporary elements of a space have a major impact. The lounge style furniture in T2 transformed the way people interact with each other as well as the overall feeling of the terminal.

6

HOSPITALITY AMENITIES

Consider new and innovative ways to incorporate amenities that are thoughtful, welcoming and create a better customer experience. Perhaps Arrivals would benefit from some amenities that haven't been considered for exiting customers or consider temporary spaces for rotating amenities.

INFO BOOTH STAFF

STAFF: Lisa, Chuck, Gloria, & Amma

TOP 3 QUESTIONS YOU RECEIVE AT THE INFO BOOTH

LISA

It does depend which terminal you are in, as the questions do change as far as which is asked more frequently. However, these are generally my top:

1. "Where are the restrooms and ATM?"
2. "How to get to rental car and BART?"
3. "How to get to hotel?"
(both local and in downtown)

CHUCK

All three relate to finding something, for example, "Where is... How do you find... How do you get to..." And these all vary by terminal.

Terminal 1

1. "How do I check in for United?"
2. "I can't find my United gate."
3. "Where is Delta domestic?"
(can't see the sign from the desk)
4. "I have a flight that leaves from T1, I can't find my airline?"
"That is because it is leaving from the International Terminal."

Terminal 2

1. "How do I get to rental cars?"
2. "How do I get to Bart?"
3. "Where is AA or VS?"

Terminal 3

1. "Where is the United Club?"
2. "What gate am I leaving from?"
3. "Where is any gate between 20-39?"

International Terminal

1. "Where is my Airline?"
2. "I am leaving on an International flight, why can't I find it?"
3. "Where is ground transportation?"

AMMA

1. "How do I get to the rental cars?"
2. "Where is the BART station?"
3. "How do I get to my hotel?"
(Is there a shuttle bus?
Are there shared vans?)

GLORIA

1. "Where do I pick up my rental car?"
2. "Where is the BART station?"
3. "What's the best way to go to San Francisco?"

WHAT IS THE ODDEST REQUEST YOU'VE EVER RECEIVED?

LISA

Common Request:
Starbucks post security and mailbox

Oddest Request:

Wanted to buy a men's suit (not that it's odd to request, but it is rare and unusual)

CHUCK

It involved LAN airlines, set of keys, a crying wife and kid who wanted me to get her husband off a LAN flight, the police and FBI, the station manager for LAN Airlines and Customer Service (Chris Birch and Linda Rhoades). The passenger was taken off the plane by the Police and FBI for causing a ruckus and held incomunicado with the only set of car keys for their car. She had no money for a locksmith. The passenger was released to fly on the next flight two days later and reunited with the wife about 3 hours later. My job was to keep the wife calm while Customer Service worked in the background and for security reasons they could not tell me what was going on. The couple left for home (Antioch) happy. Fun Stuff!

GLORIA

A dinner date

AMMA

"May I use your phone?"

Not an unusual request but an unusual outcome. An Asian man's first encounter with a US answering machine. Three calls and three "disconnects" later we figured out what was going on at the other end of the phone - he didn't realize he was speaking to an answering machine and couldn't understand why the person at the other end wasn't offering to pick him up and kept hanging up on him. The gentleman's interpreter tried to explain to him what an answering machine was. To this day, I'm still not sure he ever realized what was really going on. A true cultural and language gap.

DO YOU HAVE AN SFO STORY THAT HAS MOVED YOU IN SOME WAY?

LISA

Wow, you'd think I'd have them rolling off my tongue as it seem almost each time I work I am moved in some way! I'd have to say though the one I always remember is when LAN first came to SFO and there were many AA domestic connections to LAN International flights. An elderly lady traveling by herself, could only speak Spanish and she could not figure out how to get from AA in Terminal 2 to her connection in International Terminal for LAN. I tried to tell her in Spanish, but it was very obvious because of her age that there was no way she would make her connection in time given what she was going to have to go through to get there. I took her by the hand and led her personally to LAN in the International Terminal (although it was a slow long walk for her). When I left her at

CHUCK

A marriage proposal that took place at the International Terminal. Because I found out before the proposal took place, I was able to capture the moment with the camera on my phone. The young man was so nervous and worried about the outcome, he forgot all about taking pictures; they were grateful to have the pictures and invited me to the wedding!

AMMA

A daughter came to meet her mother, who had slight dementia. Concerned that the mother would get lost between the gate and the meeting area, the daughter asked for my guidance. I directed the daughter to the meeting area but after 30 minutes the mother had yet to appear so the daughter came back to find me. The

the counter, with huge tears in her eyes, she clasped my hands gently and told me that I was her "angel" and without me she would not have been able to make it back to see her son who is dying of cancer. Yup...that moved me!

CHUCK

An 80-year-old lady from New Zealand who had slept in the Airport all night. She came to the desk to ask where she could find the Air New Zealand desk. I informed her that they were closed and would not be open that day because they were not flying that day. She began to cry.

What was she to do? I found out she had arrived the night before and her United plane was late because of a mechanical problem. She was too late to make her Air New Zealand plane. United Airlines had failed to find her a room because all the airport hotels were full with some local convention. I asked the lady for patience as I researched her problem. While talking to her, I found out that she lived close to my mother in New Zealand. I got Chris Birch involved - he began talking to Air New Zealand and I started looking for reasonably priced hotels. Eventually, we found a hotel for her for that night. The Air New Zealand flight the next day was full and Chris got them to finagle a seat for her. I called her at her hotel that night to let her know she had a seat for the next day and to make sure she was all right. When she finally got home to New Zealand, she wrote a nice letter to Chris and to my mother! What fun!

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GLORIA

That we are the first airport in the nation to provide Travelers Aid/Information Service established by Mrs. William Randolph Hearst.

AMMA

I toured the SFO Communications Center. The entire airport, inside and outside, is totally monitored - it really is impressive. I had no idea how expansive and comprehensive that effort was.

IF YOU WERE GOING TO GIVE A TOUR OF SFO, WHERE WOULD YOU GO?

LISA

All the information booths, Museum (and T3 gallery), reflection room, the yoga room, the children's area in T2 near 58B, hydration stations, USO, Freshen Up, Harmony Pharmacy, Xpress Spa, SF Moma, Napa Farms, Vina Volo, ClearMe,

CHUCK

TSA pre-check, Global Entry, Emirates Lounge (just because it's awesome).

CHUCK

The Art Shop, where they store and stage art exhibits at the airport. The control tower. The heating and air conditioning plant. Basically, all the places behind the scenes that make the airport run.

GLORIA

The Aviation Museum, Terminal 2, Ride on the Air Train.

AMMA

The Aviation Museum, the AirTrain, Medical Clinic, Travel Agency, Aquarium exhibit, Reflection Room, all of the current exhibits in each terminal, and the Air Traffic Control tower.

WHAT ARE SOME THINGS YOU WOULD DO TO THE AIRPORT TO ENHANCE THE PASSENGER EXPERIENCE?

LISA

Transportation post-security to each terminal, Signs/Banners displayed at end of each aisle (both sides) in International Terminal for each airline when they open, Observation deck, Business Services in domestic terminals (computer/fax/printer).

CHUCK

Expand Customer Service. The more help I can give people, the better I like it.

GLORIA

Better signage, more eating facilities in pre-security area.

AMMA

Design and print a handout for passengers to take with them that contains a map of the airport that includes airline ticket counters, terminals, restaurants, bars, shops, and restrooms. If not a printed guide, because we are green, an app that can be downloaded to iOS and Android devices.

Wayfinding

Millions of people, each with a unique story and destination navigate through the airport every year. Wayfinding is the most crucial aspect for the success of their journey. Wayfinding can be articulated with architectural and design cues, landmarks and signage and using both the traditional variety and new dynamic signage technologies.



VALUES

- Locality & Sense of Place
- Revenue Generation
- Convenience & Hospitality
- Wayfinding**
 - Time & Efficiency
 - Arts & Culture
 - Health & Wellbeing
 - Sustainability
 - Look & Feel
 - Technology

WAYFINDING

The term “wayfinding” is used to describe a user’s ability to orient themselves in a built environment. Kevin A. Lynch, an American urban planner and the first to use the term in an architectural context, articulates it this way: “wayfinding is a consistent use and organization of definite sensory cues from the external environment”. The challenge with spatial orientation and wayfinding in airports often has to do with a poor signage program and a lack of architectural character.

“Wayfinding is a consistent use and organization of definite sensory cues from the external environment.”

-KEVIN LYNCH, URBAN PLANNER AND AUTHOR

WAYFINDING CHARACTER

The sensory cues we take from our environment include signage and spatial and visual elements. Consider how directions are given—rarely without reference to major landmarks or geographical elements (“head west toward the ocean”, “turn right on Jefferson, two blocks past the capitol building”). When architecture becomes clinical and repetitive it loses the ability to create a way for people. It is the difference between urban sprawl, with buildings lined up and barely distinguishable from one another, and a city street that has been evolving and developing for years, building

the character needed for it to become a real place in our mind. At SFO it is important to consider this in the design. While cohesion and clarity are of utmost importance, it certainly doesn’t mean that character needs to be sacrificed. Architecture and art are both excellent ways to help people orient themselves. A special ceiling concept or a hanging art installation both have the power of individuality and character to say to someone “Hey! You’ve been here already, you’re going in circles!” Regardless of scale, simple cues can really have an impact.



SIGNAGE

Signage has a big job to do, and it's not an easy one. The difficulty with signage is its inherent inflexibility in an ever-changing world of canceled flights, rerouted planes, lost baggage, inclement weather conditions, etc. Further, the limitations of a single language or set of icons also restricts the ability of a signage system to function cross-culturally. Placement is of supreme importance and should always be at key decision points. Passengers shouldn't need to actively look for signs.

FLEXIBILITY

The digital era is ushering in immeasurable new opportunities for dynamic signage. While the behind the scenes organization and implementation of the dynamic portion of this is challenging, the ability to change signage content is tremendous in an environment where change is the only thing that's guaranteed. It is of utmost importance that signage is NOT an afterthought to design. Designers need to work closely with the SFO signage team early on in the design process to guarantee passengers know where to look for signs in the first place.

VISUAL CLUTTER

A growing body of evidence suggests that the human capacity to take in information is limited. Visual clutter is distracting and problematic in the airport environment. Some examples of problematic clutter are digital displays cycling promotional material and advertisements, competing advertisement and marketing posters, ad hoc sign holders from airlines and concessionaires—even plants placed too close to critical signage. T2 solved for some of this by delegating homes for visual information like advertisements and amenities, allowing people to process that information separately. The result is a clean, modern design that feels calming rather than overwhelming.



THINKING IN LAYERS

One successful signage strategy is to think of a signage hierarchy that is consistent throughout all the terminals and ancillary spaces. Similarly to graphic design, signage can function in a hierarchy using color, size, typographic stylings and composition. By thinking volumetrically this hierarchy can be articulated even further. Imagine if all categories of signage had a height range—for instance, all directional signage might sit at the top of the customer view range, while concessions might be delegated to something lower. If done throughout, this type of consistent visual organization begins to build a more robust way-finding system that relies on the human compulsion to make sense of patterns and organize their expectations around them.

OTHER WAYFINDING DEVICES

Besides intuitive wayfinding and signage, a third element that will make a great difference to passengers are other wayfinding devices. Specifically, the “Flight Deck” that is being developed for B/A/E has not only wayfinding maps and directions, but access to information about the concessions in the boarding area, allowing people to orient not only their path to gate, but their experience as well. As digital becomes the new normal, passengers’ expectations are shifting. The ‘have to’ airport experiences of checking in, bag check and boarding will move towards the

do it yourself model while the ‘want to’ experiences of shopping, dining and leisure will grow. Helping passengers orient their experience through digital information sharing is extremely important.

CHANGI AIRPORT SINGAPORE

Tenant leases are flexible and will change during the life span of an interior environment. It is important that the signage and branding associations with any tenant remain flexible in kind. All tenant design, including signage is subject to DRC approval.

WHILE COHESION AND CLARITY ARE OF THE UTMOST IMPORTANCE, IT CERTAINLY DOESN'T MEAN THAT CHARACTER NEEDS TO BE SACRIFICED.

CASE STUDIES WAYFINDING

CHANGI AIRPORT SINGAPORE

Providing ease in airport navigation

The wayfinding program at Changi Airport plays a major role in its success. The color-coded messaging on black sign faces is unusually large, but it is in scale within the huge volumes of the terminals’ architecture. Internal illumination in all major sign types unifies the program and draws attention to wayfinding information. Personal touches such as listing walking times to major destinations on the overhead signs, and providing roving airport ambassadors with iPads are key to the Changi Airport’s customer satisfaction.



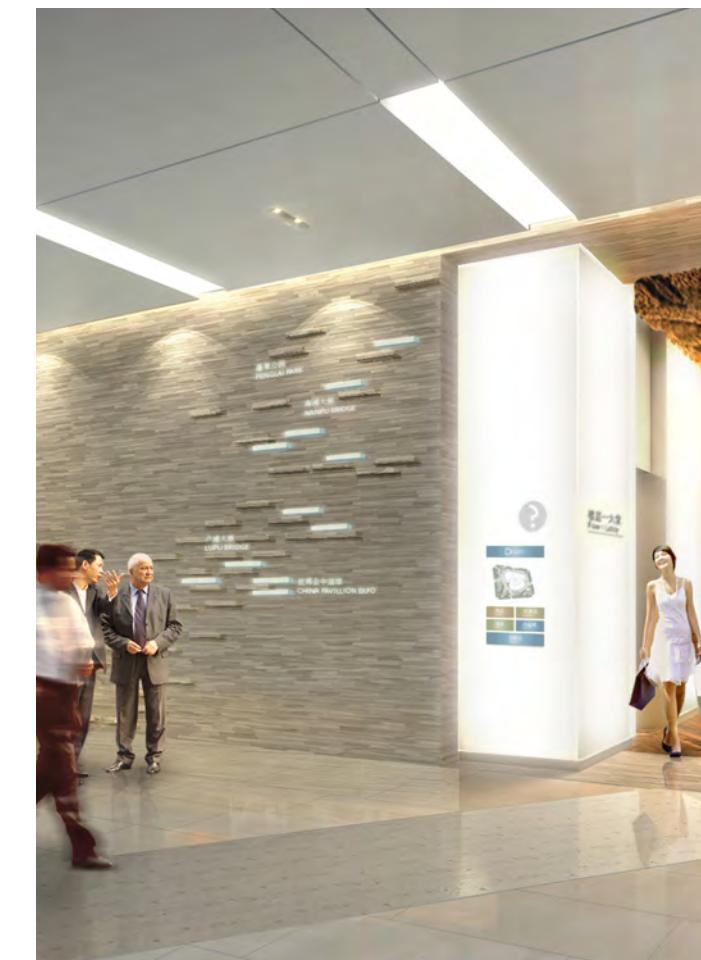
SHANGHAI TOWER, SHANGHAI

An example of excellence in wayfinding

With over 540,000 square meters of office space, high-end retail, a luxury hotel, cultural venues, and the world’s highest non-enclosed observation deck, the building presents an unprecedented mixed-use program that requires a sophisticated signage and wayfinding system.

Design principals emphasizing overall program efficiency, technological innovation, and a connection to the culture of Shanghai were established to guide the overall signage and wayfinding solution.

Scheduled for completion in 2014, the Shanghai Tower will be a beacon of China’s future.



VICKI SUNDSTROM

ROLE: Airport Signage Coordinator, San Francisco International Airport

IDEALLY, WHAT DOES SFO WANT WAYFINDING TO BE? HOW DOES THIS SYSTEM INTEGRATE WITH THE GUEST EXPERIENCE?

Signs should always be placed at decision points. At an airport, the appropriate level of signage makes for a pleasant and calming journey—people are more likely to stay calm if the directions are clear to them.

Like any system, we need flexibility because needs and operations constantly change. For example, the international terminal has domestic flights. We have a building where things change constantly, even airlines change. People still need to get to their flights, transfer flights between terminals, get their baggage, etc. As much as we can automate and plan for it, we don't know what's going to happen.

The biggest issues when it comes to signage, is actually making the signage work in tandem with the building. This is a challenge in existing buildings, but also a challenge in major renovation projects. In T2 for example, a big wayfinding challenge is when you come from baggage claim, passengers have difficulty finding the vertical connection to the AirTrain.

In signage, you're never going to get 100% to use your system. The industry standard is that 80-90% use the signs. In a recent SFO survey, we found over 90% use our signage system. We recognize that we still need to make that experience even better, and need to use multiple means to reach all passengers. You can have a paper map or an interactive map. I like the ideas of apps a lot, but content management and the ability to maintain the apps is an issue. We're not nimble as an organization to keep up with changes, especially new technology.

DO YOU THINK SENSE OF PLACE PLAYS INTO IT?

If you're experienced with the space, yes. If you're not experienced with the space, no.

WHO MAINTAINS THE INFORMATION?

This is quite the conversation. We maintain the system, but we're always looking for ways to make it better. We're not living in an ideal world yet. In an ideal world we would have resources to maintain this information. To keep better pace with technology, we'd create an API which allows other systems to integrate with our system which would allow for uniform information all across systems that push data to various users.

WHAT WOULD YOU TELL AN ARCHITECT, WHO IS GOING TO WORK ON A TERMINAL, THEY NEED TO THINK ABOUT?

There's no such thing as intuitive wayfinding. I grew up in Hong Kong and India and grew up with everything on the right. Here, on the first day on the job, we have arrows on the left and read from left to right. They do everything on the left, we do everything on the right. What is

intuitive as far as an airport is concerned? For some people, it's having ground transportation on one level...we have it on two levels.

When you do signage and wayfinding, you need to make it simple for the experienced as well as the very infrequent traveler. You need to make sure the level of information needed is available at those critical decision points.



SAN FRANCISCO INTERNATIONAL AIRPORT

Strategies for implementing Wayfinding

1

ARCHITECTURAL WAYFINDING

Architecture should create a natural flow for passengers to progress from one process to the next. Consider how challenging some of the conventions of traditional airport planning might be beneficial for passenger comfort. In partnership with the signage program, designers need to include signage design in early planning to better encourage self-direction and intuitive wayfinding.

2

HIERARCHY

It's important to follow SFO's guidelines for visual hierarchy that establishes rules that distinguish between wayfinding, art, advertising and concession and amenity identification.

3

PROPER PLACEMENT

Ensure that signage and wayfinding elements are placed at natural pause points and in the appropriate circulation paths. One example is placing FID's in an easy to see location right after the security checkpoint in the recompose area. This is a natural pause and decision point for passengers. Provide message continuity so guests are assured they are on the right path.

4

USE COLOR

Consider how color and materiality can influence positive wayfinding experiences. Color can be a powerful tool in helping people orient themselves in an unfamiliar environment.

5

MOCK IT UP

When in doubt, consider mocking up certain elements and testing them in place to understand an element's performance.

TOM HORTON

ROLE: Senior Associate, Environmental Graphic Design, Gensler

WHAT ARE SOME BASIC WAYFINDING PRINCIPLES?

Planning for effective wayfinding begins with identifying navigation routes through spaces; where will users look for information and need to make decisions? Concentrate wayfinding information at decision points along those routes, organizing directional information from macro to micro by providing just enough information to lead to the next decision point. Utilize a variety of different visual cues; color, symbology, written messages, arrows, patterns and simple map diagrams help users orient themselves and feel confident in their navigation choices. Effective wayfinding relies on more than just signs. People build a mental map of their surroundings through observing an environment's colors, lighting, textures and architectural forms. The designer/architect should look for ways to integrate spacial cues into their environments that will aid wayfinding. Use of bright colors, distinctive shapes, change in floor patterning or accent lighting can call attention to an important entry, passageway or destination as effectively as a sign. Collaboration early in the design process between the client, architecture, interiors and signage teams can greatly reduce the number of signs by building intuitive wayfinding cues into the design of an airport's spaces.

WHAT ARE SOME PLACES WITH GREAT WAYFINDING?

The J. P. Getty Museum in Los Angeles has an intelligent, adaptable wayfinding program. The modular system is designed to accommodate change over time based upon visitor feedback and the evolving nature of a museum environment. The simple, elegant gray and white signage features pictures of artwork and symbology to quickly orient visitors and provide direction to the collections. A bronze tabletop scale model of the museum campus engages arriving users, including sight-impaired visitors who can touch to understand the layout of the buildings.

WHAT ARE SOME OTHER WAYS TO HELP GUIDE USERS THROUGH SPACE?

Designers often use technology, color, pattern and lighting as a way to draw attention to certain areas, pathways or decision points to aid wayfinding. For example, using an airline's brand color on signage or architecture can help distinguish between different hold areas. Accent lighting, or bold patterning can be used to accentuate a path or highlight an entry/exit opening. Dynamic displays or messaging engage users and allows wayfinding systems to adapt to changing conditions.

WHAT IS INTUITIVE WAYFINDING?

Intuitive wayfinding is accomplished through incorporation of non-signage features that guide users through complex areas. A good example of intuitive wayfinding is the path to baggage claim through the Marketplace area in SFO Terminal 2. As deplaning passengers approach the exit to baggage claim from the main concourse, it is not immediately apparent that the doors are off to one side. To augment the overhead directional signs, a contrasting gray floor pattern leads toward the doors—passengers instinctively follow this floor pathway toward the exit.

HOW DOES WAYFINDING RELATE TO THE AIRPORT PASSENGER?

An airport user's wayfinding experience often begins pre-arrival. Passengers will often go online to look at an airline or airport website, review a map in an inflight magazine or search information on their handheld device. The graphic style and content of these pre-engagement tools should match the on-airport wayfinding program. Their wayfinding experience doesn't end until they board their flight or are on transportation leaving the airport. The airport wayfinding system and the many information touchpoints along the way are the continuum between these start and end points.

WHAT ARE SOME EXCITING NEW TECHNOLOGIES AND FUTURE TRENDS IN WAYFINDING?

The future of wayfinding is through integrated technologies that allow the airport operator, airlines and the user to create a more tailored wayfinding experience. Digital airport sign messaging and interactive directories can respond to real time airport activities and adjust wayfinding information accordingly. Hand held mobile devices allow users to access airport maps, search amenities and flight information, and follow destination routes enabled by customized indoor GPS systems.



Time & Efficiency

Time and efficiency are the top priorities for many passengers at SFO. In today's society, time is precious and to waste it — or feel as though someone else is wasting it—is unacceptable, especially in a customer service environment.



VALUES

Locality & Sense of Place
Revenue Generation
Convenience & Hospitality
Wayfinding

Time & Efficiency

Arts & Culture
Health & Wellbeing
Sustainability
Look & Feel
Technology

TIME AND EFFICIENCY

“A journey of a thousand miles must begin with a single step.”

-LAO TZU, CHINESE PHILOSOPHER

A PRIORITY FOR PASSENGERS

Operations at SFO are constantly striving to increase their output and speed – but in a complex environment, upsets happen. It's ultimately the customer-facing response that matters most. In addition to airport operations, it is worth considering how passengers think about the airport environment. What might be outside SFO's control is woven into the narrative of 'When I was at SFO ... my plane was late ... TSA agents were rude... etc.' Recognize that much of the perception of time and efficiency is just that – perception.

The perception of time and efficiency are most often perceived emotionally and psychologically rather than rationally – hence the feeling of frustration or anger that your time is being wasted. People rarely keep track of the statistical averages for queuing speed at different airports, and while passengers will notice if a task they have gone through before takes an exceptionally long time, those instances when the queue is just a bit longer can be handled with a variety of different strategies.





“Speed provides the one genuinely modern pleasure.”

—ALDOUS HUXLEY, AUTHOR OF BRAVE NEW WORLD

This sentiment holds true especially in situations in which people may already be feeling powerless. The environment and experiences that customers have at SFO are reflected in numerous ways, from customer satisfaction (as seen in reviews and complaints) to the memories and stories of experiences, and even in the decisions to spend – or not. The specific triggers that cause waiting

to be described as above (frustrating, demoralizing, etc.) are especially prevalent in the airport environment and need to be addressed in an effort to improve customer experience. While it is assumed that SFO and its vendors will address the mathematical and logistical aspect of improving queuing efficiency, a focus on improving the experience of waiting is also required.

MANAGING THE WAITING PROCESS

An important aspect concerning the psychology of waiting is perception and expectations. Essentially, if a customer expects a certain standard of service and perceives the delivered experience to be better than their initial expectations, that customer will be satisfied. Conversely, if the customer perceives the service experience to be worse than they were expecting, they will be unsatisfied. One could take this a step further and say that if SFO were to deliver a higher standard of perceived service, then passengers would automatically begin to compare and contrast their experience to other airports—an outcome that could help SFO reach their goal of being rated number one. Restaurants are particularly nimble at handling this phenomenon of perception and expectations and very often give customers a longer wait time than is actually the case. When customers are seated earlier than they expected, their perception of the service is that it is performing well and they are satisfied. In Sasser's "Management of Service Operations", another example employing a slightly more hands-off tactic is given:

"A well-known hotel group had received complaints from guests about excessive waiting times for elevators. After an analysis of how elevator service might be improved, it was suggested that mirrors be installed near where guests waited for elevators. The natural tendency of people to check their personal appearance substantially reduced complaints, although the actual wait for the elevators was unchanged."

Occupied Or Useful Time

Another important aspect of waiting is that occupied time feels shorter than unoccupied time. This perception is captured in many well known and oft-quoted cultural colloquialisms such as 'a watched pot never boils' or 'it's as boring as watching paint dry', but it becomes especially frustrating in situations in which people have no choice in the course of their experience. While these in-between or 'fill' times are largely unavoidable, an airport can easily provide material to help people feel like they aren't wasting time. To be most effective, information or activities should either be useful or enjoyable unto themselves or in some way related to the experience at hand. One opportunity might be providing menus and ordering options for customers in line at security checkpoints. This tactic also addresses the feeling that pre-process waits seem longer than in-process waits; any opportunity to provide customers with information or activities that relate to their journey in some way will make the overall experience more pleasant.

WAITING IS FRUSTRATING, DEMORALIZING, AGONIZING, AGGRAVATING, ANNOYING, TIME CONSUMING AND INCREDIBLY EXPENSIVE

Fairness

Another aspect about productive wait time management is related to feelings of powerlessness and lack of respect. For instance, unexplained waits feel longer than explained waits. Unfair waits, like a situation when someone who has arrived later but is being helped first, is more psychologically distressing.

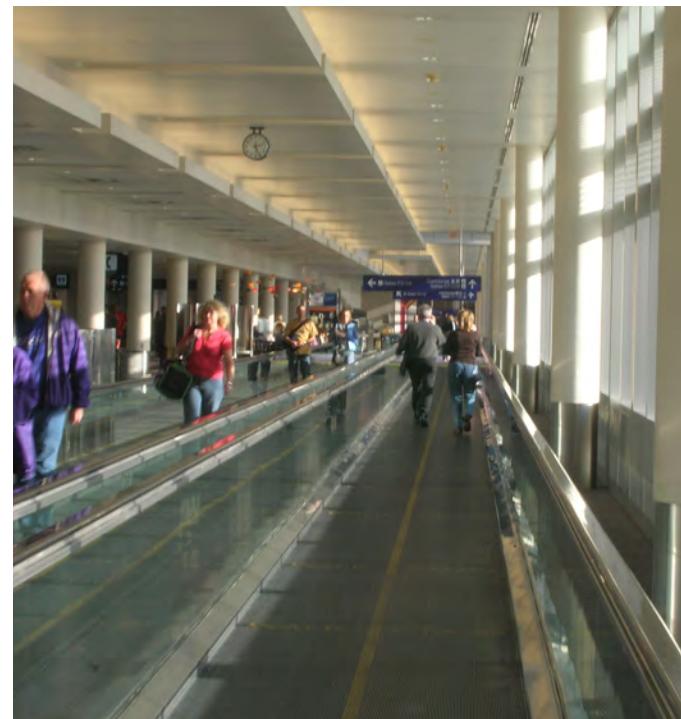
All of these factors can be distilled into something very basic, which is people want to be acknowledged, given correct information about the reason for and the expected length of their wait, and they want to have something productive they can do in the meantime – especially if it will help them make up the time they are losing while waiting. The best hotels do this seamlessly, where every service seems effortless and the message being sent over and over again is: "We care for you and your time. We respect you and your time and we want to provide you with a great experience". Borrowing from this model for airport environments and service models would likely dramatically increase the perception of experience in what has unfortunately been transformed from a joyful, exciting journey into one that many people dread.

It is important that all support goes initially to doing the basics right. The Harvard Business Review has this to say: "First, delighting customers doesn't build loyalty; reducing their effort—the work they must do to get their problem solved—does. Second, acting deliberately on this insight can help improve customer service, reduce customer service costs, and decrease customer churn". Like a good food pyramid, the basics live at the bottom—with customer service and good communication in the middle and those special extras truly being the cherry on top.

START! WALKING TOUR MINNEAPOLIS, USA

Activities to do with extra time

The Minneapolis-St. Paul International Airport (MSP) has teamed up with the American Heart Association's nationally recognized Start! Walking program to offer a way for customers to stay fit while traveling. Passengers walk the official 1.4-mile walking path or kick it up a notch and add a few more concourses. Visitors participating in this walking course access a means of not only staying healthy but also achieve a sense of time well spent.



COPENHAGEN AIRPORT, COPENHAGEN

Rated the best at security processing

In an international Skytrax survey, passengers rated the Copenhagen airport as having the best and most friendly security process.

Not only are staff friendly, but queues are also efficient which results in shorter wait times. In 2012, average wait time was measured at 3.5 minutes.



Strategies for implementing Time and Efficiency

1

MANAGE EXPECTATIONS

The essence of managing expectations is under promise, over deliver. While it may seem only applicable to service, consider it from an architectural point of view. Can the passenger find what they need quickly or is it difficult to track information in the building because of confusing layouts, fussy finishes or poor light levels? Take into consideration the necessary elements needed to integrate technologies like interactive maps, dynamic signage and productive wait time technologies.

2

USEFUL TIME

Implement ways for passengers to use their time efficiently. Options could range from perusing the concessions menu while in the security line to spending time doing something relaxing while waiting for a delayed flight, like using a yoga room, or taking a walk along a path in a meditation garden. Most importantly, it's not *just* waiting.

3

PROVIDE INFORMATION

Removing obstacles and making information accessible and easy to understand is important for time and efficiency. Consider obstacles in circulation paths, blocked views and other architectural elements that will make it difficult for the passenger to move through the terminal in a timely manner. Additionally, provide information on wait times.

4

PROVIDE ACTIVITIES

Consider what passengers might be doing if they weren't at the airport and allow them a way to do it. Working, exercising, resting, relaxing, shopping, eating, socializing, exploring and learning are some great places to start!

5

PLAN FOR LESS WALKING

When possible in the planning process, minimize walking distances. Long walking distances and lack of linearity can add to an impression of inefficient space and waste of time and energy and generally contributes to a poor level of service.

TERENCE YOUNG

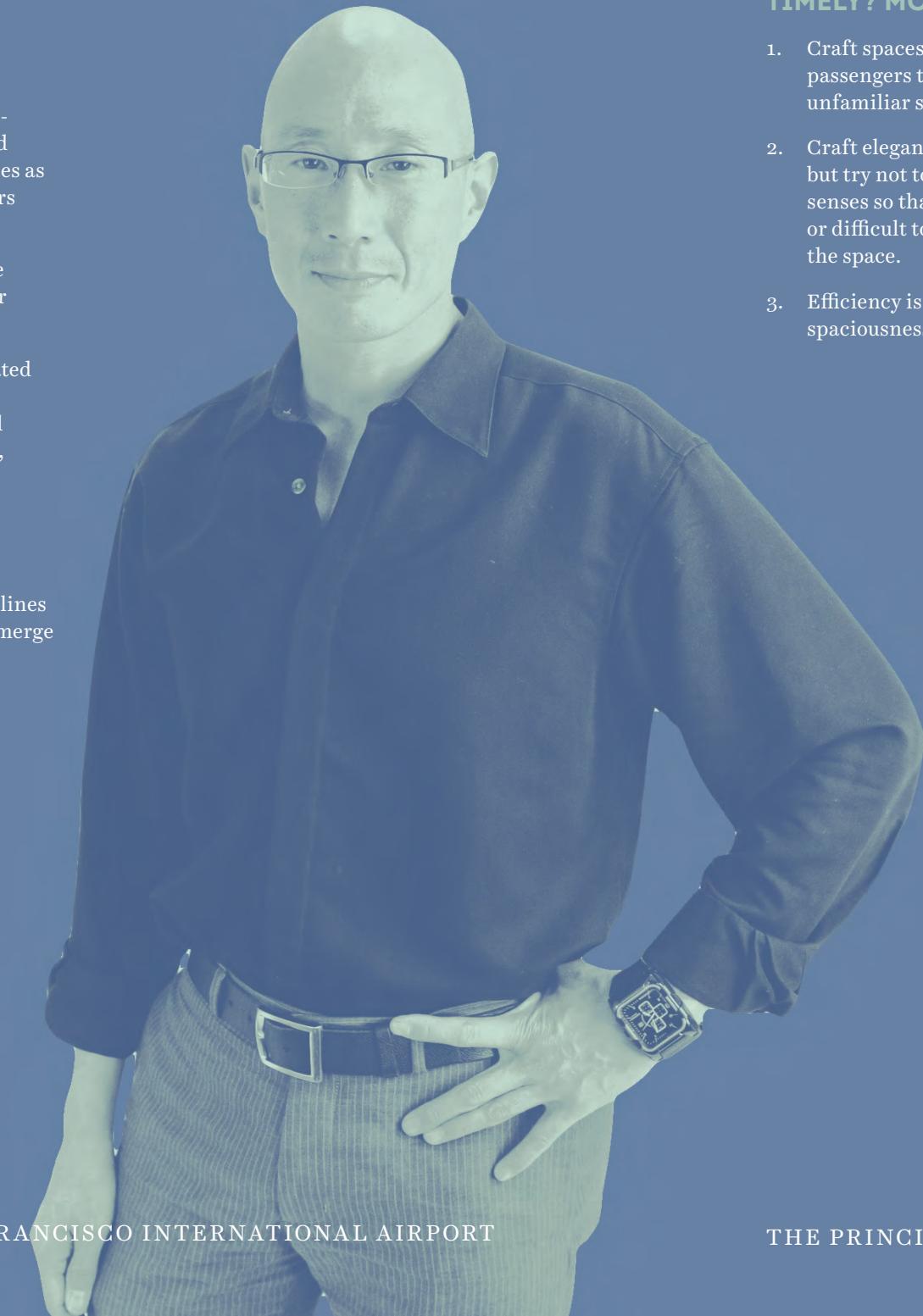
ROLE: Senior Designer, Gensler

WHAT TIPS WOULD YOU GIVE TO SOMEONE DESIGNING AN AIRPORT?

1. Any designer working with the traveling public has to balance many design inputs for both the operators and the public and create a priority list.
2. Craft an emotional journey that can change each time a traveler visits the building. At any one time the passenger might be suffering from any combination of fatigue, stress, fear, hunger and thirst, or anger. Seek to create a calming, inspirational journey.
3. Don't rely on retail alone to activate a space. Don't rely on Art alone to make a space inspirational.

HOW DO YOU SEE AIRPORT PLANNING EVOLVING IN THE SHORT TERM FUTURE?

1. Greater reliance on passenger self service, at least in the domestic market
2. Greater need for airports to de-institutionalize their retail and truly activate their public spaces as cultural and community centers
3. Consider public / alternate transportation to and from the airport to reduce passenger car traffic and parking
4. Non airport uses being integrated into airport business districts to benefit from passengers and associated populations: hotels, non-secure land-side retail, transportation hub retail and dining, technology office, creative office
5. Greater range of aircraft as airlines adjust to fuel costs and adapt/merge



HOW DO YOU THINK DESIGNERS CAN MAKE THE CUSTOMER JOURNEY MORE TIMELY? MORE EFFICIENT?

1. Craft spaces that allow space for passengers traveling with bags in unfamiliar surroundings.
2. Craft elegant and beautiful spaces but try not to complicate the senses so that signage is obscured or difficult to understand due to the space.
3. Efficiency is about clarity and spaciousness.

WHAT IS UNIQUE ABOUT SFO?

San Francisco is a rare community to design for: I view it as a privilege to work with this municipality and operator. The client group communicates well with the design team, has a vision of the airport's future that is grounded in values of quality, sustainability...both core values that I share. The SF team has been collaborative throughout our projects and has been a partner in the design of each solution. I find that the leadership is directive without being prescriptive about the design solutions...meaning the airport is open to exploration and innovation in both planning and design.

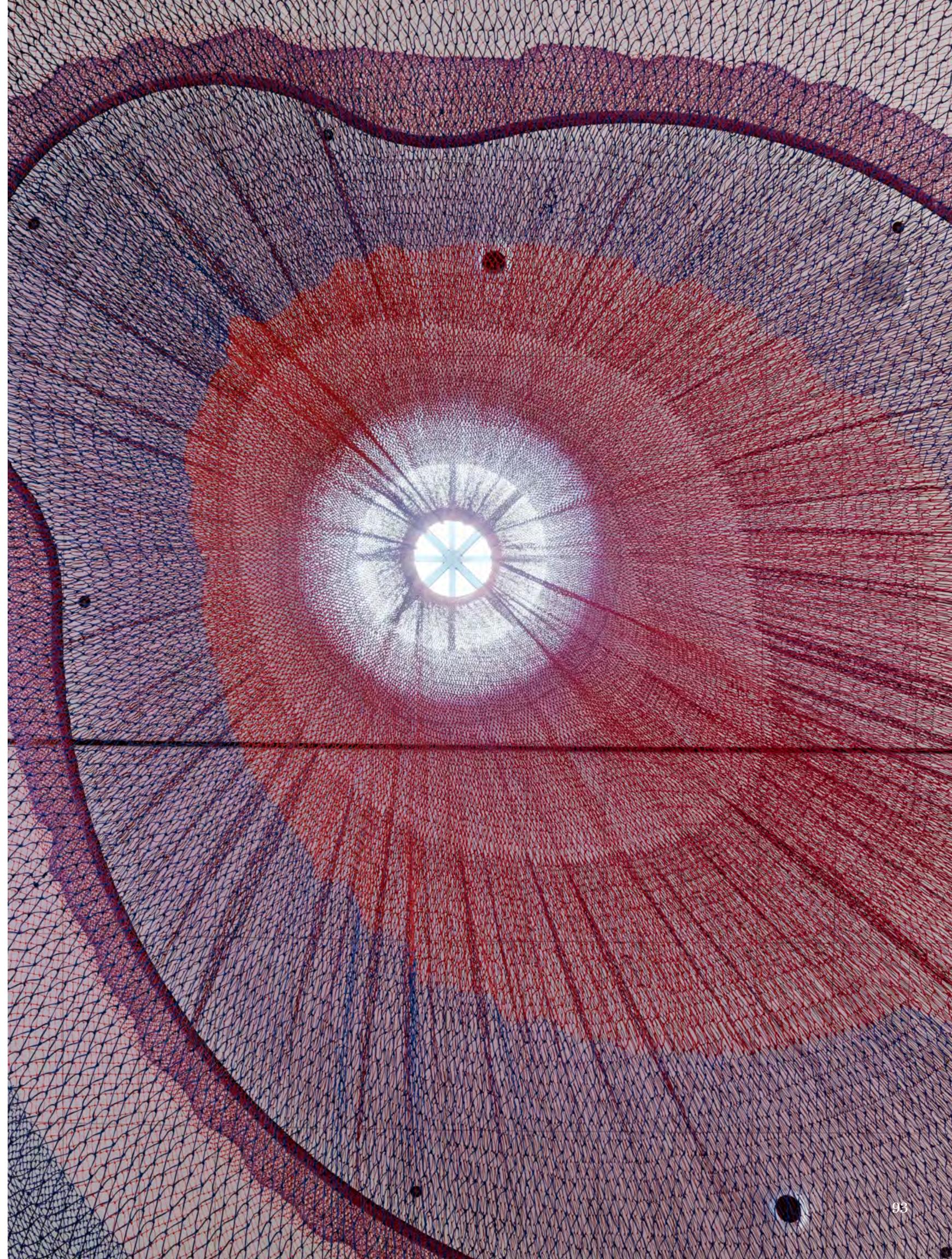
WHAT INTRIGUES YOU ABOUT AVIATION AND TRANSPORTATION DESIGN?

Two things: I believe that airports and transportation design bring communities together (reduce car usage by using transportation projects, and through experiencing different cultures by way of air travel). The second reason is that they are actually civic projects in disguise: a transit or airport connection is a traveler's first impression of a city. It is both a civic and cultural front door that CAN (if designed properly) communicate the values of the communities they represent.

They are program-rich. It takes the full commitment of all of a team of designer talent and analysis and problem solving capabilities to create solutions that impact both performance of the operations, the spirit of the passengers and the financial success of the operator.

Arts & Culture

SFO has distinguished itself from other airports by providing a rich and exceptional arts experience. The collection held by SFO Museum, the only accredited museum housed in an airport in the United States, has an incredible range of pieces, many of them the work of highly merited San Francisco and Bay Area artists.



VALUES

- Locality & Sense of Place
- Revenue Generation
- Convenience & Service
- Wayfinding
- Time & Efficiency
- Arts & Culture**
- Health & Wellbeing
- Sustainability
- Look & Feel
- Technology

ARTS & CULTURE

SFO'S ARTS PROGRAM HAS TAKEN FORM THROUGH TWO DISTINCT BODIES: THE SAN FRANCISCO ARTS COMMISSION AND SFO MUSEUM.

HISTORY OF ART AT SFO

Art and Culture at SFO is at the heart of place-making and in fostering a humane and interesting experience.

SFO Arts Commission

SFO's Arts program is created by two distinct bodies: the San Francisco Arts Commission and SFO Museum. In 1977, the San Francisco Arts Commission, a public agency created in 1932, spearheaded the arts program at SFO during the construction of Terminal 3, to bring the public into contact with the cultural landscape of San Francisco. The commission was and has been involved in developing the infrastructure and overseeing the aesthetics of the city. The Arts Commission continues its role as curator of the permanent art on display throughout the airport. Its collection of sculptures, paintings, mosaics, and environmental artwork encompasses over 75 pieces, 60 of which are currently on display.

SFO Museum

SFO Museum grew out of a collaborative effort between the SF Airport Commission and the San Francisco Museum of Fine Arts in 1980. Its charge is to offer rotating exhibitions to humanize the airport environment, and reflect the cultural life of the Bay Area. Currently, the museum hosts twenty galleries throughout the airport's terminals, as well as the Aviation Library and Museum and an aquarium. Exhibits cover a wide range of themes, all providing a venue for the 40 million annual passengers to explore history, art, science and culture.

In 1999, SFO became the first museum within an airport to receive accreditation from the American Alliance of Museums, and has become a leading model for how museums operate in public spaces.



A UNIQUE PLACE FOR ART

As a public space experienced by over 40 million travelers each year, design consultants have many opportunities to incorporate art in unique ways during the upcoming expansions and renovations of terminal spaces. The Commission and Museum's art distinguishes SFO from other airports, fostering an authentic sense of place, while providing passengers with visual stimulation, education, and diversion from the stress of their journeys. In addition to more traditional gallery type exhibits, the large scale of space creates the possibility for integrating large

installation pieces directly into the architecture. Artworks also function as landmarks orienting passengers along their journey between gates, passageways, baggage claim, and exits. As an example, the netted installation of Janet Echelman's "Every Beating Second", placed under a skylight in the ceiling of SFO's T2, marks a recompose and plaza space within the terminal. While it serves as a landmark, the sculpture shifts the perception of space, creating an awe inspiring moment in the passenger journey. Through the inclusion of artwork made by Bay Area artists, the SFO Arts program strengthens

the unique character of SFO. The airport's collection is also tightly linked to the rich artistic institutions of San Francisco including the De Young and Asian Art Museums. By increasing the links with local museums, galleries, and schools, the airport serves as an unmatched artistic venue for the region in putting the global community of travelers into dialogue with the city's local heritage and culture. At the same time, the infusion of both world-class and local artistic expressions marks and brands SFO both regionally and globally.

ART, LIKE NATURE, HAS BEEN SHOWN TO HAVE RESTORATIVE EMOTIONAL AND MENTAL EFFECTS, TO EASE BOTH FATIGUE AND RESTLESS BEHAVIOR.

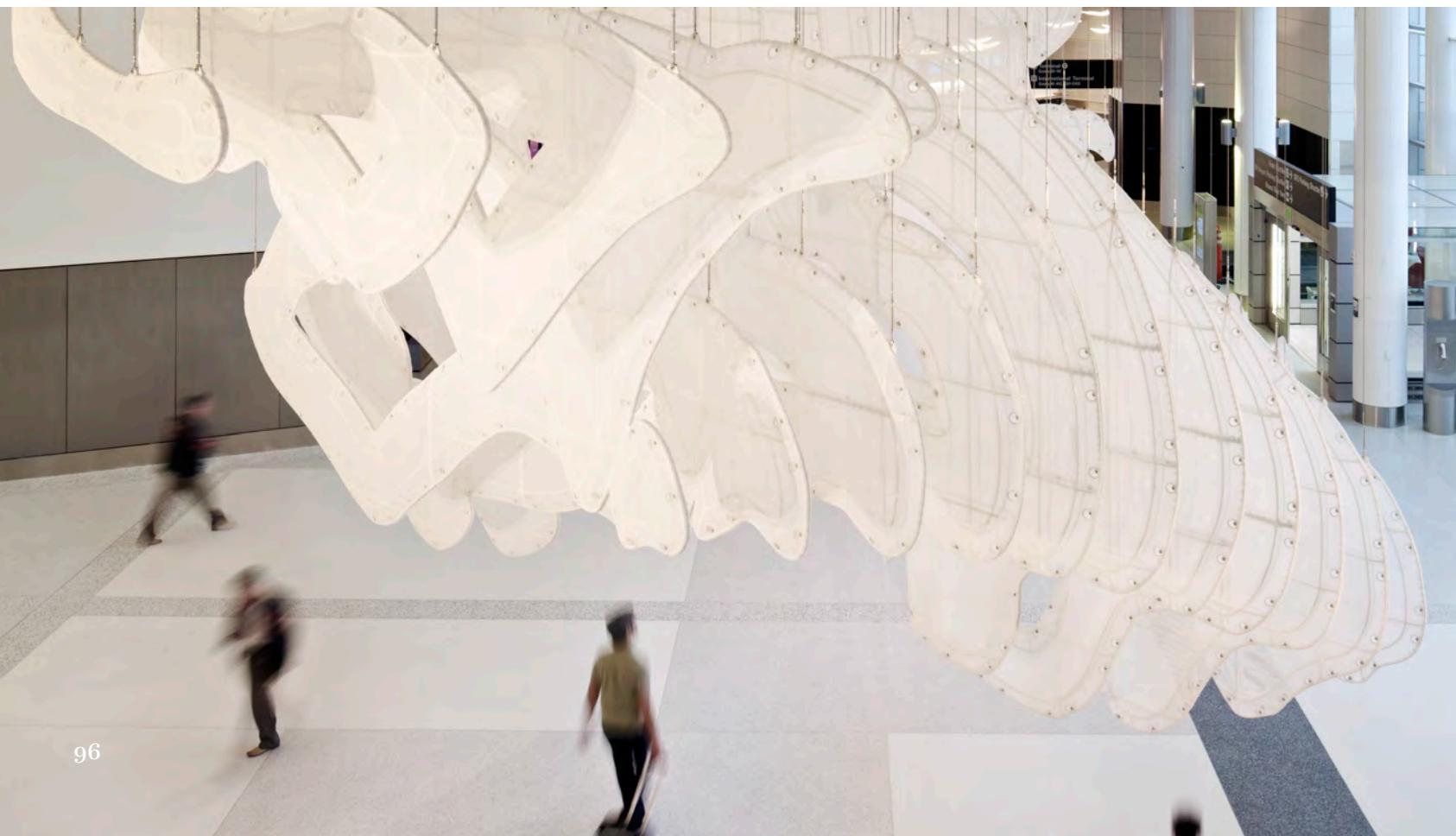
BENEFITS OF ART IN THE AIRPORT

The primary concern of any traveler is to reach a destination; so the ease and efficiency of this process is the purpose and priority of every airport. There are many ways in which art and culture can aid in uplifting the passenger experience. Besides cultivating a more pleasant and compelling place, art installations can be instrumental for orienting passengers in space. This purpose should be considered carefully by design consultants when locating site specific artwork at the airport.

The beneficial healing effect of art has been proven. Behavioral scientists have found that art, like nature, has restorative emotional and mental effects, to ease both fatigue and restless behavior. Another study completed by psychologists found that viewing visual art while waiting correlated with a significant reduction in restless behavior such as pacing, queries to service staff, noise, fidgeting, etc, as well as an increase in socialization. The presence of art, both as integrated within the architecture and displayed in exhibits,

helps ease the stress of travel. Offering meaningful experiences, art inspires a whole range of people in unexpected ways and enhances the journey.

ART INSTALLATIONS CAN BE INSTRUMENTAL FOR ORIENTING PASSENGERS IN SPACE.



INTERVIEW ARTS & CULTURE

BLAKE SUMMERS

ROLE AT AIRPORT: Director & Chief Curator of SFO Museum

CAN YOU DESCRIBE THE ARTS PROGRAM AT SFO?

The arts program at SFO is divided into two main groups:

1. The Public Art program, which is headed by Susan Pontious and the SF Public Arts Commission
2. SFO Museum which is responsible for changing exhibits, the Aviation Museum, and the Library & Archive.

HOW HAS THE ART PROGRAM INCORPORATED TECHNOLOGY?

SFO Museum is working on a new website (http://www.fllysfo.com/web/page/sfo_museum/) and we're incorporating different types of technology to display our programming and art.

We have an Info Terrace being planned which will have digital displays, takeaways with mobile technology and blue dot technology with navigations.

WHAT ARE SOME BASIC DESIGN PRINCIPLES FOR ART SPACES?

Light levels are extremely important, you need to control the lighting when displaying art. Also some cases need to be climate controlled.

WHAT ARE SOME AREAS OF OPPORTUNITY FOR THE AIRPORT?

Having islands or "parklets" for art. There's more opportunity in the pre-security spaces. Also exploring more pop-up retail.

WHAT ARE SOME OF YOUR FAVORITE MUSEUMS?

Prado for the art, the Louvre, and the California Academy of Sciences for the spaces.

LIST THREE SAN FRANCISCO PLACES THAT YOU WOULD RECOMMEND A FRIEND VISIT:

1. A visit to the DeYoung museum
2. Lunch at the Moss room in the California Academy of Sciences
3. Visiting the Asian Art Museum



JANET ECHELMAN

ROLE: Visual artist **BIRTHPLACE:** Tampa, FL **MEDIA:** Public Art & Sculpture

YOUR WORK FOR SFO WAS SMALLER SCALE THAN SOME OF THE LARGER SCALE URBAN WORK THAT YOU'VE DONE. WHAT WERE SOME OF THE CHALLENGES?

Integrating within the architecture of the terminal is about finding the right scale—not too big and not too small. As a team, I think we found the sweet spot.

WHAT WAS THE INSPIRATION FOR YOUR WORK AT SFO?

Visually, the sculpture evokes the contours and colors of cloud formations over the Bay. Aesthetically, the sculpture looks both backwards and forwards—it draws its color from the heyday of psychedelic music, the Summer of Love, and San Francisco's prominence in the beat poetry movement. It also references the contemporary bay area as a hub of innovation and interconnectivity for the world of technology.

IF YOU COULD CREATE A WORK IN ANY PLACE IN THE AIRPORT, WHERE WOULD IT BE?

Right where it is.

IF YOU WERE A PASSENGER GOING THROUGH SFO, WHAT WOULD YOU LIKE TO SEE OR DO?

I'd like a bean bag chair underneath the sculpture where I could look up through the round skylight, with people passing by on all sides, but I'd be in an oasis of calm contemplation.

WHAT IS THE TITLE AND WHERE DOES IT COME FROM?

The title, "Every Beating Second", refers to a line by Allen Ginsberg who was involved in the San Francisco Beat Poetry scene, speaking about heightening awareness of the present moment: live in the physical world moment to moment I must put down every recurring thought—stop every beating second (11-16).

HOW DID YOU START YOUR DESIGN?

I was asked to create a "zone of recomposure". For travelers I wanted to create a transformative element—in our busy urban lives, I want to create moments of contemplation.

I hear that underneath the artwork people stop, look up, and slow down the pedestrian traffic to take a moment to look up.

KENDALL BUSTER

ROLE: Sculptor **BIRTHPLACE:** Selma, AL **MEDIA:** Sculpture

WHAT WAS THE INSPIRATION FOR YOUR WORK AT SFO?

I was interested in designing a form that evoked associations with both topographical maps and cloud formations. I wanted a very ephemeral presence, a large bold form that was not heavy and that reflected and refracted light. So I used a lightweight armature covered in semi-transparent scrim. I am always interested in ways in which my sculptures can converse with the particulars of a given architectural space and so I was drawn to the opportunity to site the sculpture on either side of the mezzanine entrance walkway. I hoped that the work would read as if the segments that make the form had drifted apart, that the two distinct groupings on either side of the walkway were part of a single form.

WHAT WERE SOME OF THE CHALLENGES IN CREATING THE WORK FOR SFO?

It is always a challenge to work with large suspended forms in terms of balance and creative ways in which the suspension cables can become an integral part of the design. In this case we used a kind of "falling rain" grid of thin cables that are part of the visual language. Site prep (preparation of the ceiling for example in such a way as to provide the proper attachments) and the exactness the cabling system required was a challenge. But we had an excellent coordination with Gensler, the construction architects, my studio, public art, and the riggers! A great creative team!

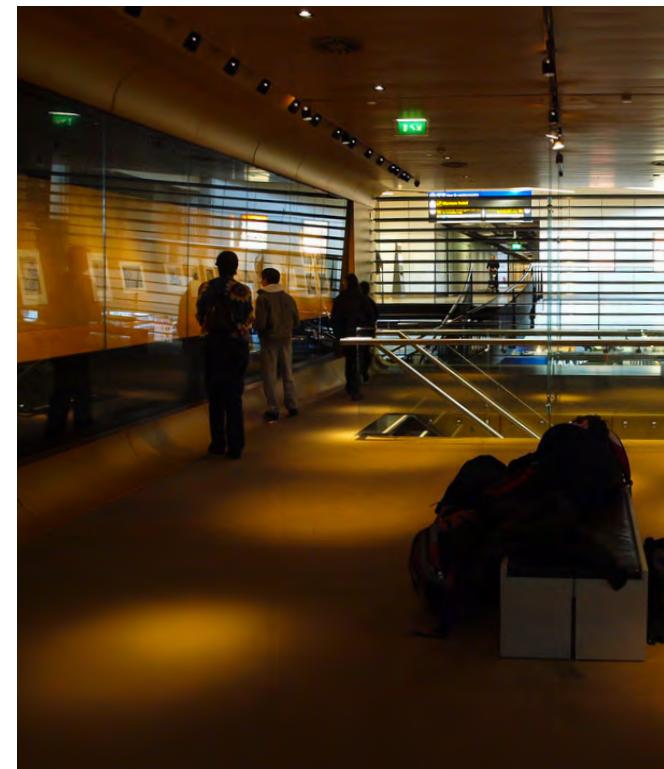
IF YOU WERE A PASSENGER GOING THROUGH SFO, WHAT WOULD YOU LIKE TO SEE OR DO?

So many airports can seem crowded, stressful and compressed! I love the openness of the airport. The calming ambiance and lack of business. On longer layovers one is so often stuck with few options for looking and dining and shopping. I LOVE the art in the airport and the ways in which the works are displayed as if in a museum! Think how much time people spend in airports and how the high end good food policy (no franchise—local food) and first rate artworks just enhance that experience! More airports should follow the SFO model!

RIJKSMUSEUM SCHIPOL INTL., AMSTERDAM

An authentic art experience

The Rijksmuseum in Schipol International Airport in Amsterdam has one of the oldest dedicated museum spaces in a post security airport space in the world. The success of Rijksmuseum is in part due to the dedicated museum space that reflects the larger institution located in Amsterdam. Passengers from all around the world not only get to interact with classic Dutch art but have the opportunity to be in a “non-airport like” environment and experience an authentic Amsterdam feel—a luxury that all travelers appreciate.



INCHEON AIRPORT, SEOUL, KOREA

Bringing the culture of Korea to international passengers

Korea's Incheon Airport has a host of services to occupy the passenger's time, ranging from a golf course and casino to spa services. One space that has been especially popular with international passengers is the Korean Traditional Experience Center. Visitors can try on traditional Korean costumes, view and actually try their hand at various crafts.

Visitors can also enjoy traditional performances such as dances or performances with traditional instruments. Admission is free for all departing and transfer passengers. It is a way for the airport to give a lasting impression of Korea to foreign visitors.



Strategies for implementing Arts & Culture

1

SMALL GALLERIES

When space planning, consider art and its placement at the onset. Consider special niches that attract passengers from the main circulation, allowing them the option to linger.

2

ART PROGRAMMING

Museums are now emphasizing more interactive and participatory exhibits. SFO already offers interactive spaces for children, like the Kid's Spot, which features interactive displays of weather elements from the Exploratorium in San Francisco. Designers have the opportunity to consider these great ranges in airport supported art programming. Creating a variety of spaces for the installation or showcasing of art is essential.

3

ATTRACTING ATTENTION

Consider ways to draw people towards art exhibits. In the rush of the airport environment, people don't always notice spaces that are tucked away or aren't visible from the concourse. Bright colors, special lighting elements or a change in finishes are all ways to approach this. Also consider different methods of promotion including marketing and outreach on www.flaysfo.com.

4

OTHER ARTS

While the current arts programs focus primarily on the visual arts, consider opportunities to incorporate other art forms, such as music into the airport environment. If the music program were to be expanded, consider appropriate locations, i.e. near places where people can stop to enjoy the music.



Health & Wellbeing

Long known for healthy lifestyle choices, San Francisco and the greater Bay Area is the perfect place to look to for inspiration when integrating health and wellbeing into the customer experience at the airport. SFO as an organization has made a significant commitment to caring for the mental, emotional and physical wellbeing of its passengers and employees.



VALUES

Locality & Sense of Place
Revenue Generation
Convenience & Service
Wayfinding
Time & Efficiency
Arts & Culture
Health & Wellbeing
Sustainability
Look & Feel
Technology

HEALTH & WELLBEING

“Stress is cited as a common reality for travelers with more than a third believing travel is worse than work and nearly a quarter thinking its as stressful as moving house.”

– CPP STUDY

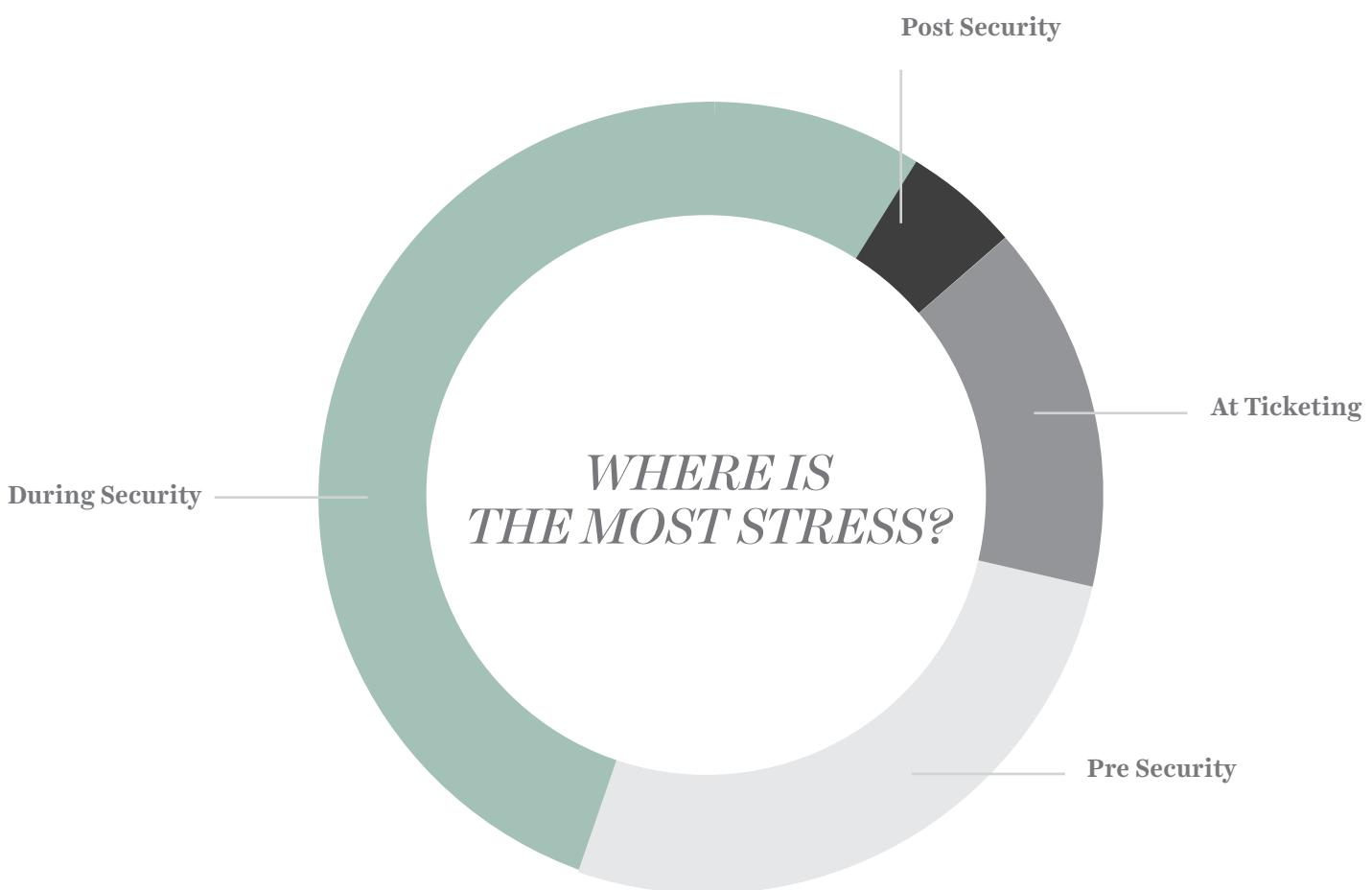
HEALTH AND WELLBEING AT SFO

When it comes to considering health and wellbeing in the airport experience, many factors are important, but paramount to them all is the reality and consequences of an unusually high level of stress that the airport experience causes for many people. Stress is cited as a common reality for travelers with more than a third of travelers believing travel is worse than work and nearly a quarter think it is as stressful as moving house. The research, which surveyed 2,000 British travelers and was conducted by credit card insurer CPP, also cites that nearly 9% of people avoid flying altogether because of airport stressors. Most people find that anxiety increases exponentially up to checkpoint, where it skyrockets, and is then dramatically reduced immediately after. For many travelers, the stress might be most intense at the security checkpoint but it will remain a constant presence until they are seated on the plane.

Though it may seem an obvious question, it is one that still needs to be asked: “Why the intense stress?” Though we may think we

THE MAIN STRESSORS CAN BE DIVIDED INTO THREE DISTINCT CAUSES: WAITING, STRESS CONCERNING LOGISTICS, AND STRESS FROM THE BUILT ENVIRONMENT

know intuitively the answer to this question and we will undoubtedly be in part correct, there is a tremendous amount of complexity to answering – and addressing – the question holistically. If we begin to break down the main stressors, they can be divided into three distinct causes: stress from waiting, stress concerning logistics and interpersonal interaction with services, and stress from the built environment and the physical and abstract elements therein.



CREATING A NATURALLY HEALTHY AND HARMONIOUS ENVIRONMENT CAN REDUCE STRESS SIGNIFICANTLY

HEALTH AND WELLBEING AT SFO

Service

The service experience at airports in many ways links directly to the anxiety, stress and negative psychological outcomes of the typical passenger experience. At SFO it is important to remember that the airport does not control all points of the journey. TSA and the airlines play a major role in setting the tone of the customer's journey. This reality begs the question, "What is the airport to do about those experiential touch points over which they have little to no control?" In many ways, the answer to the question is a roundabout one, and much like the increased revenue from pleasant environmental design, like that seen at T2, it may well be the secondary and tertiary outcomes of caring for not only the customers but also the employees. Much like a space needs to tell passengers that they are being cared for and respected, so too it must do the same for employees who work there. While SFO has no direct bearing on TSA employees, it does,

to some extent, have the potential to affect the environment in which they work. Ultimately, if the operational systems flow smoothly and passengers understand how to move through their journey as seamlessly as possible, it can be assumed that their attitude towards -- and communication with -- employees and services of third party vendors will be improved. Additionally, the question of how SFO can affect third party spaces should be asked. It is the responsibility of designers to push the envelope and say "Can we affect the lighting at TSA? How can we make passenger traffic flow better up to, and immediately after, that area? How can we improve upon the experience?" By asking these questions and forming relationships with people who oversee these areas, the overall airport experience will benefit, including the wellbeing of all who work at and visit SFO.

Holistic Built Environments

Creating a naturally healthy and harmonious environment can reduce stress significantly. It is of utmost importance for the health and wellbeing of passengers and the employees who interact with them every day that the space they inhabit creates the same sort of experience that a superior hotel might. Well-planned environments that have a legitimate sense of place, a strong aesthetic presence and relate in some way to the airport as a whole are ultimately successful both from an experiential and a revenue point of view. It is perhaps more difficult to quantify, but the success of T2, which relies on a human-centric and experiential set of design parameters as well as the cultivation and nourishment of new, cutting edge vendors like Napa Farms, demonstrates the success that can be had from supporting unconventional and innovative design.

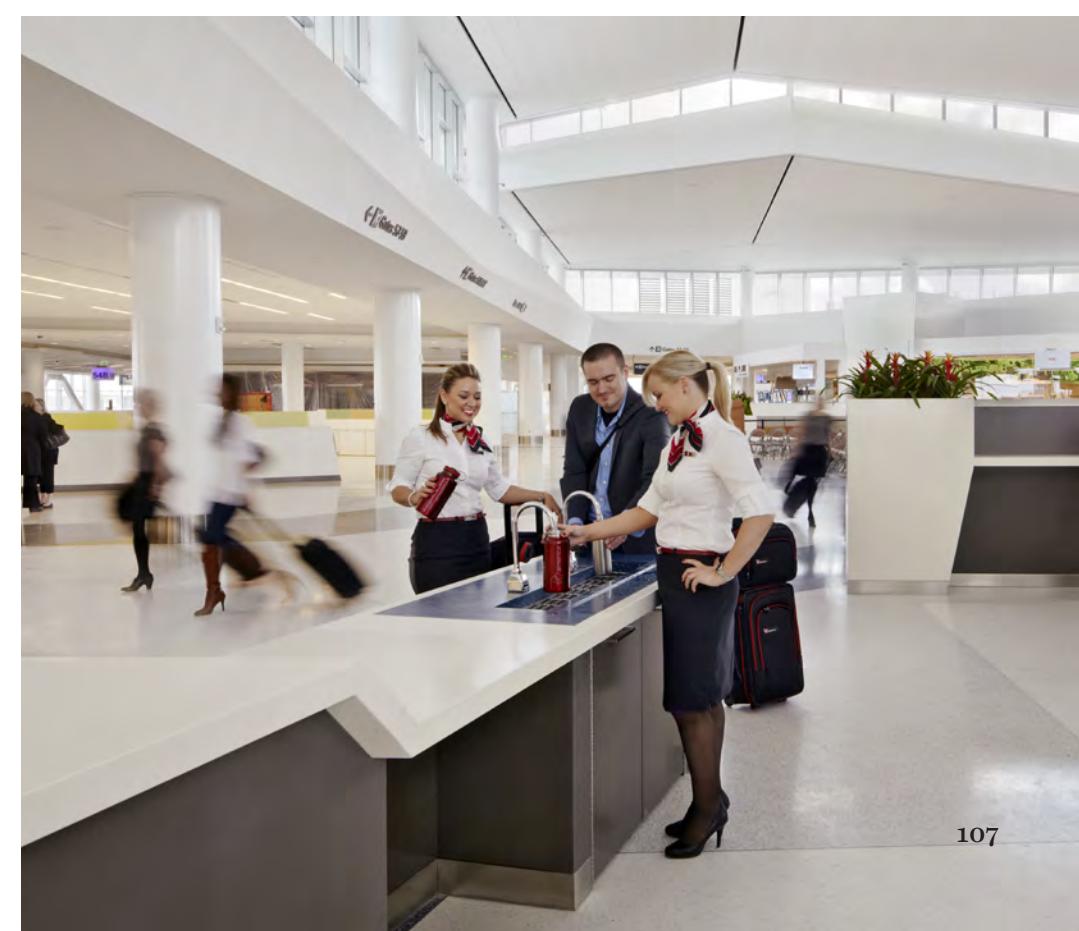
Visual Overload

Another important factor that causes discomfort and stress in the airport is sensory overload. Competing for space and attention at critical decision points is a cacophony of visual clutter -- signs and cues, each shouting for the attention of the harried traveler. Visual cues such as signage, medical devices, trash bins, art and advertising can all vie for attention, serving only to strain customers' senses until they are completely overwhelmed in their decision making. Ultimately, a hierarchy needs to be established among all of these necessary visual elements as well as recognition that it is the overall environment—the holistic outcome of the space—that takes precedence over any one element. Additionally, a consistent treatment of large scale and obtrusive visual elements must come into play. Providing advertising pieces within a niche or other home not only improves the look of them, but also serves to re-frame the conversation concerning advertising, bringing focus to the overall passenger experience.

Materiality

When considering health and wellbeing a number of aesthetic choices must also be tempered with healthy choices. For example, many materials approved for commercial applications have a tremendous amount of chemicals in their makeup. Looking for alternatives to these materials can be an opportunity to cultivate a healthier interior environment and establish SFO as a leading organization in the re-working of established,

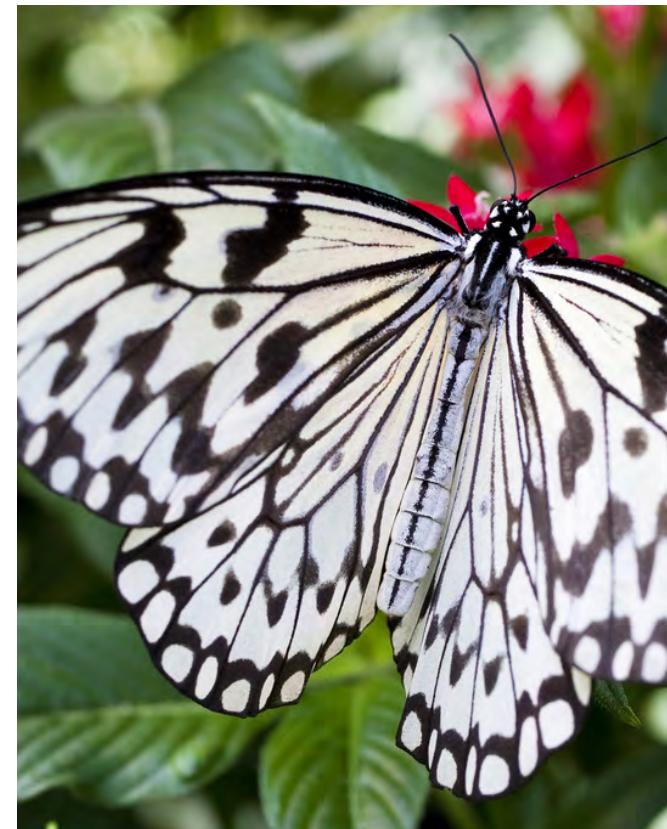
unhealthy standards. Additionally, using systems that deliver air in a sustainable fashion and more directly to customers as well as planning for daylight, all have a tremendous effect on the mental, emotional and physical comfort of passengers. These choices and new standards are the foundation for creating environments that are more sustainable not only from an environmental standpoint but from a social one as well.



BUTTERFLY GARDEN CHANGI AIRPORT SINGAPORE

A tropical habitat with lush vegetation

Capturing some of the lush vegetation that Southeast Asia is known for, Changi is able to infuse nature into the airport environment with various garden spaces forming the Nature Trail. The Butterfly Garden is just one of these spaces which allows passengers to learn and explore in an environment full of wonder and delight. Gardens such as this serve not only as a welcome respite for passengers who just need to take a breath of fresh air, but as an educational environment for children as well.



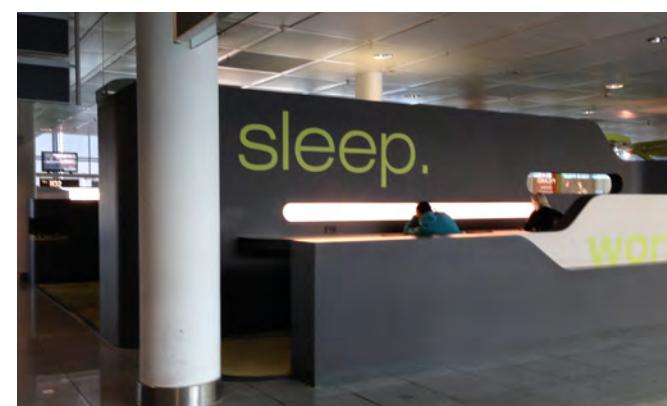
NAPCAB ROOMS, MUNICH AIRPORT

A place to relax in Munich

Long layovers can be a nuisance, particularly when traveling through multiple time zones and getting into places at odd hours.

Munich Airport (MUC) has reached the perfect solution by offering an area for sleeping, relaxing and chilling. Included in this space are Napcab rooms to catch up on sleep or relax with good music, which can be rented out by the hour.

Adjacent to this area is a section filled with greenery and a variety of seating types for comfort, relaxation and lounging, coupled with plenty of outlet spaces to recharge mobile devices. All in all, it's a perfect place to recharge not only mobile devices but the mind and body as well!



Strategies for implementing Health & Wellbeing

1

WELLNESS PROGRAMMING

Architects and designers have the unique opportunity at SFO to propose and execute innovative wellness programming. The SFO Yoga room has proven to be extremely popular with passengers and has re-framed the conversation about the airport experience. Considering food and beverage tenants who provide fresh, locally produced goods creates an atmosphere that is not only healthier, but is also a genuine reflection of San Francisco values. There are also opportunities for exercise programming such as walking paths.

2

SENSORY AMBIENCE

An important part of the passenger experience has much to do with our non visual senses. The quality of air, ambient noise and tactile variety are all design elements that are often under-considered, but that greatly impact the passenger experience. Thinking about ways to increase the quality of delivered air, provide natural indoor elements, decrease the cacophony of audio distraction and provide rich textural variations in materiality will benefit the overall experience.

3

STRESS REDUCTION

It is important for designers, consultants and airport employees to be constantly asking, "How do I reduce stress at the airport?" This key element is the most essential component in driving a better passenger experience. Productive wait times, communicating clearly and accurately as much as possible, incorporating amenities that alleviate or minimize stress and ensuring that spatial ambience and quality are at the highest standard are some, but not all of the techniques designers, consultants and SFO employees can use to address the issue of passenger anxiety and stress.

4

CLARITY AND WAYFINDING

A chief strategy to alleviating passenger stress is clear wayfinding, particularly for travelers new to the airport. Having clear signage that assists navigation is one of the most important elements in airport planning. Additionally, consider including intuitive wayfinding elements like unique architectural and art elements, use of color and views to the outside.

5

HEALTHY BUILDING CONCEPTS

Buildings today have advanced in both materiality and construction. Specific building elements that are important include integrating views to nature, having indoor greenery, incorporating natural lighting, introducing low velocity air and using natural materials. Another aspect of a healthy building is to have spatial and visual diversity to make it pleasing to occupants. For reference, check the San Francisco Green Ordinance.

6

NATURE

Natural elements give the brain a break. Essentially, visual clutter overwhelms the human brain. Just by looking at nature, the negative effects of over-stimulation are mitigated and the brain has time to reset, decreasing stress and allowing for better mental clarity.

DENISE / AUDREY PIERI / LAWRENCE

ROLES AT AIRPORT: Wellness Coordinator & Manager, Safety, Health and Wellness

HOW DOES SFO PROMOTE HEALTH AND WELLBEING FOR GUESTS AND EMPLOYEES AT THE AIRPORT?

SFO actively promotes health and wellbeing through a wellness model that consists of four components: physical, emotional, spiritual and financial. The Airport Commission provides employee workshops, health fairs, and a number of activities that support our wellness mission. SFO has consistently been ranked as one of the top 10 Healthiest employers in the Bay Area by the San Francisco Business Times.

To better serve our traveling guests we have a Recompose Area and Yoga room located in Terminal 2, past the security checkpoint. Here, guests have the opportunity and space to comfortably repack their belongings, stretch and relax before heading to the gates areas for their flight. If guest are traveling with children they are invited to visit our "Kid's Spots" play areas, located post security in Terminal 2 and Terminal 3.

WHAT ARE SOME OTHER WAYS HEALTH AND WELLBEING CAN BE INTEGRATED AT THE AIRPORT?

The Airport continuously strives to provide a balanced wellness program for its employees and traveling guests which encourages living a healthy lifestyle. A few ways wellbeing can be integrated at the Airport:

- A par course around the terminals where passengers can stretch and exercise while waiting for their flight.
- A walk around the terminals will allow guests and employees to view art exhibits, purchase healthy food or watch the latest construction projects . One lap around the airport is approximately one mile!
- Another idea is to have a play room/ play area for children to watch children videos and have fun before their flight.
- Place a piano in one of the terminals where students from local music conservatories and programs come to play.
- Healthy Cooking demonstrations from the famous chefs who have restaurants at SFO i.e. Tyler Florence and Cat Cora.
- A quiet room for mindfulness where someone can sit quietly to relax and unwind or read a book.

WHAT ARE SOME OF THE REQUESTS YOU'VE HEARD REGARDING HEALTH AND WELLBEING?

- Sleep Pods
- Wellness and Exercise Classes
- Group Activities
- Fitness Center
- Farmers Market

We are listening! The Airport continues to encourage guests and employees to communicate through our various modes of communication. Our guests are welcome to provide comments at:

- Information booths located throughout the Terminals
- Visit flysfo.com



Sustainability

As a long-time leader in environmental sustainability, the overall goals of SFO are to make the smallest impact on the earth and be an example in influencing positive passenger and employee behavior, ushering in the next generation of caretakers for the planet. This has local and global ramifications, affecting passengers' travel to different destinations.



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SUSTAINABILITY



SUSTAINABILITY AT SFO

Sustainable Leaders

Similar to how the Bay Area has proven itself a leader in the tech sector and health and wellbeing, the region is also a leader in sustainability, creating and enforcing the highest standards of environmental policy and guidelines as well as striving to innovate and inspire future generations. The airport, an extension and reflection of the city of San Francisco and the Bay Area, has the unique opportunity to be not only a leader in sustainable practices but also set an example for the millions of passengers who

pass through the airport every year. This notion of engaging with the people who are touched by the airport environment has the potential to affect personal behaviors and shape expectations around the topic of sustainability, creating a ripple effect, the impact of which is difficult to measure but impossible to discount.

Sustainability can be realized through both large and small efforts. Whether it's innovative systems (e.g. displacement ventilation at T2), large scale implementation (e.g. reduction of Green House Gas Emissions) or hospitality inspired

gestures that affect behavior (e.g. the hydration stations,) all efforts must be focused on providing an improved, reliable, innovative and delightful human experience. It is important to recognize what efforts and innovations the airport is currently pursuing and also to continue seeking new and exciting opportunities that make legitimate environmental and social impacts, while keeping in mind the airport's high level goals of treading as lightly as possible on the earth and positively influencing human behavior.

As the first terminal of its kind in the United States to achieve LEED Gold certification, SFO's Terminal 2 has set the new standards for building and construction at SFO. In the future, new buildings and upgrades will be expected to meet LEED Gold requirements and should strive to exceed them. While the LEED system is useful for setting a course for successful sustainable building, it should by no means be the only standard of measurement. The Living Building Challenge is an even more rigorous set of standards and can be a useful tool for any designer or

architect strategizing about creating sustainable environments at SFO. Designers should partner with the SFO community to take into account ideas about sustainability - and especially life cycle costs - as part of the decision making process. Building a sustainable environment is about much more than checking off green requirements and should be seen as an exciting and inspiring opportunity for not just today but the future as well.



THE HUMAN STORY OF SUSTAINABILITY

In addition to encouraging different types of sustainable practice, engaging the customer in the sustainable story is of great value to SFO. By making environmental stewardship personal and imbuing a sense of ownership into each and every passenger who moves through the terminal spaces, SFO has the unique opportunity to impact social behavior in a serious way. An example of a sustainable and engaging element are the hydration stations at SFO.

The goal of reducing waste (all those single use plastic bottles) was met in a fun, engaging way that allows passengers to take part in the solution. The design mantra for this type of inclusion would be 'make it easy and make it fun' and the opportunities for these types of elements are many – especially with the implementation of new and more plentiful passenger amenities like amenities alcoves, children's play areas, museum spaces and market like concessions' spatial

configurations. Designers should also consider the opportunity for social sustainability and human health. By designing sustainable spaces at the airport, designers have the opportunity to not only make an environmental impact, but also positively impact the everyday lives of millions of people. Ultimately the message from the SFO sustainability leadership is to engage the customer, continue innovating sustainable practices and test drive new ideas!

ENVIRONMENTAL STEWARDSHIP

Environmental stewardship is one of the key pillars in SFO's mission to provide excellence in service. Greenhouse gas emissions reduction, energy conservation, renewable energy, water efficiency, air quality, preservation of natural resources, waste reduction, employee wellness and green building facilities are sustainable SFO values. In keeping with the City of San Francisco's Green Building Ordinance, which is one of the most ambitious in the nation, all new construction at the airport will seek LEED GOLD certification under the LEED NC program for green building strategies. The LEED rating system is a nationally recognized independent, third party verification that a building meets high standards for environmental responsibility, profitability, and is a safe and healthy place for occupants. LEED has certification programs for new buildings, commercial interiors, homes, retail environments, neighborhood developments and for the ongoing operations of existing buildings.

MANAGING RESOURCES

SFO has been pioneering new ways to manage and conserve the natural resources in what is, ultimately, an incredibly demanding environment. SFO has already begun to move towards the city of San Francisco's GHG reduction goals of 25% by 2017. With an overall reduction of 19% as of 2010, SFO continues to work with their operations to decrease emissions and offers financial and physical facility support for GHG reduction by SFO enterprises.

WATER

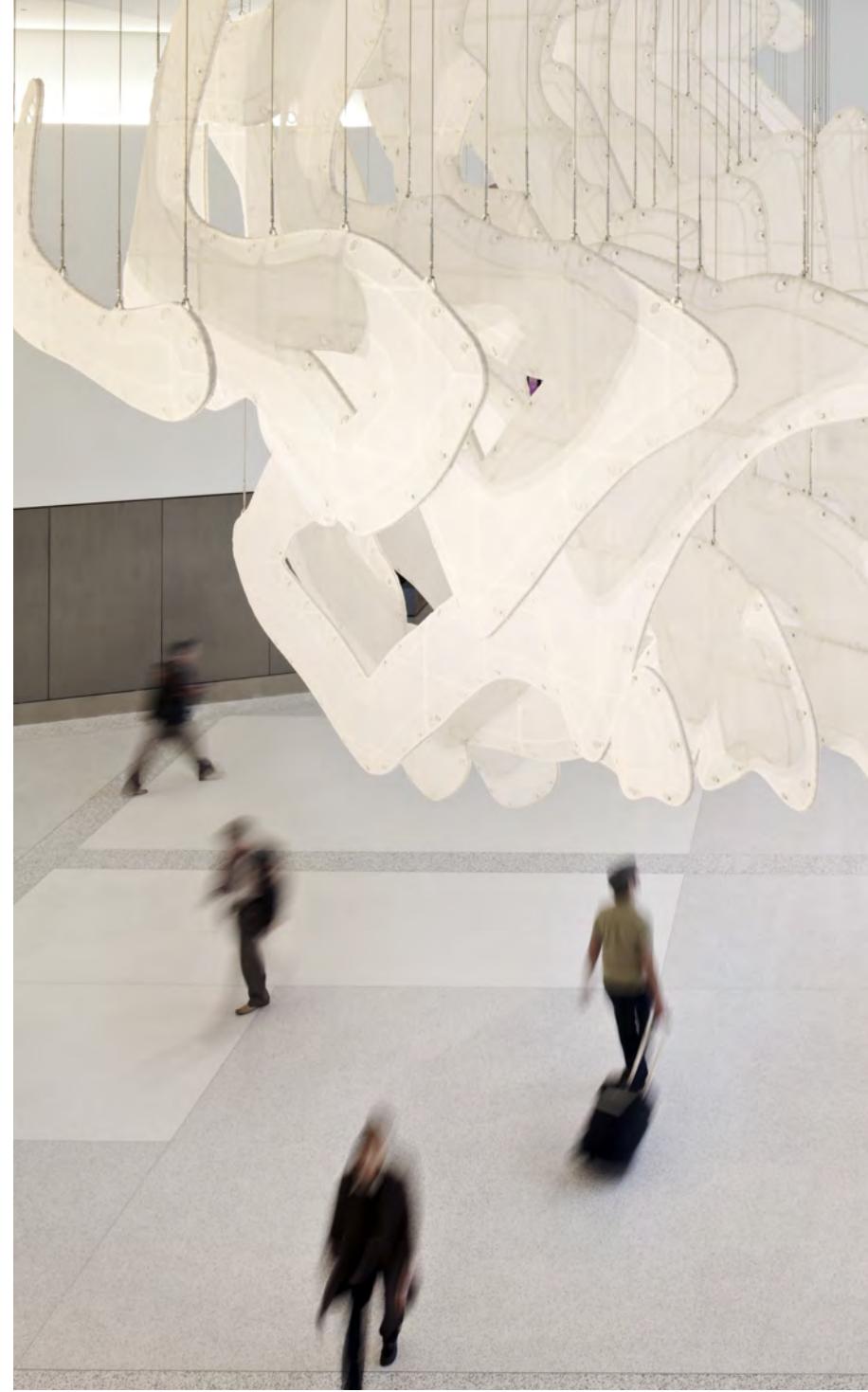
Efforts in water conservation include, but are not limited to, installing low flow fixtures, eliminating unnecessary hydrant flushing and replacing old or leaky pipes. SFO has reduced its potable water usage by 14% from 2004 to 2010. It is essential that SFO and its partners continue towards reducing potable water usage as well as considering the best systems to deal with greywater.

ENERGY

In 2010, the airport had over 49 electrical energy efficiency projects implemented and had reduced its electricity consumption by 6.3% compared to 2004 electricity use. By implementing lighting improvements, including requirements about efficient fixture types, HVAC efficiency and SFO Information technology energy saving measures, SFO has eliminated the needless waste of energy and created a greener campus. For the future, designers might consider more opportunities for photo voltaics, daylight harvesting and greener transportation.

LAND MANAGEMENT

In an effort to mitigate the 32 acres of on-Airport fill, SFO has actively improved 558 acres of wetlands and tidal marshes and has created 84 acres on new wetland in the Bay Area – a more than \$20 million dollar effort. Additionally, the airport has developed 50 acres of landscaping at the airport, planting 2,020 trees of over 15 different species—an effort that not only fosters a sense of place and pride for airport employees but has resulted in an estimated 121 metric tons of carbon sequestration in 2010.



SFO'S INTERNATIONAL TERMINAL WAS DESIGNED TO MINIMIZE ITS ENVIRONMENTAL FOOTPRINT. THIS PROJECT LED THE WAY TO SFO'S COMPREHENSIVE GREEN BUILDING PROGRAM, WHICH NOW INCLUDES A SUITE OF LEED-CERTIFIED BUILDINGS.

THE BULLIT CENTER SEATTLE, WASHINGTON

Excellence in sustainable design

On the cutting edge of green construction, the Bullitt Center uses a number of technical, legal, and social innovations to achieve the highest level of ecological performance to date. The long term, 250-year design of the building is unfamiliar to financing institutions, but plays a huge role in the sustainable gravitas of the project, outlasting other estimates by almost 200 years. The builders have negotiated with building material suppliers to ensure their products did not contain any of over 360 toxic chemicals. Energy neutrality is achieved with a large solar panel array on the roof of the building along with energy conservation measures that will cut the building's energy consumption to approximately 1/3 of a typical office building of similar size. Although the building will be connected to the electricity grid and may at times draw more power than it produces (especially during the winter), at other times it should produce enough surplus to "repay" such withdrawals, yielding annual energy neutrality. Lastly, the structure includes social design elements to reduce consumer energy use: the building may provide immediate feedback on energy use and publicize the energy consumption of each user.

OMEGA CENTER FOR SUSTAINABLE LIVING, NEW YORK

Using the building as a teaching tool

One of the highest achievements in sustainable design is to be certified by the Living Building Challenge. The Omega Center for Holistic Living in Rhinebeck, New York not only serves as an educational environment but also reclaims natural water in its facility. It is the first building in the US to receive both LEED Platinum and the Living Building Challenge certification.

It is a building which teaches visitors and occupants what's possible in terms of environmental sustainability.



Strategies for implementing Sustainability

1

DAYLIGHT

Incorporating optimal daylight into all new spaces and renovations contributes to a higher standard of human comfort and reduces energy consumption. Inspire the passengers. Making sustainable efforts visible to passengers makes stewardship significant and meaningful.

2

ENERGY + WATER

Energy: SFO currently conserves and creates energy using a number of different tactics. Consider how to incorporate sustainable energy tactics into all projects. Solar panels and reduction of electricity usage are just a few examples of possibilities. Focus on energy. Airports use power 24/7/365. Small efficiencies in energy consumption add up. **Water:** It is the ultimate goal of SFO to use no more water than that which falls naturally on the land SFO and its ancillary spaces occupy. Consider using innovative and well known technologies and methodologies to conserve water wherever possible.

3

EQUITY

Green development is about much more than just protecting the environment. It is also about developing a people centered model in which opportunities, choices and dignity are available to every individual. Consider that the growth of the green movement must be inclusive in order to truly thrive. Consider how your design affects all passengers.

4

AIR QUALITY

The quality of interior air is affected greatly by the type of HVAC system used, but is also impacted by the materiality used in a space. Be conscious of materials that off gas or degrade in such a way that they become toxic. It is also important to ensure that there are no conditions under which mold would grow, especially in the ventilation ducts and 'wet' areas, like restrooms, as this greatly impacts the air quality of a space and can cause serious illness.

5

BEHAVIOR + COMMUNITY

SFO is committed to impacting human behavior in a positive way when it comes to sustainability. Information about sustainability that informs and engages the passenger is of great value and there are plenty of methods to achieve this. Besides additional signage for green elements, consider the addition of engaging informational installations, architecture and design that promotes community and conversation and the opportunity to have a greater dialogue with the larger Bay Area green community.

6

MATERIALITY

Sustainable materials are a great way to incorporate healthy choices into the design while simultaneously engaging passengers and other design professionals in an active dialogue about sustainability. Consider the cradle to cradle implications of chosen materials and not only recycled content.

HOUSHANG/SAM ESMAILI / MEHTA

ROLES AT AIRPORT: Environmental Services Manager & Senior Engineer

WHEN DID THE SUSTAINABILITY PROGRAM START AT SFO?

In 1993 when we were working on the airport master plan, SFO had to address issues of construction and how to deal with hazardous materials. That's when compliance to regulations really began.

In 2008, SFO was recognized with an Environmental Protection Agency (EPA) Award for its Environmental Programs. It was at that time we thought about carbon neutrality and zero waste and with Terminal 2, we were able to implement some of these ideas.

WHAT WOULD YOU LIKE TO SEE IMPLEMENTED AS PART OF THE SUSTAINABILITY PROGRAM THAT HASN'T ALREADY BEEN INCLUDED?

We'd like to see landfill containers smaller than recycling or compost containers to encourage the public to recycle & compost.

We'd also like to see low flush urinals get implemented to reduce water usage.

WHAT IDEAS WOULD YOU LIKE TO SEE IMPLEMENTED IF IT WAS NO HOLDS BARRED?

Ban the sale of bottled water in concession and instead sell cups and water containers to make the hydration stations ubiquitous. The weight of transporting water contributes to the cost of water and yet we have the best water quality in the country.

We'd also like to have one day a week where it's an all vegetarian concession. It would slowly introduce the idea of the energy it takes to produce certain meals to the public.

It would also be great to encourage community and have family activities through things like the waterfall wall in Boarding Area E. There are exercise bikes that generate energy to produce waterfalls. It's a way for the public to feel good about participating in sustainable practices for energy.

WHAT ARE SOME OPPORTUNITIES FOR FUTURE DESIGNERS AND ARCHITECTS AT SFO?

SFO is good efficiency-wise at energy conservation but operationally, there can still be some improvements. For example, the natural light in Terminal 2 is great but operationally we still need to keep the lights on.

Encourage employees, tenants and other stakeholders to also participate in sustainable practices. Take a look at Adam Grant's philosophy (professor at Wharton and author of *Give and Take: A Revolutionary Approach to Success*), you get more rewards from people.



ERIN CUBBISON

ROLE: Senior Associate, Regional Sustainable Design Leader, Gensler

WHAT ARE THE TOP 10 WAYS AIRPORTS CAN BE GREENER?

1. Eliminate red list chemicals as much as possible
2. Efficient plane taxi-ing/take-off/ landing to minimize fuel waste
3. Vertical axis wind turbines along runways (and any other windy areas)
4. Make taking public transit to/from airport free/very low cost
5. Make the wayfinding to public transportation VERY clear and easy to follow and make the ticket purchasing VERY easy
6. Pay a living wage to all employees
7. Make landscape around airport into a valuable ecosystem, with storm water retention
8. All to-go ware required to be compostable and have compostable collection, right alongside garbage and recyclable collection.
9. Since airports are typically 1-2 stories, PV on roof surface has potential to provide a significant percentage of energy needed.
10. Perform ongoing commissioning of energy and water consuming systems.

WHAT ARE SOME BEST PRACTICE EXAMPLES FROM FOREIGN AIRPORTS THAT CAN BE INTEGRATED IN AMERICAN AIRPORTS?

Outdoor spaces integrated into the airport, especially in lobbies and transition areas.

WHAT ARE THE MOST SUSTAINABLE PRACTICES YOU'VE SEEN IN AIRPORTS AROUND THE WORLD?

1. Daylighting!!
2. Natural ventilation
3. On-site renewable energy generation
4. Healthy and organic food options
5. Water bottle refilling stations



Look & Feel

Overall aesthetics of a space are most harmonious when designer and client come together to deliver a beautifully and thoughtfully rendered space with customer satisfaction and delight in mind.

SAN FRANCISCO INTERNATIONAL AIRPORT



VALUES

- Sense of Place
- Revenue Generation
- Convenience & Service
- Wayfinding
- Time & Efficiency
- Arts & Culture
- Health & Wellbeing
- Sustainability
- Look & Feel**
- Technology

LOOK AND FEEL

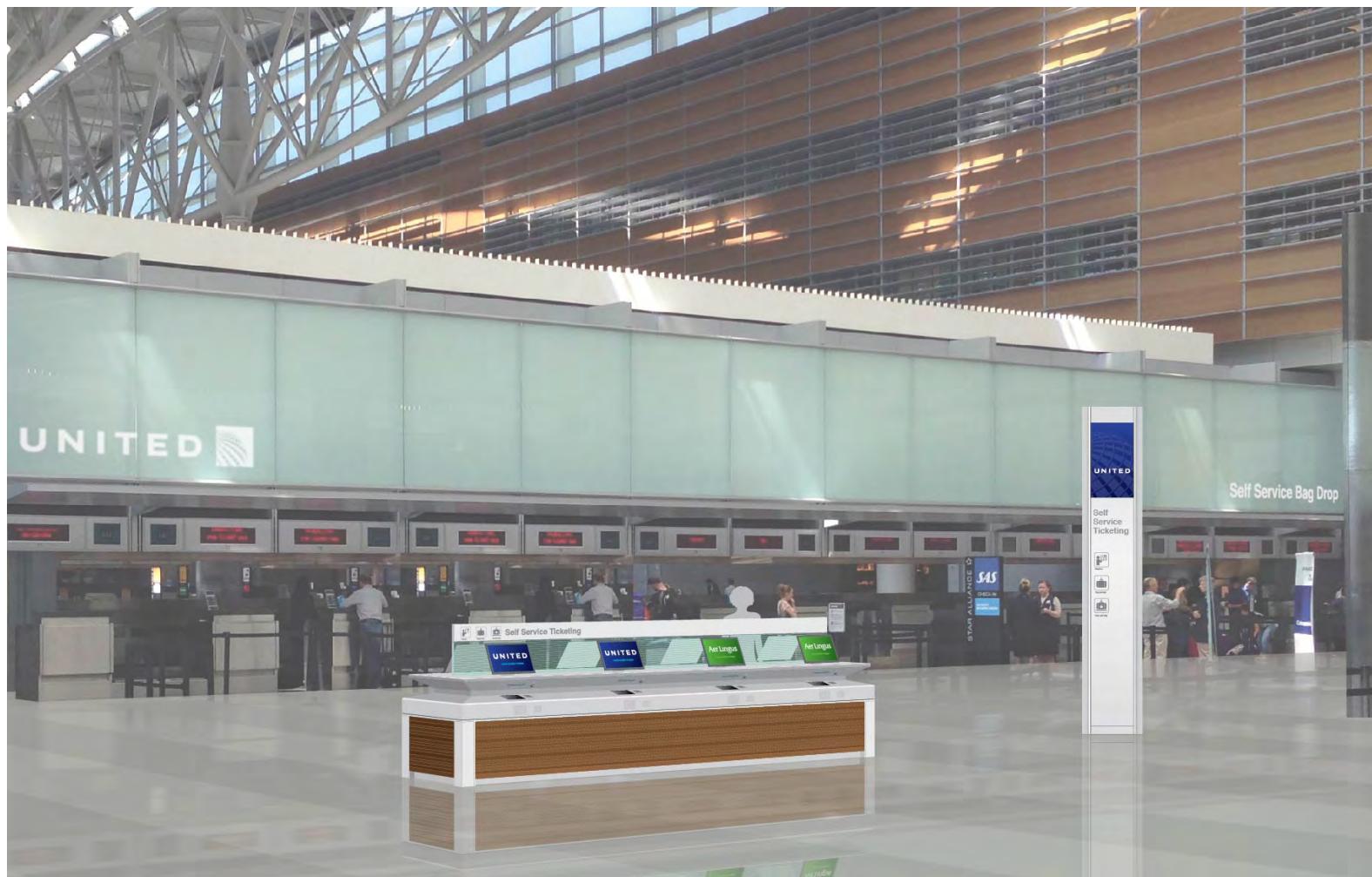
The look and feel at SFO is determined by the vision and collaboration of design consultants, SFO's design and construction teams and executive management. By understanding the greater aesthetic vision of SFO for the future, designers can move collectively towards an aesthetic in which all terminals can share a similar but still unique design language.

SFO has many different design aesthetics from many different eras in its portfolio of buildings. A helpful analogy to understand the desired make up of the future SFO campus is to consider that all terminals speak different dialects of the same language. Designers and architects should consider the shared vision of the overall SFO campus.

Airport design, with its feet firmly planted in the civic arena, is as much about the city and local pride as it is anything else. New trends in civic design have an optimistic and transparent directive. This type of architecture conveys to users that they are in a place that encourages open communication and are happy being 'seen'. This should be considered in the design of spaces, particularly in large public areas and the entrance and exits to the building.

Civic Minded Design

Looking toward conceptually driven, human-centric design in successful modern civic buildings, SFO strives to pair excellent programming with appropriate spatial volume, optimal daylight and conceptual drivers that are fresh and authentic. The International Terminal and Terminal 2 have both become iconic buildings for SFO. Though very different, both buildings have expansive glazing that helps bring light to the interior, helping save on energy costs and creating an environment that feels fresh and airy. Volumetric and varied interior space planning, modern, clean finishes and atypical furniture specifications inspired by high end hotels are found at T2 and have become the new standard for interior design at SFO. It is helpful for designers to recognize these successful design infrastructures and interpret these ideals to help SFO grow into the well-positioned future campus it desires to be.



THE CHANGING AIRPORT LANDSCAPE

Programming

Major airport planning trends change as safety concerns, technological advancements and human behavior evolve. Even in the brief history of the past twenty years, airports have undergone radical changes. Before 9/11 the pre- and post-security divide was virtually non-existent. Since then, airports have been required to add large scale security areas with an array of changing equipment and staffing needs. Most of these spaces had not been originally planned for and a tremendous number of new elements had to be absorbed into existing layouts. As consumers well know, many airports don't have sufficient space to offer a legitimate post-

security recompose area, creating congestion at the end of security with less able passengers struggling to put themselves back together. These types of changes have a major impact on the development of interior planning. Poorly considered outcomes of these spaces can result in frustrated passengers.

Behavior

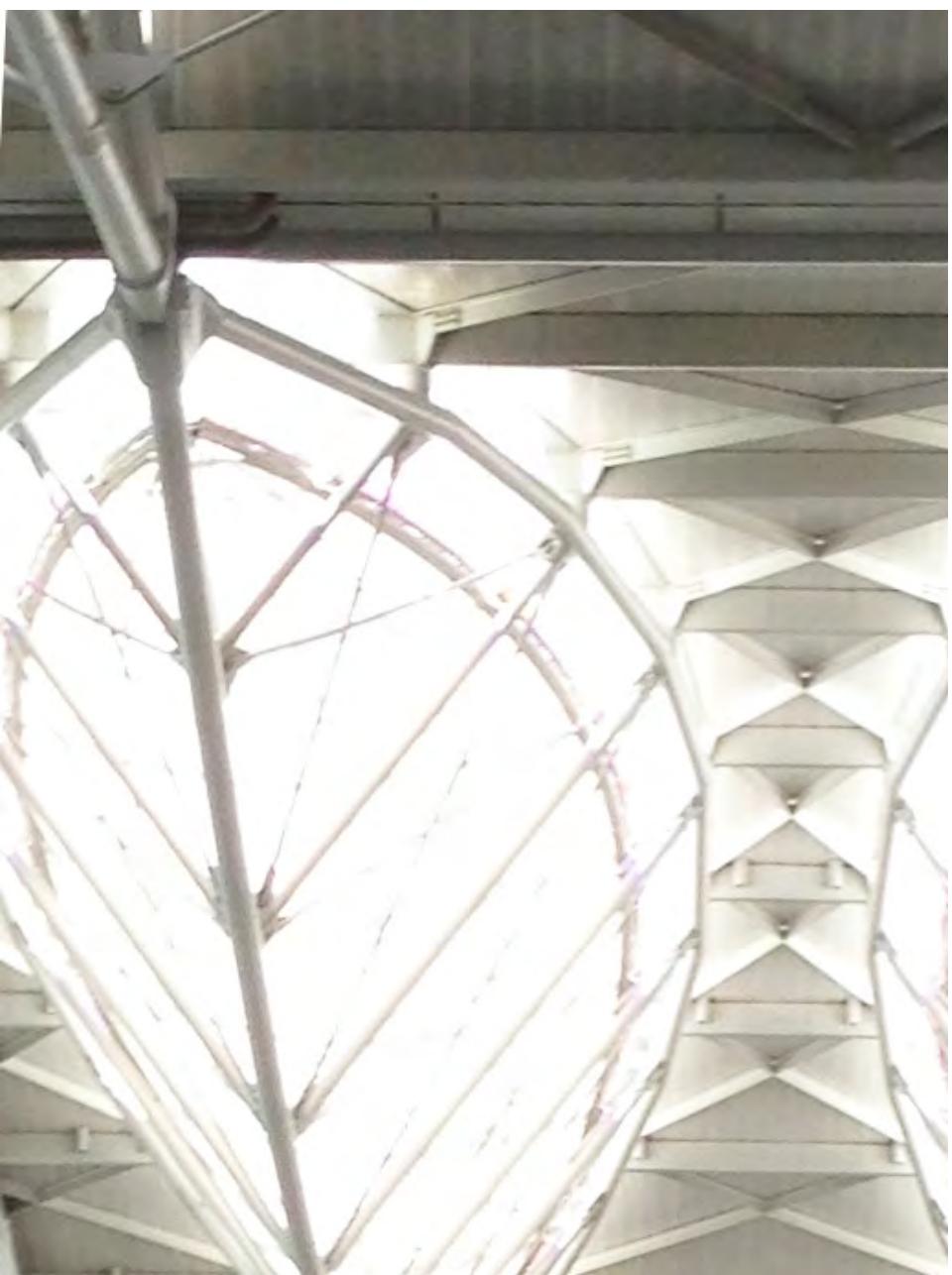
It's important for designers to consider the way that human behavior is changing. Today, many consumers navigate their world relying almost exclusively on mobile technology. What opportunities exist to enhance their experience? It might be assumed that this doesn't have spatial

implications, but studies show that these mobile passengers are happy to rely on self check, tag, bag and board but expect enhanced amenities in the airport terminals. Considering that the airport of the near future may be entirely consumer driven, with self check, self bag and tag and self board becoming the norm, designers will need to be cognizant of not only the spatial implications of new technologies but also the physical housing of the technologies themselves. It is important that these elements be consistently designed with a look and feel that is cohesive and recognizable, terminal to terminal.

DESIGN ELEMENTS

AMBIANCE

Everyone has a favorite restaurant, hotel, bar, park or public space that has “just the right ambiance.” Ambiance is an abstract concept, but a solid reality that is easily detected when done well. Ambiance comes from the harmony of all the design elements. Spatial volume, light and air, finishes, furniture and art all work towards creating an ambiance that enhances the experience of a place.



MATERIALITY

Finishes may vary from terminal to terminal but favoring neutral colors and materials is desired, especially in permanent installations and public areas. Trendy materials might strike a design fancy but are better suited for concessions or short term lease spaces that can be easily and readily refreshed. It is also important to consider the sustainable aspects of the material, not only for its recycled content, but also for the intrinsic, human qualities, durability and life cycle.

SCALE

Often airport design is meant to “wow”. With enormous interior spaces and grand formal gestures, architectural grandeur can instill in the passenger a sense of excitement about their journey and a respect for the city. This type of sensibility is a noble goal, but needs to be paired with a human-centric approach to design, at both the architectural and the interior level. Ensuring that human comfort is met and hopefully exceeds expectations is a prime goal for SFO. It is important for designers to understand how human scaled experiences impact the design. Will people feel comfortable waiting for their flight under enormously tall ceilings? How are the acoustics in these spaces? What about ventilation and glare? How do the many concessions’ needs, including proper ventilation, loading and unloading of goods, and branding, fit within the architectural envelope? Too often these elements must be retrofitted into the design after completion. Poorly conceived and implemented ‘fixes’ end up distracting greatly from the original architectural intent.

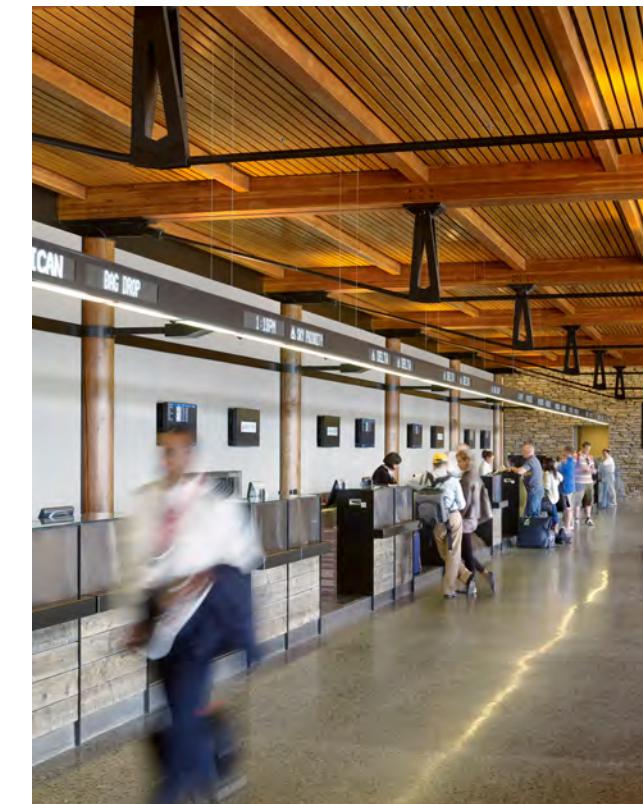
IT IS IMPORTANT FOR DESIGNERS TO UNDERSTAND HOW HUMAN SCALED EXPERIENCES IMPACT THE DESIGN.

CASE STUDIES LOOK AND FEEL

JACKSON HOLE AIRPORT, WYOMING

Sophisticated yet approachable design

The Jackson Hole Airport might not be the first place that pops into mind when people talk about major aviation projects, but as far as look and feel goes, Jackson Hole has excelled. The materiality and design concepts capture perfectly the rural Wyoming feel without being kitschy. The finishes used on the project convey a sense of place and the end result is a warm, approachable space that still feels sophisticated—perfect for an idyllic resort town.

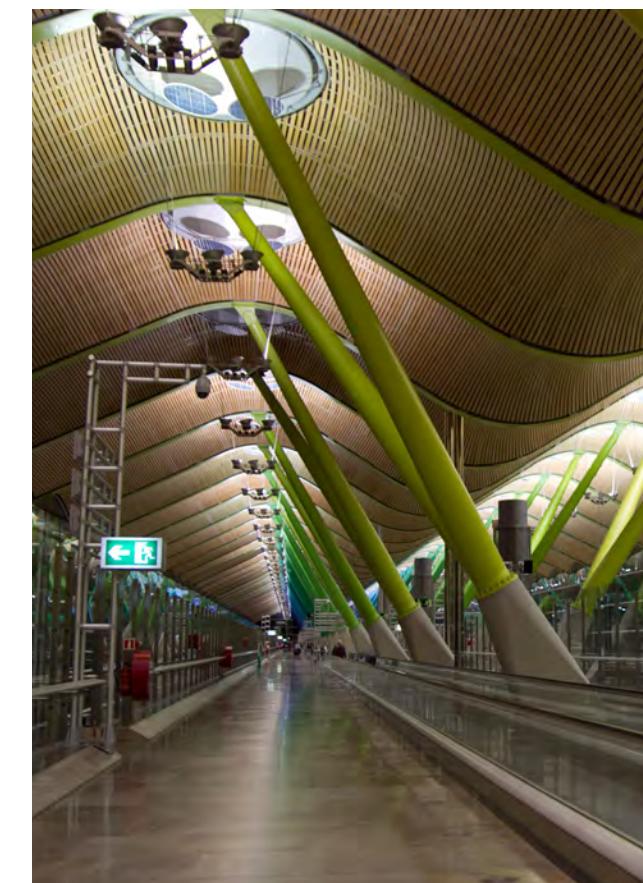


MADRID BARAJAS AIRPORT, SPAIN

Breathtakingly beautiful architecture

According to the New Yorker’s architecture critic, Paul Goldberger, the Madrid Barajas airport is “more breathtakingly beautiful than any airport I have ever seen.”

In Terminal 4S, the undulating roof brings in natural light and the painted structure adds brightness and vitality to the overall architecture. Use of natural materials, such as wood for the ceiling, also begins to enhance the space with a look and feel that is atypical of most airports.



JEFF HENRY

ROLE: Principal and Design Director, Gensler **FOCUS:** Retail and Hospitality

WHAT HAS YOUR ROLE BEEN IN PROJECTS AT SFO?

I served as Design Director for the interiors for T2. I've also played that role for the Boarding Area E and currently the T3 East Expansion project. I was also an adjunct member to the Design Review Committee when the concessions planning and buildout was occurring for T2.

WHAT WAS THE INSPIRATION FOR YOUR WORK AT SFO?

I realized I was not an Aviation and Transportation designer which I thought was a good thing. I tried to bring a fresh set of eyes with my retail and hospitality experience. From that standpoint, I tried not to think of how airports typically get built out. Typically they have a more corporate, institutional feel. Based on what I was hearing from SFO, it was time to think about the airport in different ways.

Instead, I tried to think about the project as a retail, hospitality and education project rather than a typical corporate project, blending all the different practice areas together.

WHAT INSPIRES YOU?

Nature, Museums, Graphic Design, Artists (Bay Area Figurists)

WHAT ARE SOME OF THE SIMILARITIES AND DIFFERENCES TO THE VARIOUS PROJECTS YOU'VE BEEN INVOLVED WITH?

In Terminal 2, we looked at Bay Area neighborhoods and the micro-climates, but rather than take the San Francisco neighborhood concept literally, we looked at it conceptually with ceiling heights and compression of spaces coming together.

For Terminal 3's Boarding Area E, we took a topographic approach. There was a real connection to the landscape and the airfield in that project. So it made sense to tie it to the landscape and create more of a topographic approach.

In thinking about concepts for T3, we wanted to do something different than the topographic approach for B/A E. It made sense that it was more of an atmospheric approach. It was a little more ethereal.

WHAT'S IT LIKE WORKING WITH SFO?

SFO is a wonderful client to work for. They have a goal of Reaching for #1 and they're very committed to that. The relationship is very forward thinking.

DO YOU HAVE ANY WORDS OF ADVICE FOR FUTURE DESIGNERS?

Make sure they have an understanding of what the major trends of the time are and it's important to not just go there and stop. It needs to have longevity beyond those trends. Be mindful of Gen X and Gen Y who will be passengers and think about how they use and want to experience the space.

Do something that can be adapted, morphed, changed, without ripping into tons of infrastructure. Once the physical manifestation of that concept came into being, we'd have a longevity that would be fresh even fifteen, twenty years from now. That is the key—to create a design that captures the spirit of the moment but will also have a life well beyond that.



AMIR KOLEINI

ROLE AT SFO: Principal Architect, Chair of the Design Review Committee (DRC) **TENURE AT SFO:** 27 years

HOW HAS THE AIRPORT CHANGED OVER THE YEARS?

Airports really have to make money. They are taking over all airport activity with the exception of flying the planes. In the case of Schiphol airport, it started as a shopping area first. Concessions have now moved from pre-security to post-security.

WHERE HAVE YOU SEEN THE BEST DESIGN?

Singapore's Changi airport has been able to incorporate greenery with a relaxing atmosphere. Having nature at the airport is good for edgy, stressed-out passengers.

WHAT ROLE SHOULD DESIGN PLAY AT THE AIRPORT?

Design should calm people down. It needs to create a soothing, harmonious atmosphere. You can do this with greenery, lighting, and sounds.

WHAT ARE SOME AREAS OF THE AIRPORT THAT NEED MORE ATTENTION?

There needs to be more emphasis on the checkpoint.

WHAT ABOUT THE AMENITIES?

{Designers} need to think about amenities as a part of the original architecture. That's why it's worked so well in T2. Right now we have inherited all these facilities and figure out where things go after.

WHAT OTHER AMENITIES WOULD YOU LIKE TO SEE AT THE AIRPORT?

SFO used to have a hair salon and they couldn't make it work in the end but I always thought it was a good idea. A salon might need to be integrated with another concession or service to help it.

It would be great to have a place to nap, a sleeping pod, that one can rent for a couple of hours.

Strategies for implementing Look and Feel

1

PLAN FOR CHANGE

It is important that designers acknowledge impermanence and remain flexible concerning the many changes and evolutions in the world of aviation. Consider these changes in the design.

2

Spatial Volume

Rather than revisiting the typical formal world of airport interior design with a main concourse flanked by concessions, consider new and interesting ways to shape space by designing freestanding concessions that create a more varied landscape in the terminals. A variety of spaces, from those that encourage exploration to those that are efficiently driven, will ensure passenger satisfaction.

3

Color + Materiality

Materiality should be an extension of concept rather than a decision based purely on aesthetic or durability considerations. Consider, too, the many possibilities of adding color. When done with discretion, color can enliven an otherwise dull space.

4

Furniture

Tandem seating is the 'go to' furniture type for airports. However, lounge and work furniture should be added to enhance the passenger experience. SFO has adopted the T2 furniture program as their new standard. Find opportunities to provide a variety of waiting, working and lounging seating configurations!

5

Programming

While much of the program at the airport is set, there still remains plenty of opportunities for new programming possibilities. The yoga room, for instance, is the home of a future secure connector but has received widespread praise and appreciation from passengers.



Technology

Technology should be thought of as a tool that can help designers create an enhanced passenger experience.

Whether it is streamlining operations to improve passenger needs or providing stimulating and memorable moments of engagement, the possibilities to utilize technology in exciting new ways are many.



VALUES

Locality & Sense of Place
Revenue Generation
Convenience & Hospitality
Wayfinding
Time & Efficiency
Arts & Culture
Health & Wellbeing
Sustainability
Look & Feel
Technology

TECHNOLOGY

TECHNOLOGY THINKING AT SFO

Behind the Scenes Technologies

Technology should not be thought of as an end, but rather a tool that has the power to enable SFO to deliver a premium passenger experience. Long recognized as a leader in the tech field -- with Silicon Valley and the Bay Area delivering the most cutting edge technologies so many of us now take for granted -- SFO is in a prime position to utilize its local resources and deliver outstanding technological services as well as memorable additions to the passenger journey.

TECHNOLOGY IS A POWERFUL TOOL AND ONE THAT IS CONSTANTLY CHANGING.

Behind the scenes technologies, not necessarily seen or touched by the passenger, are evolving in ways that will reshape airport environments world-wide. With the implementation of many self service elements at airports, including self check, self tag and self board, the spatial realities of airports are undergoing dramatic changes. It is the responsibility of the designer to recognize the opportunities in such dramatic programmatic shifts. If ticketing lobbies become smaller and less populated, perhaps that space could be re-allocated to elements that enhance passenger comfort and delight like

recompose areas and concessions. Conversely, self boarding units are large and may affect seat counts in hold room areas. Understanding and facilitating these new operational components will become important in the future at SFO.

Psychological Comfort

As touched upon in the health and wellbeing chapter, psychological comfort is a key component of passenger satisfaction. Technology has the unique advantage of being a flexible, changeable tool that, with the right infrastructure, can do tremendous work in mitigating passenger stress. By considering the customer service experience as one that spans highly tech-savvy customers to those who may not be comfortable with technology at all, SFO can meet the needs of its diverse customer demographics. Simply put, SFO must provide basic needs through multiple platforms—a robust signage program and customer service personnel for low tech users, publicly accessible technology for passengers with some tech abilities and mobile technologies for passengers with advanced technological proclivity. Every stage of the journey must be considered, from the moment the passenger decides to book a ticket with SFO and interfaces with the website to checking in, passing security, and advancing through the terminal to their gate.

As has been shown in multiple surveys, the security checkpoint is the highest point of stress in the passenger journey. While SFO cannot directly affect TSA policies and practices, new technologies



may help communicate to passengers

what to expect. The TSA queue is an optimum time to provide the passenger with information about wait times, walking distance to gates, and dining, shopping and activity options that will greet them in the terminal. Imagine the benefits for concessions if passengers could pre-order meals or organize their path in order to visit a specific restaurant or shop. Wait and walking times increase a passenger's psychological comfort by reallocating a sense of control into the hands of each individual and simultaneously allowing the passenger to organize their schedule and optimize their time while in the terminal.

Operations

The most crucial aspect of technology at SFO is ensuring that operations are running as effectively as possible.

THE MOST CRUCIAL ASPECT OF TECHNOLOGY AT SFO IS ENSURING THAT OPERATIONS ARE RUNNING AS EFFECTIVELY AS POSSIBLE.

Operations have the greatest impact on passenger perception and comfort. While many of these are 'unseen' by the passenger—security systems, FID's and baggage handling, to name a few—others are in the spotlight. With the rapid evolution of technology, elements and services that were once regarded as luxuries are now perceived as absolute necessities. Chief among these is free wi-fi, with passengers ranking it as the number one complaint in customer satisfaction surveys in 2012. It is absolutely crucial that SFO provide these perceived necessities to passengers with as few interruptions as possible.

SELF SERVICE

In the very near future, the airport environment could be almost entirely self service. Self check, bag and board are being implemented separately or together all over the world with varying degrees of success. SFO supports the self check process seamlessly and is beginning to work with some airlines to incorporate self boarding into the holdroom layout. Designers should be aware of the implications these new systems have on space.

COMMON USE SELF SERVICE UNITS

As freestanding, SFO-operated check-in units at SFO, the Common Use Self Service (CUSS) kiosks provide basic technologies for checking into a flight. The aesthetics should be cohesive campus-wide.

WI-FI

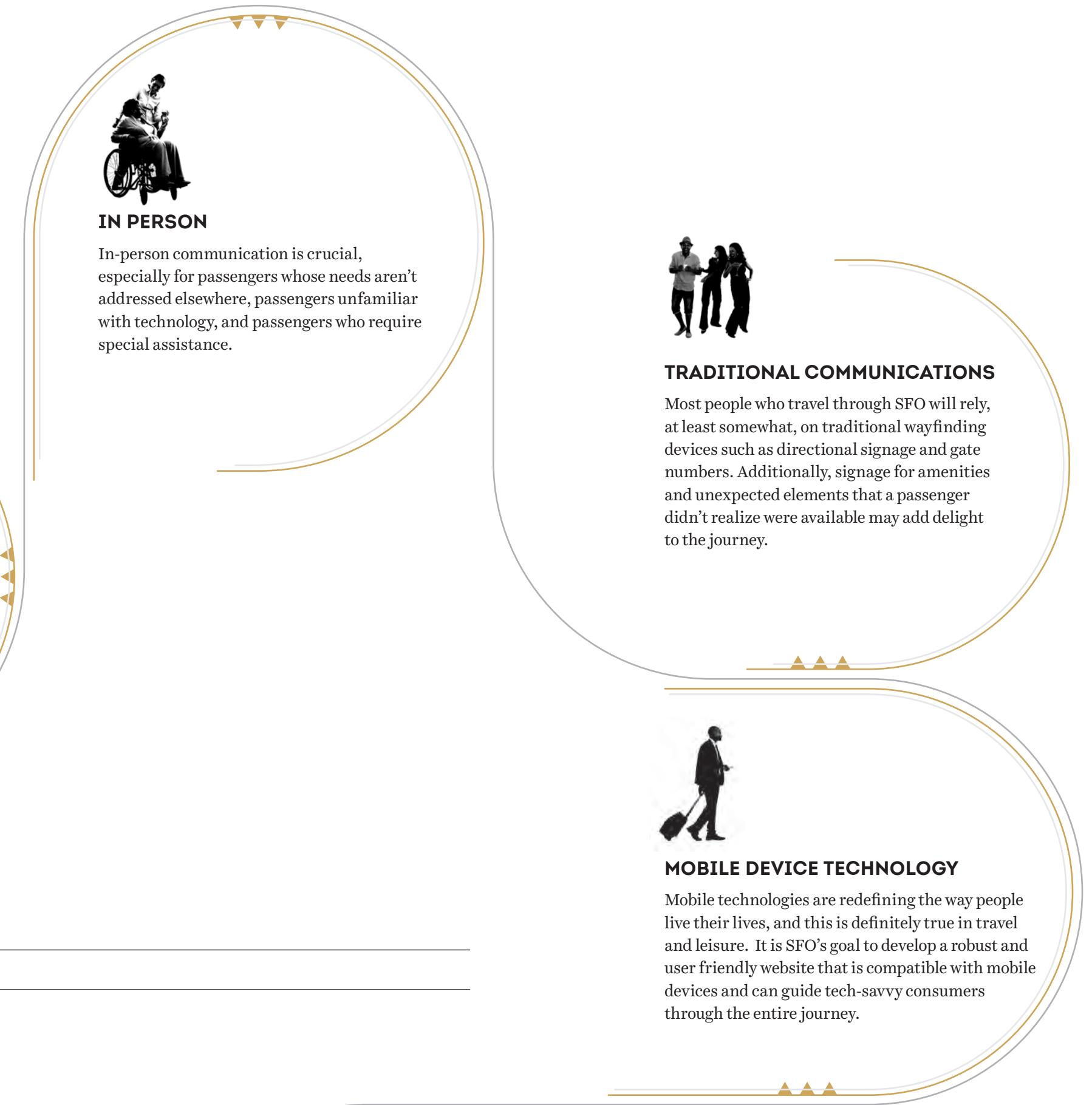
Not always considered an operational element, free and fast wi-fi is now a must-have. Passengers expect the wi-fi to not only be free and accessible, but have the capacity to stream video and music without difficulty.

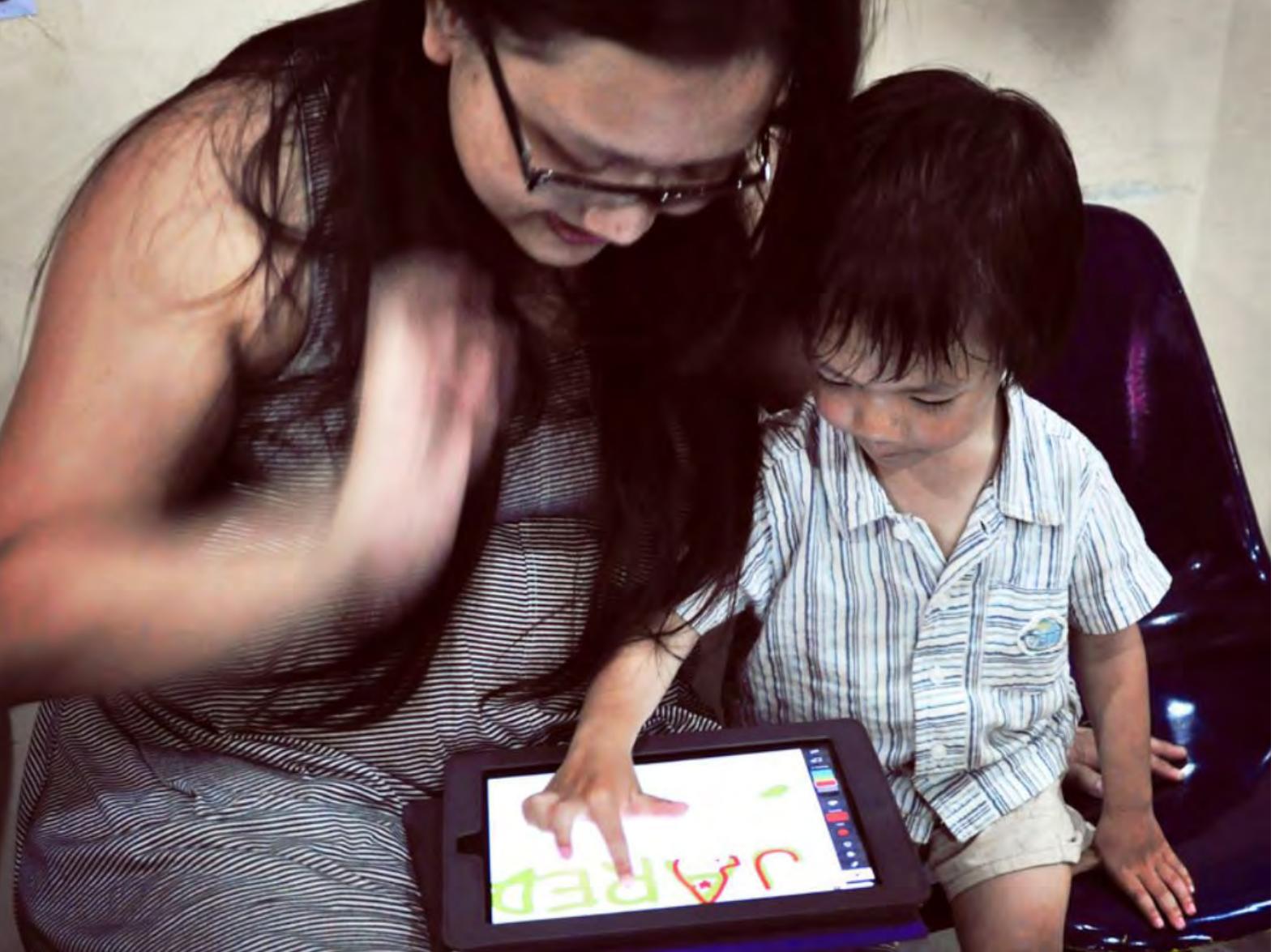
BEHIND THE SCENES

The airport relies on a variety of technologies to function. Consider the amount of hardware and coordination for security screening throughout all the spaces alone. It's important that designers remember these technologies and consider them in renovations and new construction.

COMMUNICATION AND TECHNOLOGY

Consider that passengers coming from all over the world have very different communication modalities. Culturally, we read signage differently, walk on different sides of the street and say hello and goodbye in thousands of different ways. It is important to note where the users are visiting from or going to and to understand these nuances in order to provide a positive SFO experience for all.





TECHNOLOGY AND THE PASSENGER EXPERIENCE

MAKE WAITING BETTER

It is crucial that everyone involved in design and construction at SFO consider what opportunities exist to facilitate productive wait times for passengers. Using the abilities that technology provides, the airport can relay information about estimated checkpoint waits, walking time to gates and more. How to deal with this information is up to the team's imagination. It could be as simple as adding a variety of nature and art features to help soothe passengers minds or as integrated as a pre-order system for food and beverage concessions.

INFORM

The 'Flight Deck' is an opportunity to engage passengers in a fun, exciting way. Consider where these types of technologies might best serve the passenger journey. Plazas and other entry points to boarding areas are ideal locations as these are key wayfinding and decision making points for travelers.

ENGAGE

Technology provides many different types of opportunities to engage passengers -- from kids being totally absorbed in floor-projected activities and games to everyone being wowed by technologically driven art installations. Making a memorable experience with technology is an additive exercise in the design process, but should be considered as a way to challenge traditional modes of thinking and provide fresh, innovative experiences.

CONNECT

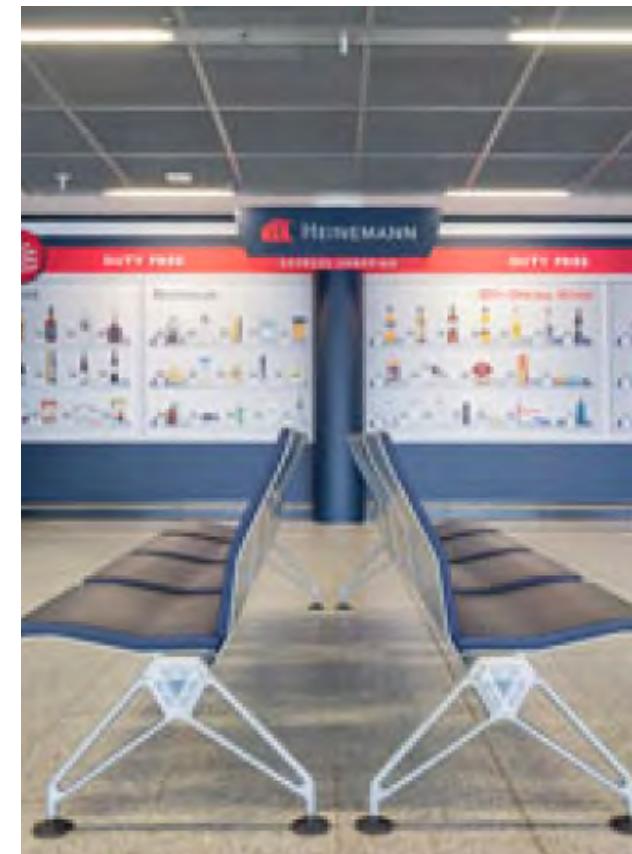
San Francisco and the Bay Area are full of vibrant places and people. Why not use technology to connect people to some of these experiences and each other? For example, virtual postcards and videos are a great way for people to connect emotionally with loved ones as well as providing a dynamic and engaging virtual experience to some of San Francisco's most beloved places and icons.

CASE STUDIES TECHNOLOGY

SMARTPHONE SHOPPING WALL FRANKFURT INTL.

Innovative Technology

With duty free shopping being one of SFO's biggest concessions revenue generators, it is of great interest to understand how this experience is being reshaped by new technologies, and how international passengers especially might interact with different types of retail environments. Duty free at Frankfurt Airport has been re imagined as a huge wall feature that allows shoppers to scan items on their smart phones and when done shopping, proceed to a pick up area to pay for and retrieve their products. Gebr Heinemann, the company responsible for the new technology says, "The main point of it is not to make a lot of sales. We are more interested in finding out how the new virtual shop is used and which nationalities it appeals to most. At the same time, of course, we want to make shopping even easier and more relaxing for our customers".



CHECKPOINT OF THE FUTURE, IATA

Alternative High-Tech Security Measures

In November 2011, CNN Tech published an article on the future of airport technology. Not surprisingly, one of the highlights was looking at alternatives to the Checkpoint technology that's currently available.

Prototyping their new Checkpoint of the Future, International Air Transport Association (IATA) devised a system consisting simply of three corridors; passengers would be assigned a travel profile and would be ushered through one of the spaces accordingly. For example, "Known Travelers" would be ushered through with a simple ID check, whereas the "Enhanced" checkpoint would have a range of scans and detectors.

As more alternative security measures continue to appear, with even the TSA offering a Pre-Check service, look for continued improvements to Checkpoint technology.



WADE FORST / ALAN SHIMOIDE

ROLES: Director, Emerging Experiences & Senior Technical Architect, Razorfish

WHAT ARE SOME TRENDS IN TECHNOLOGY LOOKING FIVE YEARS OUT?

1. There will be more technology in public spaces.
2. There will be more computer vision and augmented reality, with a reliance on big data.
3. Consumers will have more wearable computing.
4. Being able to retreat from technology will be equally as important.
5. There will be greater profiling, everyone will be collecting data on you.

WHAT ABOUT TECHNOLOGY AND RETAIL?

Retail will change though maybe not so much at the airport. It's all about convenience, service, make it more of a destination and provide destination content.

Retail personnel will now become the empowered associate, you won't need to queue up anymore...you'll be able to tap a magazine and purchase it. But people will always be there as experts and holders of knowledge.

Content is really important. For retail, you need to pick the right content and curate it; it's what makes SFO unique. What differentiates T2 from other terminals is the localness of it. With digital you can tell store is with the product.

WHAT ABOUT TECHNOLOGY AND ADVERTISING?

You need to consider context and place. In the example of Clear Channel, they wanted to use bathroom mirrors for advertisements. It might have worked if it said it was sponsored by Dove soap... you need to think of how you advertise as opposed to just advertising space. There should be subtle advertising.

HOW ELSE CAN TECHNOLOGY BE INTEGRATED IN THE PASSENGER EXPERIENCE?

Imagine if you had to have a full body scan at the airport for security but that data can then be sent to Nordstrom's to tell them the perfect fit of jeans for you.

The security line is a captive audience, wait times can be used for impulse buys, (Caveat: I think they did this at Target too where they lined the queue with product. It failed horribly and they changed the lines back to just being a line.)



Strategies for implementing Technology

1

WAIT TIME TECHNOLOGIES

Adding wait time technologies at security checkpoints will help detract from the discomfort of the security process and engage the passenger in the positive portion of their journey. Adding walk time to gates at recompose areas will help passengers plan their journey to the gate and understand better whether they have time to stop off at a concession.

2

MOBILE ACCESS

It is important to recognize that mobile access is the way of the future and more and more passengers will rely on their mobile device to complete the basics of travel. They will also look to mobile technology to provide content supplementing the leisure parts of their journey.

3

ENGAGING TECHNOLOGIES

Engaging technologies could manifest in so many different ways. As the airport continues to undergo renovation, consider how technology can act as a tool of engagement and make the passenger journey more pleasant, unique and memorable.

4

SELF SERVICE

Technology is reshaping the operations and customer service experience at airports world wide. Check in, bag tag and boarding are all trending toward self service.

5

DYNAMIC SIGNAGE

Dynamic signage will undoubtedly change the face of wayfinding and signage systems at SFO and elsewhere. While it should not be done for the sake of being done and should ideally only be used at places where content changes regularly, it is important to ensure that the placement and housing for these signs is in place.

7

HIGHLIGHT EXISTING TECHNOLOGY

Consider ways to educate and inform passengers about information that's delivered using already existing technologies at the airport, but may be underutilized, like the SFO website and ground transportation information listings.

6

BIG DATA

A leading technology trend now is the tracking of big data for the customization of advertisements and customer experiences. This type of customization will begin showing up with increasing frequency.

The Airport Journey



In considering airport planning, consultants often think of their designs as a series of Journey Moments in the entire experience of the space. At SFO, there are sixteen different Journey Moments that constitute the airport. Passengers can bypass some areas and spend longer times in others, but regardless, all of these spaces make up the airport experience.



Approach

Ticketing

Checkpoint

Recompose

Plazas

Concourse

Concessions

Waiting & Lounge

Play Areas

Restrooms

Passenger Amenities

Arts & Exhibits

Meet & Greet

Baggage Claim

Arrivals Curbside

Connectors & Tunnels

BUSINESS PASSENGERS

For a business passenger, travel is constant. The Approach should be an easy gateway to the rest of the airport. Some experienced travelers go straight to Checkpoint.

FAMILY PASSENGERS

This is an important area for family passengers to transition into the airport. Provide plenty of seating options for them to gather.

ASSISTED PASSENGERS

Assistance for Assisted Passengers should be readily available in the Approach to help them through the rest of their journey.

UNIQUE PASSENGERS

Make Pet Relief and Smoking areas easy to spot and access.

Key Values

Convenience & Hospitality

Passenger stress is typically found to be higher in the pre-security areas and this begins with the Approach. Care should be given to make it convenient for passengers. Providing a welcoming entry, transparency of the functions held within and clarity of knowing where to go next in this area can positively impact the design.

Locality & Sense of Place

The airport is such a distinctive environment and one that is a point of civic pride and a kind of handshake from the city. Iconic architectural features such as the facade of the International Terminal and the newly constructed control tower all have important placemaking abilities.

Wayfinding!

Every passenger's journey in the airport begins with the Approach. From this point on the passenger will need to navigate through the architecture to get to their destination. Facilitating a seamless journey from the very beginning is important.

Arts & Culture

San Francisco has a rich culture and the Approach is a link between the airport interior and the rest of the city. Consider a unique, distinguishable facade that harmonizes with the SFO campus. There are also opportunities for commissioned art in this area as it can act as a photo opportunity and leave a lasting impression on a passenger's experience.

Time & Efficiency

It is crucial that passengers have a clear path of approach to ensure an efficient and timely beginning to their journey. Essentially, make it as easy as possible for passengers to find and get to where they need to be.

Opportunities Checklist

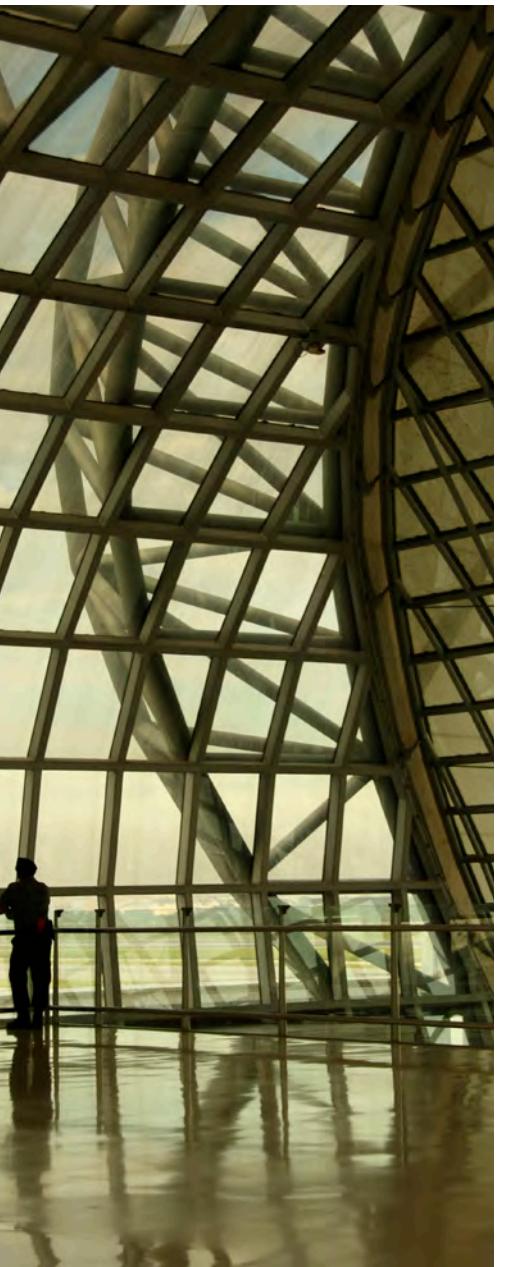
THINGS TO CONSIDER

- Connection to the City**
Consider the Approach as a connection to the city and a first impression of the airport. What message does it convey?
- Key Entrances**
Consider the different means of Approach, i.e. via car, taxi, train, or pedestrian approach from another terminal. Identify the key entrances especially as they relate to wayfinding. How does the entrance set the tone for the overall experience?
- Technology**
Consider interactive wayfinding. Are there ways to use technology to enrich the passenger experience beginning at the Approach?
- Wayfinding**
Establish a hierarchy of visual information and signage. Ensure visibility into the building from the exterior, paying particular attention to the ease with which airlines can be located. Provide clear exterior terminal identification.
- Daylighting**
Examine how daylighting affects manned spaces, such as curbside check-in. Provide shading to mitigate direct sunlight on monitors and screens.

SOME ESSENTIALS

- Information Processing**
Individuals can only process six pieces of information at a time. What pieces of information does the passenger need to know at the Approach?
- Airline Regulations**
Coordinate with airlines for curbside check-in kiosks. Balance airline branding with SFO-specific terminal exterior.
- HVAC Systems**
Maintain positive/negative airflow at entry vestibules.
- Services**
Coordinate with Revenue Development for tenants such as Smarte Cartes and determine any special requirements for power.
- Additional Amenities**
Additional amenities such as curbside check-in counters, smoking areas, pet relief areas, pre-security concessions and alternative seating should be considered in the Approach.
- Electrical Lighting**
Ensure that there is proper evening light levels at curb and building entry.

Future Forecast



1 Create Excitement for Travel

Create anticipation and excitement for travel by having easy to navigate roads that convey the location of the airport by leading to a recognizable building or form on the horizon. For example, the Jackson Hole airport (JAC) creates a front door to the Wyoming mountain range and reflects the local sensibilities, materials and atmosphere.

3 Transparency to Activity

As a public institution and a transit hub, the exterior of the terminals should have a civic spirit that conveys transparency and supports passengers needs for clear and easy wayfinding. Seeing a glimpse of the process in the building may also help reduce stress.

2 The Airport as a Connection to the City

Tim Brown of IDEO recently described airports as the welcome mats of the places that we visit. As a transportation hub, it gives visitors the first and last impression of a city. The Approach can convey an attitude about the Bay Area with a nod to civic institutions. The facade should be transparent to the functions housed within and integrate with the rest of the airport architecture. Consider a distinguishable facade that harmonizes with the rest of the campus design.



DEPARTING PASSENGERS

Adequate space for people to convene, gather their luggage and be able to compose themselves prior to the Ticketing area should be considered in the design, particularly for families or leisure passengers who travel in groups of three or more.

Gensler surveyed over 500 passengers and for more than 50% of those passengers, stress tends to be higher in pre-security areas, which aligns with other airport studies. This means ensuring the Approach is as stress-free as possible is important in setting a good first impression for the airport experience.

JACKSON HOLE AIRPORT, WYOMING

The Jackson Hole Airport in Wyoming reflects its environment so seamlessly that passengers can't help but get excited about the experience.





The early stages of a service experience are important in determining customers' perceptions of the service encounter to follow, in what is called the "halo effect."¹ As a visitor's first point of contact with the airline, make sure Ticketing creates an intuitive experience that passengers can easily breeze through, setting a tone for the rest of their airport experience. This zone is layered with a generous circulation path, a defined queuing zone, and the ticket counters themselves. Working with airline

designs to create a cohesive experience adds a level of sophistication appropriate for SFO. The proximity to security queuing adds another layer of complexity in this area, and the journey from ticketing to security should be considered in the design. Accessible views, cohesive look and feel and access to information are all elements that make the passenger experience free of stress and more enjoyable.

JOURNEY MOMENTS

Approach
Ticketing
Checkpoint
Recompose
Plazas
Concourse
Concessions
Waiting & Lounge

Play Areas
Restrooms
Passenger Amenities
Arts & Exhibits
Meet & Greet
Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Technology

Technology is perhaps the number one driver in terms of changing the Ticketing area. Ubiquitous use of mobile devices such as smart phones and tablets will decrease the need for physical check-in counter. Passengers will become more adept at self-service and as technology continues to reduce in size, the amount of space required will as well.

Convenience & Hospitality

There is an increasing focus in air travel on hospitality. By creating environments where passengers can meet other people, it can help offset the inherent loneliness of business travel.² A greater emphasis on comfort (variety of amenities, a restorative focus), experience (having a sense of place, the airport as a destination), and high quality service will continue to shape the passenger experience.³

BUSINESS PASSENGERS

Business passengers will typically bypass this space by checking in online and downloading their boarding pass to their mobile.

FAMILY PASSENGERS

Family passengers will continue to frequent the Ticketing counter to check in luggage and multiple passengers at a time. For shorter flights, they can expedite this by checking in online.

ASSISTED PASSENGERS

For passengers who need mobile assistance, Ticketing is one of the first areas in the airport where they can seek wheelchair assistance.

Time & Efficiency

Self service technologies have made the ticketing process essentially optional, especially for passengers who aren't checking luggage. Self service in this area has made it far more efficient and less time consuming. The question remains how this will evolve in the future. Consider future flexibility of these spaces in anticipation of more changes. Keep passengers engaged and informed with wait time technologies.

Look & Feel

The Ticketing area is a prime location to set the tone for a terminal's look and feel. Consider too that the appropriate look and feel can elevate comfort and reduce stress.

Opportunities Checklist

THINGS TO CONSIDER

- Branding**
Embrace and guide airline branding. Are there opportunities to make the brand more visible? Is the branding visible when you walk in the door so customers can quickly make a decision about where to go? Examine the amount of queue space. Is there ample space for the ebb and flow of different queues?
- Passenger Flow**
Take into account the various methods of check in: standard check-in counters, self-check-in, baggage wrap. How do each of these get incorporated into the flow of the general Ticketing area?
- Flight Information**
Provide locations for Flight Information Displays (FIDs). Ensure that FIDs and BIDs are appropriately located.
- Stress Alleviation**
Think about opportunities to convey information to passengers such as expected wait times through security or airline departure times. Ticketing can be a stressful moment. What are some methods of alleviating passenger stress?
- Space**
Allow ample space in the Ticketing lobby for people to orient themselves to their journey and make initial decisions.

SOME ESSENTIALS

- Airlines Regulations**
Airline standards may dictate the Ticketing area.
- Customer Service**
Airline customer service can have a huge effect on a passenger's experience. What are some ways the design of the space can also be a good employee experience as well?
- Information Hierarchy**
Multiple layers of information need to be conveyed.
- Stress Alleviation**
Passengers can be stressed in the Ticketing area for various reasons.

Future Forecast



1

Time Efficiency Equals Space Efficiency

Electronic ticketing, electronic check-in kiosks and boarding pass printing stations, are all designed to help passengers save time. Airlines' use of these services not only means saved time but also saved space. Ticketing and check-in areas will likely shrink in size while others continue to grow (such as Checkpoint and Recompose areas).⁴

Less area may be needed but greater integration of technologies will need to be incorporated in the planning and design of these spaces.

3

Paperless Travelers

As passengers' comfort with technology continues to evolve, paperless travel becomes a viable option.⁴ For business travelers with frequent trips, this is a blessing. For larger groups, paperless travel may increase efficiency but coordination of people will still be needed. Less space will be required for standard check-in practices. Instead, space will be allocated to more electronic kiosks, charging stations and boarding pass printing stations.

2

Greater Self Service & the DIY Experience

Self check-in, self bag tagging, self boarding are all processes that are leading to a self-service generation. As a result of different applications and technologies available, the customer is able to determine the key physical touchpoints with airport services. Now passengers who choose to do so can go straight to Checkpoint by checking in online and downloading their boarding pass to their phone. Airport technologies that support active interaction rather than following a fixed path will continue to be an asset.

4

Radio Frequency Identification

The past few years have seen airports testing Radio Frequency Identification (RFID) systems to tag baggage thereby creating a more secure system of location. These systems could allow airports to track passengers and baggage with greater effectiveness.⁴ Once these systems become more widely adopted, space will need to be allocated for security monitors and should be incorporated into the planning and design of Ticketing or associated areas.



DEPARTING PASSENGERS

Ticketing is one of the areas where passenger anxiety starts to develop as queues begin to appear, particularly in an International Terminal.

Consider methods of reducing stress in this area such as decreasing visual clutter, providing natural light and adding living room spaces for families to say goodbye to loved ones. As technologies continue to develop and become more widespread, expect the Ticketing area to decrease in size.

CHANGI DEPARTURES HALL

The Ticketing Hall of the Changi Airport provides adequate space for large groups of travelers and their families who accompany them to the airport. It also has a grand architectural expression. Great examples at SFO include the ticketing hall in the International Terminal and Terminal 2.



The Checkpoint is by far the most stressful point in the airport journey. While the Checkpoint is governed by TSA standards, the overall design should work in concert with the adjacent design of pre- and post-security zones. It is especially important that the TSA zone and the SFO zone are clearly defined so that there is a mutual understanding of responsibility. SFO goes above and beyond recommended TSA standards for fit and finish of this zone to ensure a more cohesive passenger experience. Once the TSA requirements are met, the design

consultant should consider what elements such as lighting, finishes and furniture can add a calming influence for the often stressful checkpoint experience. Additionally, the design of this space should build anticipation for a welcoming post-security experience. Finishes and other elements can add a warmth and a calm feel to this area. Impactful color and lighting at crucial points in checkpoint and in spaces immediately after the Checkpoint, give passengers something to look forward to during the Checkpoint experience.

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Meet & Greet

Baggage Claim

Arrivals Curbside

Connectors & Tunnels

Key Values

Convenience & Hospitality



The Checkpoint is one of the most stressful areas in the airport. The TSA currently offers expedited service by allowing airline passengers to leave their shoes on, wear light outerwear and keep their belts and laptops for a fee of \$85. Consider ways of integrating hospitality design into this area. Consider expanding beyond the typical gray and blue palette usually found in these areas to create a warmer, more inviting atmosphere.

BUSINESS PASSENGERS



Business passengers often need to get through lines quickly. Make sure there is a line for business class passengers and that technology for electronic boarding passes is readily available.

FAMILY PASSENGERS



Children are often restless and the line can seem endless. Provide entertainment either by way of technology or through the architecture to distract passengers from the length of the queue.

ASSISTED PASSENGERS



Make this area as easy as possible for Assisted Passengers to pass through. Ensure circulation is wide enough for wheelchairs to pass easily. Having a separate queue or priority placement in line for Assisted Passengers would be helpful. Also consider the difficulties some passengers have getting personal wheelchairs and medical equipment.

Health & Wellbeing



Stress levels are high while passengers wait in Checkpoint queues which can stretch during peak travel periods. Providing a view to what is beyond (a light at the end of the tunnel) can help invoke a sense of calm to passengers waiting to pass through.

Time & Efficiency



Ensure that checkpoints are designed to provide sufficient capacity for the amount of passengers serviced. Proper planning can increase efficiency and decrease passenger wait time.

Technology



As technology continues to evolve, passengers now have the option to check-in and download boarding passes on their mobile devices. Consider areas where new technologies can be integrated with the overall queuing process to make it a more enjoyable experience. Digital displays and mobile technology can provide information and entertainment for passengers to make use of their idle time.

Opportunities Checklist

THINGS TO CONSIDER

- Peak Periods**
Utilization can fluctuate during different times of the day, week and year. How can the Checkpoint area expand during peak moments? How can it contract?
- Flexibility and Adaptability**
Constant reorganization requires the space to be incredibly flexible over time. How can future-proofing be achieved? How can change be embraced?
- Customer Service**
Consider the employee experience. How can the design have a positive effect on customer service?
- The Queue**
Research the queuing process and how to make it more enjoyable. For example, direct views to the Recompose and Concessions provide positive reinforcement of the journey ahead. Combine with technology to provide grab and go pre-order or some sort of entertainment.
- Security Equipment**
Consider the footprint of security equipment and TSA guidelines and standards in the design of the space. Be mindful of visually obstructive elements in the space that might conflict with camera angles.
- Passenger Experience**
Provide a comfortable, calm environment. Think about different finishes, lighting, visibility and acoustic elements. How can psychological elements (i.e. music) be incorporated? What amenities should be provided?

Consider adding a 'precompose' area—a designated space where people can prepare for the Checkpoint.
- Information Display**
Provide locations for Flight Information Displays (FIDs)

SOME ESSENTIALS

- TSA Regulations and Standards**
Required elements should be coordinated with TSA and SFO. Verify that surveillance equipment is included and that TSA-required light levels are documented in the lighting plan.
- Airline Regulations**
- Vendors**
Ensure room for branding and equipment for third party vendors such as Clear, etc.
- Technical Criteria**
Be mindful of heating and cooling loads. Carpeted areas must utilize carpet tiles for maintenance and access to changing electrical needs in the floor.
- Security Constraints**
Security constraints such as shoe removal can slow down the queue. Is there something within the design of the environment that can help ease this process?

Future Forecast

1 Entertaining Environmental Experience

Rather than designing the Checkpoint as a straightforward queue, think of ways to entertain and inform the passenger. The queue can be an environmental experience beyond just being a security requirement. The Las Vegas airport entertains and informs queuing passengers with videos featuring prominent Las Vegas performers demonstrating what's to come in the Security Checkpoint. This is a great opportunity to let passengers know about concessions—possibly allowing them to pre-order--shopping and entertainment. Amusement parks like Disneyland or Magic Mountain design an experience for queuing visitors. Signage can communicate how long the wait is from a certain location which helps the passenger judge the amount of time it will take to get to their destination.

3 Expanding Security Checkpoint Areas

Space is a challenge, especially in terminals built prior to 9/11. Airport terminals will need to be retrofitted to incorporate the ever expanding security lines as TSA tests different machines and systems. The Checkpoint is typically the bottleneck and creating ample space could support a less stressful passenger experience.⁵

2 Technology Easing Wait Time Frustrations

Waiting in the security line can be one of the biggest stress factors when traveling. Look for different strategies to help mitigate these frustrations such as Trak-a-Line, which is a service that emails passengers when there's a change in the Security Checkpoint wait times or Blue Eye Video which provides data on the checkpoint line to reduce checkpoint queues and waiting times. Consider too how to improve the checkpoint queue experience. This is a wonderful opportunity to provide information about art exhibits, shopping and dining.



SFO T2 SECURITY CHECKPOINT

Provide different finishes and materials in the Checkpoint area to define it. Allow adequate space and views to areas beyond to put passengers at ease.



CONNECTING PASSENGERS

The Checkpoint can be considered the one area in the airport which produces the highest amount of anxiety, particularly for connecting international passengers who may have limited transfer time.

Having wait times displayed, music playing, more comfortable finishes and fixtures can all add to the overall passenger comfort and reduction of stress.



The Recompose zone is located immediately past post-security. The concept of providing a physical space to regroup after the checkpoint experience evolved out of a practical need for passengers to have a place to collect personal items. The larger goal, however, is to make this area a moment where passengers can psychologically regroup and begin to take in the delightful aspect of the airport experience to come.

The purpose of the Recompose area is to create a passenger mind-shift from “have to” (getting through Checkpoint) to “want to” (being able to shop, dine and relax.) This area should incorporate uplifting approaches to materiality, access to daylight, overall lighting, furniture and art. Incorporating a FID location and hydration station with moments of surprise and delight help define the intended experience of this zone.

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Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Health & Wellbeing



Creating a space to mentally shift passengers from the Checkpoint area is not an easy task. Consider this area to be a calm zone, where people have ample space and time to re-arrange themselves and their belongings. Terminal 2 highlights this area with access to the airport's Yoga Room.

Look & Feel



Look & Feel can add to the overall ambiance of the space, particularly in reinforcing the idea of a quiet, calm area. Finishes and furniture should be comforting and comfortable. Consider elements such as a raised ceiling with natural light (if applicable), adjacency to restrooms, and floor finish as a visual boundary. Provide an element that is unexpected at an airport, be it art, architecture or lighting—a moment of surprise & delight and visual relaxation.

LEISURE PASSENGERS



This area is full of opportunities for the Leisure Passenger to gather themselves and see what amenities are available in the airport before they need to board their flight.

FAMILY PASSENGERS



For a large family, this area is particularly useful as a waiting area for everyone to gather while others are still going through security, using the restroom, or putting themselves and their belongings back together.

Opportunities Checklist

THINGS TO CONSIDER

- Circulation**
Consider circulation flow from Checkpoint to Recompose to other areas of the airport. What are the needs in the Recompose area? How should boundaries be established to define the zone?
- Wayfinding**
Incorporate wayfinding in the Recompose area. Allow for easy orientation and visibility to concessions. Are there opportunities to incorporate interactive maps to different concessions and gates?
- Lighting**
Think about the lighting of the area. How can natural light be optimized? How can it set the mood for the space?
- Ad Space & SFO Marketing Opportunities**
Outline areas where advertising can be integrated into the overall planning of the space.
- Lighting**
Use natural light to intuitively guide passengers towards the gates ahead.
- Passenger Experience**
Acknowledge the psychological shift from the Checkpoint area to the recompose areas (e.g. passengers are significantly less stressed after checkpoint.) How can the Recompose area make passengers feel at ease? Can the space challenge assumptions? (e.g. implement Flight Deck— see page 133)
- Finishes & Fixtures**
Incorporate elements which can humanize the experience; comfortable seating, lighting, artwork, plants, impactful finishes and materials. How do these elements work together in the design? Consider slightly higher seating to facilitate the needs of elderly travelers.
- Information Display**
Provide locations for Flight Information Displays (FIDs).

SOME ESSENTIALS

- TSA Regulations and Standards**
- Airline Regulations**
- Flight Deck**
Consider integration of the new Flight Deck in the Recompose area.
- Space Constraints**
Most existing airport terminals do not include adequate space for a Recompose area. How can the architecture integrate both the Recompose area after Checkpoint? Consider integrating a ceiling element for visual effect with minimal space impact.

Future Forecast



1 Expanding Areas

The Recompose area is a relatively new area to airports and has evolved from the expansion of the Security Checkpoint area since 9/11. The first Recompose area at SFO was in Terminal 2; it creates a space that passengers can decompress and recompose themselves and their luggage after going through Checkpoint. Expect to see increased areas allocated to Checkpoint and Recompose areas.

3 A Respite from Technology

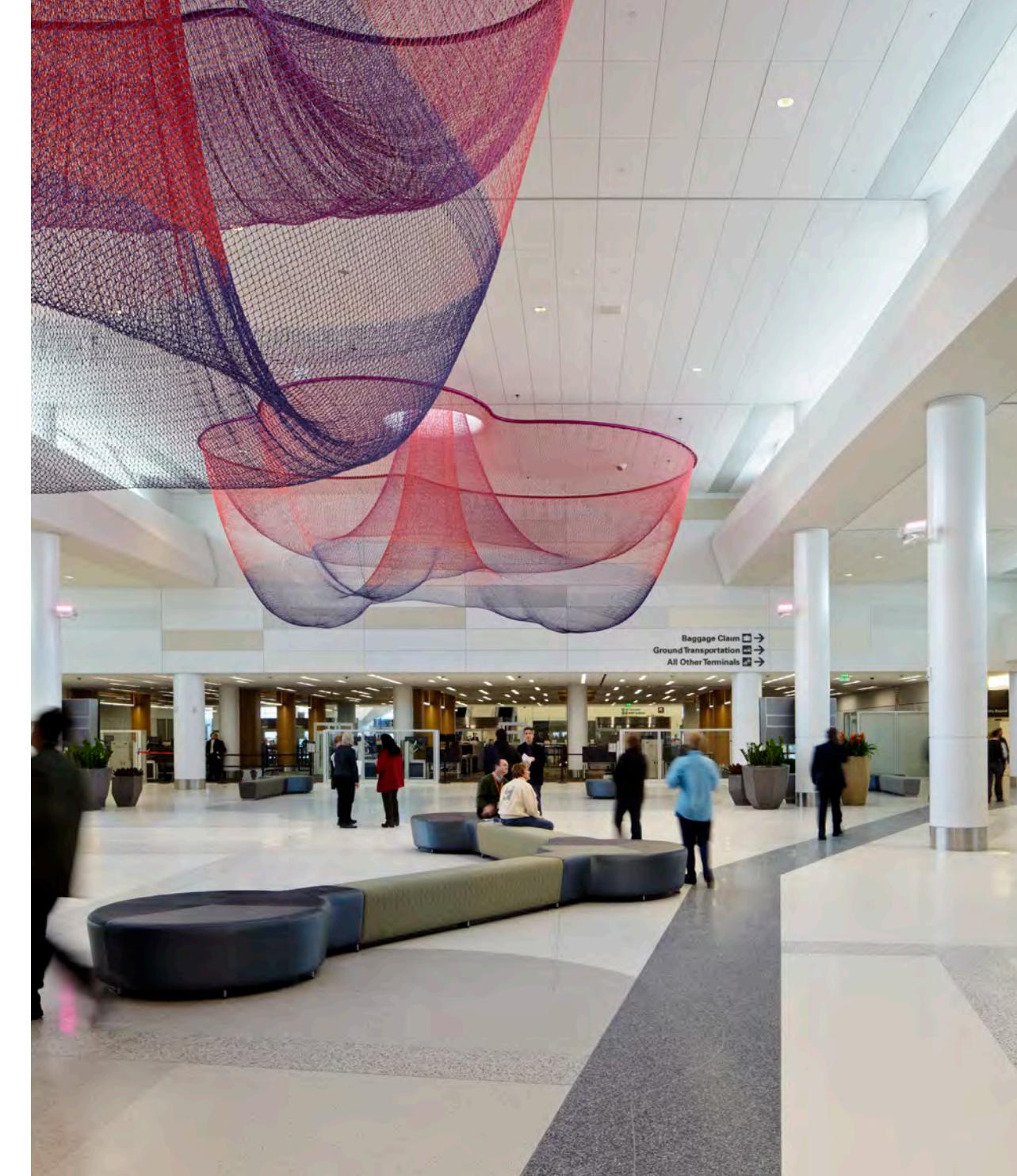
While technology continues to advance and astound us, creating spaces that provide a haven from technology is important. Consider the Recompose area as such a space -- giving passengers a sense of calm as they gather themselves. Limit the integration of technology to necessary information boards that will help passengers orient themselves, such as FIDs and digital applications that entertain, rather than overwhelm, passengers. This might be a great opportunity for a flight deck, but not a good opportunity for digital advertisements or promotions.

2 Amenities Related to Recompose

The Recompose area sits adjacent to the Checkpoint and either Concourse or Concessions areas. As such, it can contain programming that begins to blend the two adjacencies. Yoga rooms, meditation rooms, business lounges, restrooms, and hydration stations are all different types of programming to consider when planning the Recompose area.

4 Decrease Stress through Art & Nature

Art decreases stress and increases socialization and sense of community. It can also be used as a way to entertain and engage people. Similarly, natural elements have been shown to have a calming effect. After the stressful experience of the Security Checkpoint, consider how to incorporate these elements into the recompose area.



DEPARTING & CONNECTING PASSENGERS

It can be said that the beginning of the passenger journey is more anxiety-producing, thus having a relaxing, stress-free area, void of queues and restrictions, is important for the overall passenger experience.

Provide views to the Recompose area from the Checkpoint for all passengers to feel at ease. Introduce an element of fun through social spaces that can appeal to all.

SFO TERMINAL 2 RECOMPOSE AREA

Provide clear views of the Recompose area from the Checkpoint to give passengers a sense of ease about what's to come. Use art installations and comfortable seating to give passengers a moment of respite.



Plazas mark major circulation intersections within the airport. They are an opportunity to make an impactful, memorable experience for passengers. Each plaza should be designed as a unique experience in order to reinforce its primary role as a wayfinding element. The scale of these spaces can lend themselves to a design approach not dissimilar from a grand urban space in a major city. Daylighting, enhanced electrical light, art and dynamic architectural features should be considered. Unique approaches to adjacent areas such as Concessions

should also be considered. Specifically, cafes with unique seating areas could engage and activate adjacent circulation zones and blur the division between spaces, enhancing the overall flow. Unique FID enclosures, along with enhanced wayfinding signage are further examples of ways to distinguish these spaces.

Consider plaza nodes as major wayfinding decision points. Like the terminals, the plazas should be unique, with individual characteristics, while still relating to one another.

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Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Wayfinding

Wayfinding is extremely important in the Plaza. Passengers in this space will be looking for the next point in their destination so it is extremely important to make the wayfinding clear and concise.

Arts & Culture

Architectural cues to wayfinding, which can also be found in Recompose areas, mark a shift of space. Consider how large-scale art installations in the Plaza space might serve as landmarks. Art installations can also help differentiate space when integrated with the planning.

BUSINESS PASSENGERS

Limited on time and eager to get to work, most business passengers spend little time lingering. Direct them to the gate or nearest concession where they can get work done.

LEISURE PASSENGERS

A lot of passengers at SFO are those with connecting flights going to their final destination. Plazas are extremely important to passengers having to navigate through the airport to make their connections.

FAMILY PASSENGERS

Make sure families don't get separated in the Plaza! As an intersection of different routes, it's easy for every member of a group to go a different direction. Having info booth staff nearby can help lost passengers.

Look & Feel

The physical attributes of Plazas can serve as special moments in a passenger's journey. Each Plaza should be visually distinct to decrease confusion.

Revenue Generation

As key decision points and places of architectural interest, Plazas are a great opportunity to add concessions and services.

Opportunities Checklist

THINGS TO CONSIDER

- Wayfinding**
Establish a hierarchy of visual information and signage. Does each Plaza have clear wayfinding?
- Circulation**
Consider how circulation and cross-circulation flows into and throughout Plazas. Where are key decision-making spots located?
- Approaches & Exits**
Consider the different approaches, i.e. inbound versus outbound passengers. What information needs to be conveyed? How do manned exits, as well as the structure and technology needed for "self-exiting", work with the space?
- Adjacencies**
Consider adjacencies to Concourses and Concessions spaces when designing the Plaza. How can areas be outlined and integrated using different treatments of material finishes and lighting?
- Finishes & Fixtures**
Incorporate elements that can delight passengers through their journey such as natural light, high ceilings, greenery, artwork, and areas for rest. The space should be grand, spacious and articulate a clear identity. Subtle cues in flooring materials can reinforce path of travel.
- Integration of Art**
Determine early on the desire for commissioned art pieces and their impact on the design (structure, lighting, etc.).
- Interactive Displays**
Consider the inclusion of a Flight Deck in the space (see page 133).
- Information Display**
Provide locations for Flight Information Displays (FIDs).

SOME ESSENTIALS

- Space Constraints**
Plazas are transitory and temporary spaces where passengers make key decisions about where to go next. Consider the nature of the space and how it can adapt to future technologies.
- Ad Space & SFO Marketing Opportunities**
Hierarchy should be given to wayfinding signage. Ad space should be located strategically.

Future Forecast



1 Nature & the Great Outdoors

Integrating elements of nature into a Plaza space can make the space seem less intimidating. Singapore (SIN) airport has a garden plaza in Terminal 3 just prior to international immigration. The hall is a composition of high ceilings, live plants, waterfalls and large-scaled sculptures. The vegetation and proximity to nature puts passengers at ease before the immigration process.

3 Info Booth

With only one information booth currently operating past security in B/A F, including more in the Plaza locations could help ease the stress of lost or confused passengers and even reassure those who are confident they are going the proper way.

2 Decreasing Stress through Natural Elements

Consider placing art and natural elements in spaces where a passenger might feel overwhelmed to give them a sense of calm. At the Las Vegas McCarran airport, large-scaled sculptures of desert creatures greet passengers from the Plaza space. The Plaza provides a moment of art while passengers are transitioning between levels of stress.

Wayfinding is the highest priority in the Plaza and both art and nature can aid as landmarks. Both of these elements have restorative effects and reduce the stresses and fatigue of traveling.

4 Technology & Self Service

Plazas can also be a great place to include touch screen information kiosks that help passengers answer their own questions. Consider locating them near info booths as a way to aggregate the 'help' section of the Plaza and provide a productive wait time for passengers waiting to speak with a representative.



CONNECTING PASSENGERS

SFO serves not only as an originating airport for many travelers but oftentimes as a major connection as well, in particular for passengers going to Asia from the East Coast or vice versa.

Connections can frequently be located in different terminals and displaying Flight Information Displays (FIDs) prominently will help Connecting Passengers navigate as they pass through the Plaza. Consider listing airlines and terminal information to make the Connecting Passenger experience easier.

PHOENIX AIRPORT

The Changi Airport provides different types of lighting and clear wayfinding in the Plaza spaces.





The concourse is defined as the main circulation zone post security. This zone varies in layout from terminal to terminal. Sometimes it is set between concessions on one side and gates on the other side. Other times retail spaces line both sides and sometimes it's a mix of gates and retail spaces.

FID devices are crucial in this zone, as are generous entry areas to restrooms. Aside from these considerations, this zone has the opportunity to have a hospitality-inspired feeling, using lounge seating, artwork and enhanced lighting to compliment the concession zones and gates.

It is important for the design team to engage with signage teams at the beginning of the design process. Organize architectural components, lighting, advertising, art, gate signage, etc. to create a hierarchy and reduce visual distraction. Use space wisely to create more passenger amenity zones and moments of surprise and delight. While planning, keep in mind support spaces that compete with the passenger experience and locate them appropriately.

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Key Values

Wayfinding

Typically supporting bi-directional circulation, Concourses are often between the terminals and plaza spaces or gates. Wayfinding and visual cues should be clearly delineated at each end of the concourse to ensure that passengers are going the right direction.

Arts & Culture

Some of the most memorable airport art exhibits can happen in the Concourse as many pass through this area. Consider having art be part of the immersive experience. It can be wall-based or ceiling-mounted, depending on space available.

Convenience & Hospitality

Consider that the Concourse can act as more than just a straight shot to the gates. If planned appropriately, the Concourse can create a hospitality-like atmosphere. Consider welcoming finishes, respites of lounge or cafe seating and opportunities to rest along the way.

BUSINESS PASSENGERS



Have charging stations near the Concourse area available for business passengers who are on the go. Other amenities such as ATM's, shoeshines and restroom facilities should be located along major circulation paths for easier access.

LEISURE PASSENGERS



Having rotating art exhibits in the space can invigorate the Concourse, such as the exhibits which can be found in SFO T3.

FAMILY PASSENGERS



Safety first! Make sure people movers or moving walkways are safely installed and are organized to help rather than hinder overall circulation flow.

Look & Feel

Concourses can be overlooked as mere passageways but they also provide an opportunity to have finishes and materials that mark transitions between spaces.

Revenue Generation

As passengers pass through the Concourse on their way to their gates, think about what concessions might be best for quick visits—or substantial enough for passengers to return to once they have checked their gate.

Opportunities Checklist

THINGS TO CONSIDER

- Wayfinding**
Provide clear and easy visual access to gate and restroom signage. Utilize the architecture to provide visual cues and establish a clear hierarchy of wayfinding signage (see page 72).
- Adjacencies**
Consider adjacencies when designing the concourse. Are there concessions close by? How can areas be outlined using different treatments of material finishes and lighting?
- Passenger Experience**
Create nodes of activity using art exhibits, children's play areas, etc. to delineate space. Provide visibility to gates and to the exterior airfield.
- Circulation**
Avoid congestion of the space. Outline areas where passengers may be able to linger without disrupting the flow of passenger traffic. Consider including resting points and shorter moving sidewalk segments (where required) to break up long concourses.
- Finishes & Fixtures**
Incorporate elements which can delight passengers through their journey: greenery, artwork, areas for rest. How can finishes and lighting provide subliminal cues to facilitate circulation? How can the space communicate aspirational qualities (e.g. civic pride)?

SOME ESSENTIALS

- Circulation Constraints**
Congestion can be a major issue. Ensure that the concourse remains a transitory part of the journey, ensuring flow of passengers to their destinations.

Future Forecast



1

Integration of Nature

With an increased focus on sustainability and the environment, consider ways of integrating nature into a Concourse space.

Seoul's Incheon Airport (ICN) has wide concourses, brightly illuminated with daylight. Glazing is continued in the boarding areas, blending the spaces.

3

Transportation via Different Modes

In some SFO Concourse spaces, there are currently people movers which help passengers efficiently get across long spans of space.

One of Incheon's new terminal's claim to fame is that it will allow passengers to get from train to gate in just 13 minutes. Consider how to shorten the journey using appropriate planning, systems that speed up the journey for people or integrate transportation into the terminals to expedite the journey.⁶

2

Using Art as Landmarks

Consider breaking up the monotony of a long concourse with art. T3 at SFO has a great example of this, providing views to the airfield as well as housing a first class rotating exhibit that provides a treat to both new visitors and seasoned travelers. Consider all architectural elements when thinking of integrating art. Madrid-Barajas Airport (MAD) has a fantastic sculptural ceiling with brightly colored columns that convey the creative expression of a large architectural canvas.



CONNECTING PASSENGERS

The Concourse can be the best area to place amenities that don't require too much linger time. Some amenities such as ATMs, shoeshines and electronic charging stations are good to have in the Concourse area. Locating them clustered together and in a dedicated area near this zone can encourage greater use.

Business Passengers en route to their next meeting can easily access essential amenities/services without having to slow down their journey.



MADRID BAJARAS AIRPORT

A concourse with magnificent architecture and color.



The retail environment has an important influence over the creation of a quality passenger experience. Passengers often rank the retail environment as the most positive part of their airport experience.⁷

The primary goal of the concession experience at SFO is to be engaging, enjoyable and informal, featuring local culture and sustainable cuisine. Concessions are divided into three categories; retail, food and beverage, and services. SFO has shifted away from traditional food court

layouts in favor of dining that focuses on the passenger experience. Food and beverage tenants should be integrated into the entire experience, easily accessible to gates. The designs should reflect that of higher-end restaurants and cafes. Retail interiors should project a high standard of design commensurate with the quality of interiors found in upscale lifestyle shopping centers. Careful consideration should be given to storefront closure systems, primary and secondary signage, and finishes and fixtures.

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BUSINESS PASSENGERS

Business passengers familiar with the airport should have easy access to newsstands and Wi-Fi access. Other amenities to help in their business travel such as electronic accessories or gift shops are helpful.

LEISURE PASSENGERS

Vacation for a leisure passenger starts at the airport. Make sure to have wine bars or lounges for travelers to start relaxing. Having souvenir shops would appeal to visitors as well!

UNIQUE PASSENGERS

Unique passengers also have unique needs. Make sure to have a variety of concessions available to appeal to different interests and tastes.

Key Values

Locality & Sense of Place

The airport is like a welcome mat to the city and as such is oftentimes a passenger's first impression of San Francisco. The concessions program at SFO is intrinsically linked with local vendors, bringing the unique culture of San Francisco to the airport.

Look & Feel

The airport is such a distinctive environment and one that is a point of civic pride and a kind of handshake of the city. Iconic architectural features such as the facade of the International Terminal and the newly constructed control tower all have important placemaking abilities.

Revenue Generation

Providing a great passenger experience is key to revenue generation at the airport. At SFO, revenue generation is tied to bringing local businesses and providing a sense of the Bay Area culture.

Sustainability

It is crucial that passengers have a clear path of approach to ensure an efficient and timely beginning to their journey. Essentially, make it as easy as possible for passengers to find and get to where they need to be.

Opportunities Checklist

THINGS TO CONSIDER

- Sense of Place**
Consider the identity of San Francisco and the local culture in the design. How can the Concessions give passengers a lasting impression of San Francisco?
- Authenticity**
Consider the secondary and tertiary characteristics that make San Francisco unique (i.e. food culture, art, outdoor activities such as cycling, climbing and hiking.) How can these be incorporated into the Concessions area?
- Visibility**
Allow visibility to Gates.
- Circulation**
Think about creating different circulation routes to allow passengers to both linger or walk through. Be strategic about balancing the need for visibility of the Concessions and the view of the Gates. Consider orientation and visual cues and their impact on passengers.
- Passenger Experience**
Provide choice and stretch out the Concessions zone, as it is the prime source of revenue. Consider adjacencies to other spaces such as Concourses and Waiting + Lounge areas when planning Concessions.

SOME ESSENTIALS

- Linger time**
Passengers are typically either in motion or glued to the gate. How can the Concessions space be enticing for passengers to linger?
- Space constraints**
Square area is limited in the Concessions area.
- Concession Design Guidelines**
Refer to SFO-provided guidelines for design tenants.

Future Forecast



1 Say Goodbye to the Generic

The dining terrace at Century City Westfield Mall in Los Angeles has been incredibly successful serving different patrons: office workers, shoppers, movie goers and late night club patrons. Consider the variety of passenger types when planning out the concessions program. The new model in airport retail is looking at major brands and providing a greater diversity of retail. Consumers are looking for meaningful retail experiences and connection to brands.

3 Connecting Through Technology

Consider how technology has changed the way we do things and how this can be integrated in the airport experience. New York's John F Kennedy Airport (JFK) has a concierge service that allows passengers to sit, log in to a central site and order food to be delivered to them at the gate, giving them an opportunity to have a seat and keep track of their family and baggage. Consider other ways technology has changed the retail experience such as the Apple store, with roving salespeople who can provide information on demand and help expedite transactions.

2 A Link to the City

Concessions such as restaurants, bars and retail are excellent ways to create links to the city the airport is servicing. Consider having representatives of key downtown outlets. Other airports have done this, including Boston Logan Airport (BOS) with Legal Sea Foods and London Heathrow Airport (LHR) with Harrods.

4 New Planning Typologies

Concessions have traditionally been located separately and away from the holdrooms. However, by integrating the two, concessionaires have an opportunity to be folded into the fabric of the waiting experience and anxious travelers who don't feel comfortable leaving their gate don't have to!



DEPARTING & CONNECTING PASSENGERS

After getting through Checkpoint, the journey becomes less need-based and more want-based. Having a variety of concessions available that appeal to different tastes helps provide moments of delight in the trip.

Lounges, bars, and other social spaces are perfect for creating an enjoyable starting point for the journey. Consider using other methods of social engagement such as social media or technology to add another layer of adventure in travel.

SFO INTERNATIONAL TERMINAL

Natalie's Candy Jar is one of the highest revenue-generating concessions at SFO Terminal 2 and it's easy to see why. Large jars of candy and a colorful, well-designed environment gives passengers a moment of delight in their journey.





These areas, also referred to as 'hold rooms', have a variety of issues to be considered in their planning. Seating quantity and proper circulation are the most important functional considerations. Circulation at aisles, between seating, and surrounding the gate podium and jet bridge entry is critical in a successful layout. Another consideration is maximizing the comfort and variety of seating types. While the majority of seating might be tandem style with powered tables placed in line every 3-4 seats to facilitate appropriate seat counts, lounge configurations and work counters with power access are welcome additions. ADA guidelines for work counters, along with a percentage of space allowed for wheelchairs at the ends of tandem runs should be incorporated. Lastly, planning should take into consideration the future fleet

size growth and the trend in self boarding and the consequent effects on seat counts. Hold rooms should be planned to increase passengers' visual connections to the gate and airfield beyond. This visual connection helps alleviate stress. Visual access to FIDs is also desired. Other considerations include moments of surprise and delight. For example, lounge chairs and bench seating create more options for passengers and add visual excitement. Incorporation of art, technology, skylights etc. add additional layers of interest in the environment. Lastly, in an effort to afford the best customer experience possible and provide consistent, productive wait times, integrating concessions into the hold rooms is a great way to impact customer satisfaction and bolster revenue generation.

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Key Values

Health & Wellbeing



Having the right types of seating is really important for a variety of body shapes and sizes. Have lower chairs for those who want to lounge, higher for elderly folks who have a hard time getting out of seats and counter seating for a different work environment.

Look & Feel



A warm comfortable environment can make all the difference when you're waiting to board your plane. Make the environment inviting to leave a lasting impression on passengers. Consider behavioral and emotional needs in this space as well as the need for durability of material. Also consider the airline tenant in each location.

FAMILY PASSENGERS

It is important to provide opportunities for families to keep their children engaged in close proximity to the holdroom areas. Play areas and kid friendly restaurants are welcome additions!

BUSINESS PASSENGERS

Counter height seating gives business passengers an optional space to work on their laptops. Make sure there are plenty of outlets and wi-fi available!

UNIQUE PASSENGERS

Passengers who are scared of flying need to feel relaxed and a calm waiting area helps them do just that. Provide high-backed chairs to give a sense of security and control.

Opportunities Checklist

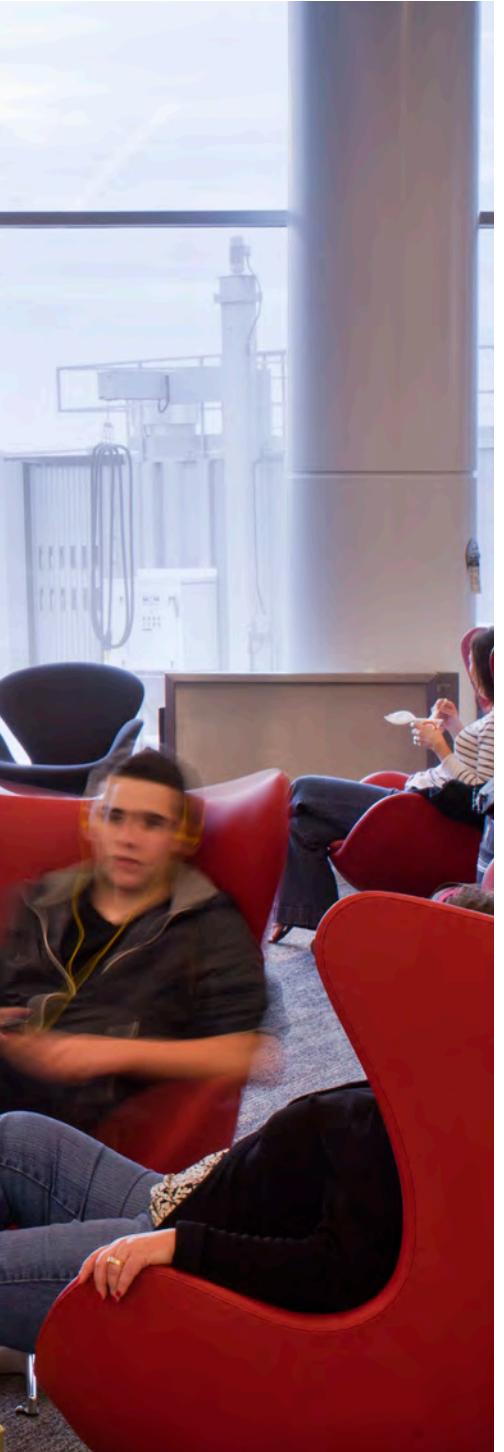
THINGS TO CONSIDER

- Seating Variety**
Provide a variety of seating types for different passenger types (e.g. families). Incorporate areas for different types of activities such as queuing, lounging and working. Ensure an adequate number of seats.
- Technology**
Provide ample electrical outlet stations for passengers to charge their personal devices. Manage circulation around these areas so people don't trip or congest a space.
- Lighting**
Create a variety of lighting levels for different types of activities. Provide access to natural light and views while being mindful of glare.
- Circulation**
Think about baggage and areas where it can be placed without blocking circulation paths.
- Information Display**
Provide locations for Flight Information Displays (FIDs).
- Gate Podiums**
Consider location and views to gate podiums as well as their placement within the space. Design for change, knowing that airline requirements shift and airline tenants move gates.
- Adjacencies**
Consider adjacent spaces. Create different zones of activity, ranging from quiet to active.

SOME ESSENTIALS

- ADA Accessibility**
Consider elderly passengers and passengers who need assistance needs. Provide clearly marked paths and adequate seating areas.
- Airline Standards**
Airlines have different boarding regulations. Check which airlines will be using the hold room and design for maximum flexibility in case gates change.
- Technical Criteria**
Be mindful of heating and cooling load. Carpeted areas must utilize carpet tiles for maintenance, similar to Checkpoint.
- Gate Glue**
Gate glue is a common occurrence, where passengers are nervous to leave the gates in case of missing any important announcements. Consider other ways of notifying passengers to avoid congestion of the space.
- Spatial Allocation**
Self-boarding and special queuing lanes can affect spatial allocation. Be aware of any airline-specific requirements when designing the waiting area for boarding.

Future Forecast



1 Cues From Hospitality Design

The possibility of meeting new people and learning new things can offset the stress of travel when the environment is relaxing and engaging. Having a variety of seating and spaces at the Waiting + Lounge area is important for passengers who have different ergonomic needs and desires to socialize.

3 Technology as Distraction

A survey of 6,000 travelers by Carlson Wagonlit Travel (CWT) found that unpleasant surprises like flight delays and luggage loss were the highest triggers of stress. Their Travel Index also found that frequent fliers get most stressed from “lost time”.⁹ Consider how technology can be used to distract passengers from the time spent waiting, make sure there are plenty of outlets available for passengers to charge their mobile devices and Wi-Fi is readily accessible for passengers. At LAX, device to display interactivity is being introduced so that passengers can use their mobile devices to interact with displays. In addition to being able to view images and videos and listen to music, passengers can connect their device with digital signage, engaging in a multi-sensory experience.

2 The Restorative Effect of Art

A study on the impact of visual art on waiting behavior found that visual images correlated with a significant reduction in restless behavior⁸ and an increase in socialization. Integrating art in waiting areas can have a restorative effect, combating travel fatigue and providing a measure of mental relief.

4 New Service Types

Consider new ways of providing service to the holdrooms. One method gaining popularity is food delivery—a service that brings orders from airport restaurants and concessionaires directly to a customer’s gate. This new service, along with mobile restaurants and digital innovations for entertainment and shopping, promises many opportunities for the future holdroom waiting experience!



DEPARTING & CONNECTING PASSENGERS



Make sure there are a variety of spaces available in the Waiting & Lounge area. All passengers have different needs; some are traveling with pets, some need privacy and others need to feel reassured before boarding a plane.

Regardless of who they are, having a variety of furniture types can help all passengers feel comfortable and at ease prior to take-off.



Play areas at SFO are dedicated areas that allow children to have both active and quiet play prior to boarding flights. These areas are ideally located next to seating for adult supervision or food and beverage concessions, based on available concourse square footage. Active play areas must have appropriate code mandated fall zones and resilient flooring. These issues might require a landscape architect to resolve. Play areas benefit from being partially contained so as to not impact concourse circulation. Integrated seating provides another level of comfort and convenience and design consultants are encouraged to be creative in their response to these areas. Due to the visibility of play areas at SFO, the design must

go beyond the immediate entertainment goal. Play areas must respond visually to all ages. Consider a balance, if required, between active and quiet play, particularly when the play areas are located adjacent to Waiting + Lounge areas. In some instances SFO may engage the SF Arts Commission to commission an artist to conceptualize the design. The design consultant shall assist the artist in the consideration of their solution in connection to the Play Area design and its implementation. Play areas are an opportunity to create a 'wow factor.' Whether encouraging quiet or active play, or both, these areas should be inspiring to children and adults alike.

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Key Values

Locality & Sense of Place

Play Areas are a great opportunity to bring in local flavor or sense of place. Collaborations with artists facilitate this naturally, but consider the favorite places to play for San Francisco families as well. Places in San Francisco like the Exploratorium and the California Academy of Sciences are designed to educate and delight museum goers. Bring in ideas from these local institutions such as tactile play or educational games to keep the imagination going and engage children.

Look & Feel

The aesthetics of the Play Area should appeal to children and adults alike. Play Areas are typically located adjacent to hold rooms, so making sure the look & feel work well with adjacent areas is important. Calming environments are preferred, so no need to make everything a primary color!

LEISURE PASSENGERS

Bring out the inner child in leisure passengers. Make sure that Play Areas appeal to a variety of age types, young and old.

FAMILY PASSENGERS

Give parents a bit of respite with Play Areas that can keep children occupied while waiting to board their plane. Making it educational as well is always a plus.

Arts & Culture

Many Play Areas in the airport are the result of a collaboration with a local artist. Incorporating art that is meant to be played on or with is a way to incorporate beautiful and functional spaces throughout the terminals.

Health & Wellbeing

Play Areas provide a much needed physical and emotional break for children and parents. Distributing them evenly throughout the airport is a way to ensure passengers have equal access to these exciting spaces.

Opportunities Checklist

THINGS TO CONSIDER

- Look & Feel**
Put yourself in the shoes of a child. What would appeal to your inner child? What would you like to discover? How can adults be accommodated and delighted as well?
- Adjacencies**
Consider the adjacent areas; provide noise or visual buffers to limit disruption to other passengers.
- Sense of Place**
Consider place and locality. What are some aspects of the airport or San Francisco that can be incorporated into learning experiences for kids of various ages?
- Choice**
Provide options for both active and quiet play. How can technology (e.g. touch screen devices) be integrated for both child and adult interactive play?
- Small Footprint Play**
Consider ways to engage children with a very small or no designated physical area. Some ideas might be a projected interactive game on the floor or a scavenger hunt that plays on a handheld device.

SOME ESSENTIALS

- Safety & Code Requirements**
Design should meet code requirements for children. Consider height and safety factors in designing for children. A lot of play equipment requires large fall zones to meet safety.
- Buffers**
Be aware of adjacencies and noises that might affect other passengers waiting in adjacent spaces. Play Areas should not interfere with hold rooms or boarding queues.

Future Forecast



1 Quiet Play and Active Play

Consider adjacencies of other areas when designing and planning Play Areas. For more bustling areas, create spaces for active play. For quieter, calmer areas, consider play that may involve more solitary activities such as coloring stations.

3 Technology and Children

Touch-pads and touch-screens have now made technology incredibly accessible to children of all ages, sometimes as young as two years old. Consider ways to integrate touch-screens in Waiting & Lounge locations to preoccupy young minds.

2 Harnessing the Energy of Play

Children have a surplus of energy and what better way to harness that energy than through kinetic play grounds? What if you could create hydroelectric power or illuminate lights through stationary cycling? Play areas can be educational as well as entertaining.



BUTTERFLY WALL

Play Areas can be educational—engaging both mind and body. This Butterfly Wall in SFO T2 teaches kids about kinetic energy.



DEPARTING & CONNECTING PASSENGERS

Play Areas will most likely appeal to passengers with young children but there's no reason why they can't appeal to a variety of ages. What elements of discovery might also fascinate older children and even adults?

The area should require low maintenance and be accessible to all, providing another element of delight in the overall journey.



Restroom design at SFO should achieve a balance between functional aspects and design aspects. Adherence to ADA guidelines and code-mandated requirements is the highest priority. From an experiential standpoint, the design should be influenced by the

hospitality industry, incorporating elements that will elevate the passenger experience. Consider the four senses of sight, smell, sound, and touch when designing the restrooms. Lighting, materiality and music are all key components.

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Key Values

Health & Wellbeing



In the restroom, sanitation is the highest priority. Make sure the sight, smell and sounds are all soothing for passengers. Also ensure there is adequate circulation space for both ADA requirements as well as passengers who are toting around luggage.

Look & Feel



Some of the best restrooms can be found in the hospitality industry and department stores. Look to these environments when planning airport restrooms to give passengers a sense of convenience and service.

FAMILY PASSENGERS



Family members are often taking turns when visiting the restrooms to ensure that baggage and children are taken care of. Having nursing rooms available near restrooms can help ease the balancing act.

ASSISTED PASSENGERS



Restrooms should always be accessible to everyone. Ensuring that all ADA requirements have been met as well as providing roomier stalls for passengers and their luggage can improve the experience dramatically. Locating Companion Care restrooms adjacent to standard restrooms is crucial.

Opportunities Checklist

THINGS TO CONSIDER

- Location**
Consider proximity to main circulation and provide ample room for people to wait for family and travel partners outside Restrooms. Be mindful of queuing flow.
- Room for baggage**
Consider baggage constraints. Is there ample space for carry-on baggage? Ensure stalls are large enough to accommodate luggage and consider providing shelves in stalls for small items.
- Hospitality Influence**
Look to hospitality environments to inspire space planning amenities and finishes (e.g. vanity, changing room, amenities).
- Plan for High Traffic**
Ensure durability of partitions and hardware for high traffic use of restrooms. Consider hand-dryers in lieu of paper towels to promote sustainable practices.
- Sensory Design**
Consider other sensory elements such as touch (finishes and materials), audio (soothing music), visual (color palette and accessories), and smell (air freshener).
- Availability**
Provide an adequate number of Restrooms and stalls throughout to comply with SFO's high level of service.
- Education**
Consider ways to educate passengers how sustainable practices yield quantifiable reduction in natural resource use.

SOME ESSENTIALS

- Signage**
Clearly delineate Men and Women's Restrooms with universal signage.
- Location**
Designers should provide nurseries and Companion Care Restrooms adjacent to standard Restrooms.

Future Forecast



1 Durability and Luggage Handling

One of the trickiest parts of navigating through the airport is the negotiation of luggage with other essential activities. Nowhere is this more evident than in airport restrooms, where passengers traveling solo cannot leave baggage unattended. As a result, consideration of spaces for luggage and durable hardware to hang luggage is extremely important when planning out the design of the restrooms.

3 A Hospitality Experience

Public restrooms can be unseemly places sometimes but there's no reason why they need to be designed that way. Consider the restroom experience at a department store such as Nordstroms; attention to details such as vanity counters, soothing music, comfortable lighting and air fresheners can positively affect the overall passenger experience.

2 Encouraging Sustainable Behavior

Hand dryers versus paper towel dispensers. Low flush urinals versus regular flush toilets. These are all new and different choices that are now available for Restrooms. Planning and design can encourage certain behaviors by directing the user's attention to a more sustainable choice (e.g. placing hand dryers closer to sinks). Continued focus on sustainability and the environment will prompt innovation of sustainable products for the airport.

4 Add Pet Relief Areas

Post security pet relief areas are a needed addition to accommodate passengers traveling with pets as well as passengers who travel with service animals.



ALL PASSENGERS

Restrooms are important to all passengers, regardless of their journey stage. It is a basic necessity that cannot be ignored.

By code, Restrooms need to comply to ADA regulations but there are other things that a designer can do when considering the layout of a restroom.

Consider also the aesthetics to give the area a warm, inviting feeling much like Restrooms in many hospitality settings.





Passenger amenities are defined as ancillary services that support and/or enhance the travel experience. Included in this group are the following: ATM, newspaper vending, shoe shine, telephones, charging station, waste and recycling, meditation or yoga rooms, and hydration stations. These amenities are often best located together in an architecturally defined space like an alcove in a highly visible zone adjacent to the main circulation

path. The alcove should be designed to compensate for the disparate designs of the amenities. For example, an immersive colored environment can provide a hierarchy in which competing elements can exist cohesively. Because Passenger Amenities areas are highly trafficked, durable finishes are especially important.

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Opportunities Checklist

Revenue Generation



Services such as shoeshines, ATMs, Smart Cartes, and telephones make up the Services portion of revenue generation at the airport. Location of these amenities should be close to main circulation so they are easy to find.

Time & Efficiency



Many amenities are at the airport for passenger convenience. In a sense, amenities save time by providing easy access to everyday services that can be difficult to find in a new place. There is always room for more of these services to help a passenger's journey be more efficient.

BUSINESS PASSENGERS



Passenger Amenities are great for the business passenger who doesn't have much time to go through the Concessions area. Having recharge stations, ATMs and shoeshines available are great for passengers who are on their way to their next business meeting.

LEISURE PASSENGERS



It's easy to forget small items when you're in a hurry to start your vacation. Having small vending machines with travel essentials for leisure passengers who might have key items at home.

Key Values

THINGS TO CONSIDER

- Circulation**
Consider proximity to main circulation. Create easy access without creating obstructions to passengers in transit. Ease of access and operation as well as uniqueness of offering should be considered.
- Unique Offerings**
Position and make available unique amenities that are not available at Concessions. (e.g. shoe shine, amenities alcoves)
- Aesthetics**
Overall look and feel of the space should be integrated with the architecture. How will branding be integrated into the amenities offerings?
- Convenience**
Look for ways to incorporate amenities passengers use in their daily lives at home and in their communities that they can now do between security and boarding. What would be a convenient addition to these areas?

SOME ESSENTIALS

- ADA Accessibility**
Ensure that all amenities are accessible to passengers with impairments. This includes consideration of 'off the shelf' amenities as well as larger SFO-provided amenities like the yoga room.
- Limited Locations**
Typically located in Concourse or Plaza area.
- Space constraints**
Limited space for Passenger Amenities.

Future Forecast



1 Self-Service Stations

As we become an increasingly self-service society, amenities at airports may also begin to follow this trend. Having amenities grouped together in alcoves and in easy-to-recognize locations across the airport can help promote greater usage. Make sure the alcoves are placed near but not blocking major paths of circulation to encourage use while preserving the efficient movement of people through the space.

3 The Influence of Hospitality

There is an increasing focus on hospitality in air travel and this includes the airport. Provide services to passengers that support their journey. Services such as ATMs, mobile charging stations, and shoe shines can add to the experience, ensuring passengers feel prepared when they reach their destination.

2 Linking Amenities & Technology

The Silicon Valley is the heart of technology and innovation. Draw a link into the airport by integrating technology with amenities. For example, supplying vending machines with small computer and electronics items such as USB drives, wireless mice and other data storage items can help Business Passengers who may have forgotten these key items at home. Consider lockers with small universal port chargers so passengers can charge their devices while they take a stroll around the airport. Also consider how passengers might be able to order online at different Concessions in the airport and have the items delivered to them at the gate.

ALL PASSENGERS

Regardless where they are in their journey, all passengers need access to basic amenities to make travel as convenient and comfortable as possible.

Make sure there are amenities located near main circulation routes so passengers can easily access the essentials they need to feel prepared upon arrival at their destination.



SFO INTERNATIONAL AIRPORT

Self-service units have become ubiquitous in airports around the world. This amenity allows passengers to proceed through their journey with greater ease. SFO is already investigating ways in which to make these units more accessible to passengers with a look and feel that fits seamlessly within the airport environment.



SFO is the only airport in the USA that has an accredited art museum. This unique aspect has a significant impact on the passenger experience. Two distinct programs have been implemented: temporary exhibits that have an in-depth focus on a particular category and a permanent collection that is administered by the SF Arts Commission. Planning for both programs involves different challenges. What works for one, may not work for the other.

Permanent Collection

The permanent collection consists of significant art pieces purchased by the SF Arts Commission as well as site-specific works commissioned specifically for select locations at the airport.

Rotating Exhibits

This category should be thought of as a destination unto itself, delineated by lighting, materials and casework that provides an experience commensurate with fine art museums. These exhibits may, by necessity, be placed in circulation zones but should reflect the qualities noted above.

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Checkpoint
Recompose
Plazas
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Concessions
Waiting & Lounge
Play Areas
Restrooms
Passenger Amenities

Arts & Exhibits

Meet & Greet
Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Locality & Sense of Place

Art is a prime opportunity to connect with the local community and express sense of place. Designers should consider the content and aesthetics of each piece when making decisions about placement and treatment.

Look & Feel

The look and feel for Arts and Exhibits can range from an immersive museum environment to an architecturally integrated installation to small individual cases. There are many possibilities.

BUSINESS PASSENGERS

Business Passengers might be passing through the airport multiple times a year and sometimes even multiple times a month. Consider ways to engage and educate them about art exhibits.

UNIQUE PASSENGERS

Additional amenities mean more opportunities to integrate art. Think about ways a pet area might incorporate sculpture or how SFO sleeping pods might feature local muralists.

ASSISTED PASSENGERS

It's of great importance that all exhibit cases and installations remain accessible for everyone.

Arts & Culture

Designers should consider the entirety of the Arts and Culture program at SFO. Integrating new exhibits into the design should compliment existing installations and spatial formulas so that every exhibit is part of the whole.

Time & Efficiency

Consider how art can be used across all the journey moments as a way to provide a welcome distraction to passengers who are waiting.

Opportunities Checklist

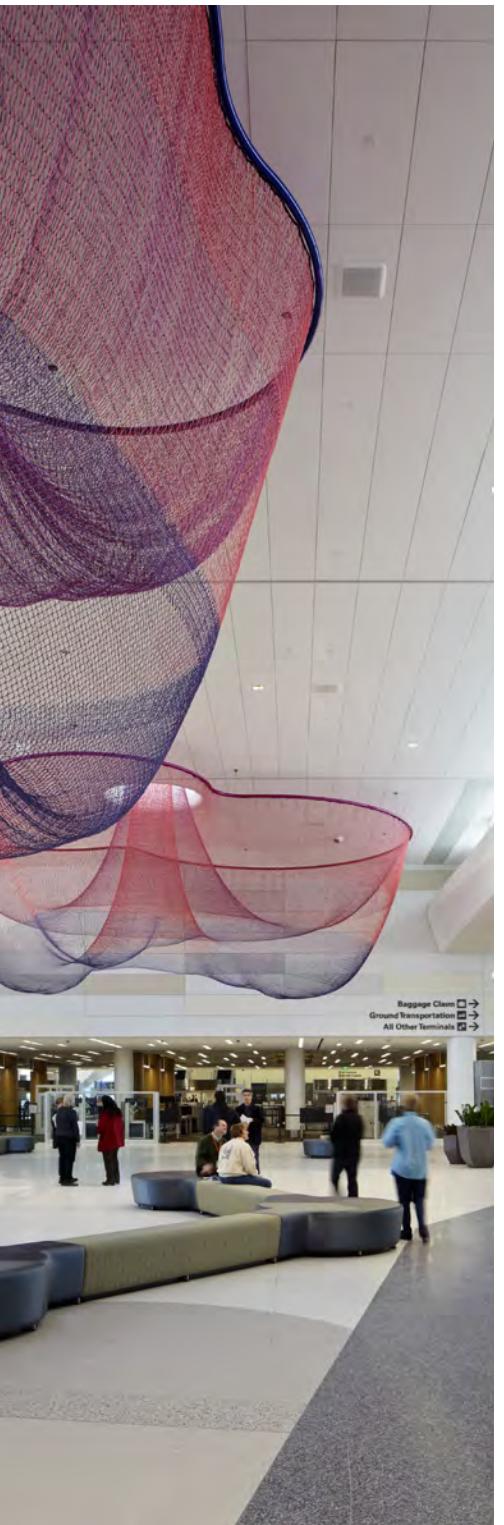
THINGS TO CONSIDER

- Circulation**
Consider proximity to main circulation and opportunity to linger in spaces.
- Considerations for Art**
Think of ways to incorporate permanent pieces as well as temporary exhibits. Consider how art can enhance and affect the space. Ensure that other objects and signage do not come within 5'0" of any hung art. Consider flexibility for different types of exhibits.
- Visual Hierarchy**
Think about the hierarchy of information when placing art amongst other visual content such as wayfinding and marketing devices.
- Finishes & Materials**
Consider a muted palette of finishes and materials to ensure the art is highlighted.
- Transparency & Privacy**
Provide glass enclosures where necessary.
- Wayfinding**
Consider wayfinding hierarchy (see page 72)

SOME ESSENTIALS

- Lighting**
Light levels must meet art requirements.
- Maintenance**
All artwork should be accessible for maintenance and rotation.
- Safety Standards**
Art should comply with safety standards and be secured to prevent any accidents.

Future Forecast



1 Consider the City's Culture

If the airport is a representative of the city as a destination, consider the important aspects of culture that can be brought to the airport. Seoul Incheon Airport (ICN) has multiple galleries and museums displaying history, art, text and images from Korean history. Cultural arts and crafts allow passengers to create artifacts to take home. Traditional costumed performers parade each hour through the concourse.

3 Exhibits of Nature

Known for its gardens, the Singapore Changi airport's (SIN) koi ponds and famous butterfly garden educate passengers about the flora and fauna of the island. Despite the noise of the adjacent air handling units and roadway hum, the butterflies are fun. The California Academy of Sciences in San Francisco (not to mention Golden Gate Park and some of the great national parks in the Bay Area) can provide inspiration as another great example of how to display nature in a dynamic, engaging way.

2 Appeal to All Senses

Music, for one, is an art that can be overlooked when planning out a space. Austin is a city that has become widely known for its music scene; musical performances showcasing local bands at Austin Bergstrom Airport (AUS) acknowledges the cultural significance of the region to popular music.

4 Make an Online Gallery

Consider sharing images of the exhibits online and making them accessible from www.flysfo.com. This allows passengers to plan their visit around the exhibits they want to see while also providing a taste of SFO museums for those passengers who would like to visit, but don't have time.



ALL PASSENGERS

There are so many great opportunities to incorporate art, not only into the general public environments at SFO, but into children's play areas as well. Kids' Spot in Terminal 3 and both Play Areas in T2 connect with local institutions and artists (Kids' Spot partnered with the Exploratorium and the musical wall at T2 was created by local artist and musician, Walter Kitindu).

Designers should remember that art at SFO is not exclusively relegated to the traditional museum or gallery context and can be incorporated in unexpected ways!



SFO INTERNATIONAL TERMINAL

Large-scale murals can fill an empty space with life. Consider art which reflects Bay Area culture and values.



Meet and greet is ideally located on the departure level, pre-security. This hospitality lounge concept should include lounge seating, artwork and FIDs displaying arrival information. If possible, a food

and beverage concession should be adjacent to it as well as restrooms. For arriving passengers, this space is often used as a backdrop for taking photos. This photo opp moment should be considered in the design.

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Passenger Amenities
Arts & Exhibits

Meet & Greet

Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Wayfinding!

The purpose of Meet & Greet is to give people a set place to greet their loved ones, friends and colleagues. It is important that there is visual access both for deplaning passengers and greeters. Consider incorporating expansive glazing to maximize sight lines and views.

Convenience & Hospitality

This area should be a hospitality-inspired environment. People come here to greet loved ones; a clinical application of finishes should be avoided as it makes the experience less enjoyable. Consider too, that this is a photo opportunity for many passengers. Is there an especially iconic piece of art that could be placed here to remind them of their SFO experience?

LEISURE PASSENGERS



Ensure that the Meet & Greet areas can accommodate large groups of people including organized travel groups who will need to regroup and take photos.

FAMILY PASSENGERS



Family Passengers might be meeting with larger groups and should be accommodated in similar ways to leisure passengers.

Look & Feel

Meet & Greet should have an inviting look and feel. This is an area where people are likely taking photos; it should incorporate definitive architecture, art and appropriate lighting. Lounge furniture is desirable in this area.

Opportunities Checklist

THINGS TO CONSIDER

- Passenger Traffic**
Think about adjacencies and passenger traffic when planning out the Meet & Greet space. Consider the proximity of the Meet & Greet to the Baggage Claim area when thinking about the flow of people and belongings in and out of the airport.
- Passenger Needs**
Provide access to restrooms for guests who may be waiting for incoming passengers.
- Art & Nature**
Apply artwork or greenery to invigorate the space and give visitors and guests a comfortable, relaxing environment.
- Information**
Provide easy access to the Information Booth for guests to inquire about incoming flights.
- Flight Displays**
Provide easy access to Flight Information Displays (FIDs).
- Welcoming Space**
Consider this space to be a comfortable, welcoming area for people to wait. Also consider that many people use this space to take photos. Provide an inviting backdrop to facilitate this.

SOME ESSENTIALS

- Functional Needs**
Easy circulation with space for waiting is essential.
- International Versus Domestic**
The International Terminal will have different constraints and will need to comply with federal customs regulations. Because all international passengers must pass through customs, it is extremely important to clearly sign the exit routes. This is particularly important in directing passengers towards Meet and Greet/Curbside areas versus Connectors to the terminals for connecting passengers.
- ADA Accessibility**
- Adjacencies**
Meet + Greet spaces are typically combined with the Baggage Claim area.

Future Forecast



1 Designing for Groups Versus Individuals

"There's stuff that is about groups and there's stuff happening that's about individuals...it's the way it's set up to not deal with groups of people [that] is possibly why there's a problem."¹⁰ The Meet & Greet area is utilized more often by groups, with families and large tour groups that often convene in this area. As such, space should be allocated to ensure this area is visible but does not obstruct passenger traffic flow.

3 International Versus Domestic

Additional consideration should be given to the Meet & Greet area in the International Terminal, which has larger crowds of passengers arriving from Customs and Immigration. Make sure there is adequate space for families who are coming to greet their loved ones.

2 A Welcoming Experience

A welcoming feel is important for heightening the passenger experience when entering and reconnecting with the world outside the airport. Essentially, a cold or sterile Meet & Greet area is counter productive and makes the experience less pleasant. Consider hospitality-like finishes when designing the Meet & Greet.

4 Technology

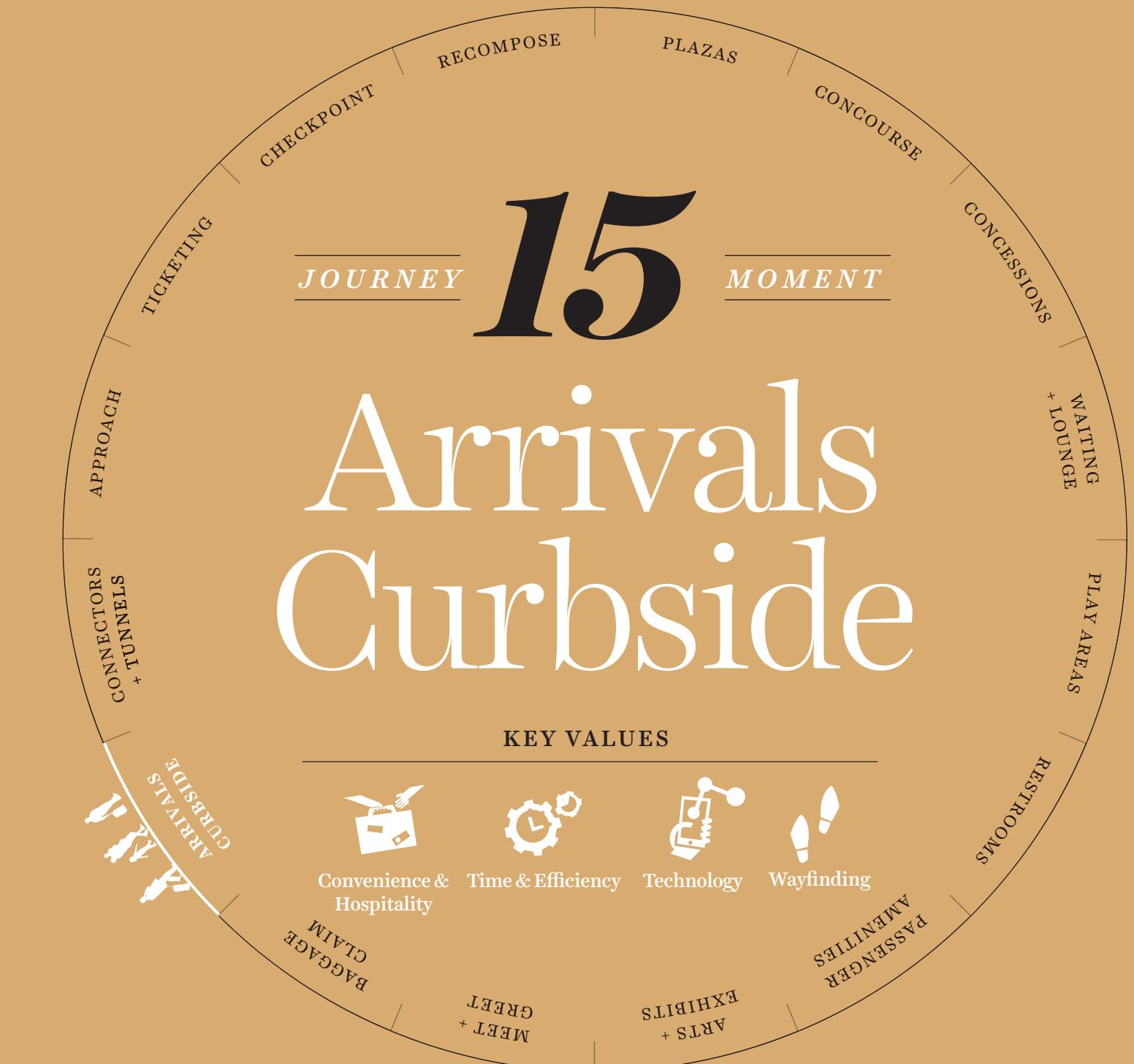
What opportunities for engagement do new technologies provide for people excited to reconnect with families and friends? From something as simple as a digital photo booth to a more complicated integration of social media into a dynamic art piece, the opportunities are endless.



ARRIVING PASSENGERS

Arriving Family Passengers often have large groups awaiting them in Meet & Greet to help with the kids, see the baby for the first time and reconnect with their loved ones. It's especially important to provide a variety of comfortable seating for those waiting. It's also important to incorporate necessary visual displays, e.g. FIDs and visual paging.

SFO MEET & GREET
How can art make the Meet & Greet space special? Consider pieces that would make a great backdrop for a 'welcome home' photo!



Arrivals Curbside presents challenging wayfinding and driving issues. A driver picking up a passenger or a pedestrian navigating to the exit where arriving passengers are arriving will have a tremendous amount of visual input. It is essential to create a hierarchy of visual information to ensure an efficient and stress-free experience.

The utilitarian nature of this journey point should not preclude creating a hospitality-like ambiance. As a major civic building, all exterior zones should project a similar quality. Effective night lighting is essential from both a functional and aesthetic point of view.

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Baggage Claim
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Connectors & Tunnels

ASSISTED PASSENGERS



Assisted Passengers may have different needs upon reaching Arrivals Curbside. ADA accessibility to all bus shelters and waiting areas is required and additional signage for this helps make SFO accessible for everyone.

LEISURE PASSENGERS



Leisure Passengers might have large amounts of luggage and people. Having space to accommodate them is crucial.

FAMILY PASSENGERS



Make sure that families have a safe and secure place to gather and orient themselves to the appropriate transportation.

Key Values

Time & Efficiency



Ensuring that passengers can navigate quickly out of the airport is important. It would be a shame to have the last impression be one of frustration. Signage and visibility to the outside are all ways to cue the passenger where he or she must go to exit. Ensure that ground transportation options and areas for pick up are clearly marked. Additionally, ensuring that the curbside sidewalk is as free of visual clutter and obstacles as possible will propel a speedy and efficient exit for travelers.

Technology



New services and applications are making it easier for passengers to connect to their ground transportation options. Recognizing and planning for these innovations could help increase efficiency at Arrivals Curbside.

Look & Feel



The Arrivals Curbside area is, for many passengers, the last place they will touch before leaving the airport and should remain a positive experience in their memories. Consider ways to leave a positive impression and make the experience feel seamless. This will likely be accomplished using signage and additional elements such as technologies that could simultaneously inform and excite passengers about arriving in San Francisco. Most importantly, provide comfortable waiting space, ample seating, protection from the elements—all within reasonable views of the passing traffic.

Wayfinding



It's important to ensure that passengers know where to go for appropriate ground transportation and understand the rules for driver pick up. Arrivals Curbside can be hectic, so being as clear as possible is important. Making physical and digital maps accessible is an assist for passengers and those picking them up.

Opportunities Checklist

THINGS TO CONSIDER

- Transportation**
Different types of transportation should be considered, from personal vehicles to taxis, shuttles and buses.
- Traffic & Circulation**
Create a strategy that complies with traffic standards and delineates pedestrian traffic versus vehicular traffic.
- Loading System**
Provide ample space for passengers with luggage for loading. Think about loading times and how to keep people and luggage moving smoothly through the area.
- Curbside Waiting Areas**
Consider seating for passengers who might have a longer wait.
- Representing the City**
Think about ways to integrate this transition space with the airport and the city.
- Security**
Consider placement of security cameras atop vestibules or in tall spaces.
- Protection**
Consider the need for adding covered areas to protect passengers and their belongings from the elements.
- Smoking**
Provide designated smoking areas that neither isolate smokers nor interfere with the experience of non-smoking passengers.

SOME ESSENTIALS

- Signage**
Make sure that it is easy to identify where to find transportation options and communicate pick-up locations.
- Ad Space & SFO Marketing Opportunities**
Advertising and/or SFO marketing opportunities may be required and should be considered in the overall look and feel.

Future Forecast



1

Connection to the City

The airport is a connection to the city and the Arrivals Curbside can be a breath a fresh air after a long day of traveling. Present a good first impression of San Francisco by considering the design of the airport exit. In addition to making this area comfortable and protected, make sure it's memorable!

2

Wayfinding and Space Constraints

At SFO, the Arrivals Curbside is more narrow than the Departures Curbside and passengers in this location are likely eager to continue their travel to the city as quickly as possible. Provide very clear wayfinding for drivers who are picking up passengers. Ensure that safe sight lines for pedestrians and motion sensor cued lights for crossing are in place.



ARRIVING PASSENGERS

Arriving passengers new to the area typically don't have enough airport experience to seamlessly navigate out of Arrivals Curbside. Making sure that ground transportation signage is prominently displayed and the areas are well lit with clear sight lines is of extreme importance. Consider adding extra information regarding transportation options for these passengers at both the Arrivals Curbside area as well as online at www.fllysfo.com.



MCCLELLAN PALOMAR AIRPORT, SAN DIEGO

From flying to surfing, ensure that the arriving passenger transition to the final destination is as seamless as possible.



Baggage Claim is an opportunity to create a great first impression of the city. It is also an opportunity to create a positive lasting impression of SFO. The most important functional aspect of this journey point is clear wayfinding. The comfort and convenience of passengers must also be considered. Baggage Claim areas

don't have to be strictly utilitarian! Impactful lighting, lounge seating, artwork and bold graphics can create a hospitality-like effect in this area. Due to the transitory nature of Baggage Claim, the use of color can be a simple way to make a great impression.

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Baggage Claim

Arrivals Curbside
Connectors & Tunnels

Key Values

Convenience & Hospitality

People need good communication when in Baggage Claim. Consider that, for passengers, this is one of the last things they must do before exiting the airport. Held-up bags, poor communications and under considered spaces make this journey moment far more stressful than it needs to be! Designers have the opportunity to provide clear visual wayfinding, comfortable seating options and spaces for amenities.

Wayfinding

Ensure that passengers can effortlessly navigate to Baggage Claim and easily identify which carousel they need to gather near to retrieve their luggage. If advertisements or promotions are placed on or near carousels, ensure they don't interfere with wayfinding information. This is also the perfect opportunity to educate passengers about their ground transportation options via digital signage.

LEISURE PASSENGERS

Having coffee or some other food & beverage concession is ideal for the road-weary warrior. Either for returning passengers or new visitors, having a pleasant experience while waiting for luggage is appreciated!

FAMILY PASSENGERS

Groups of people need space to gather and families are a prime example. Have spaces for parents to keep an eye on their kids while gathering their luggage.

Time & Efficiency



While the time and efficiency of the actual baggage delivery systems is up to airport operations and facilities, designers can facilitate optimized wait times for passengers. Something as simple as a place to sit would be welcome. Keep in mind that parents, too, will appreciate a place for the kids to work off stored up energy from long plane rides!

Locality & Sense of Place



Baggage Claim is often the last impression that visitors have of SFO and the first they have of San Francisco; it should have a unique sense of place to help passengers remember their journey and orient to their destination.

Opportunities Checklist

THINGS TO CONSIDER

- Wayfinding**
Make sure passengers can easily find the Baggage Claim area and locate baggage carousels. Provide clear signage for transportation options.
- Approach**
Think about the location of the Meet & Greet area—it should be close to, but not blocking the Baggage Claim area.
- Ease of Access**
Provide easy access to rental car service, hotel information and general information counters for passengers new to the airport. Ensure easy access to restrooms for inbound passengers.
- Circulation**
Provide ample circulation and waiting space around the carousels for waiting passengers. Are there opportunities to create focal points within the space using light, materials, etc?
- Passenger Experience**
Consider integrating concessions such as coffee/beverage for passengers who may have just gotten off a long flight. Strategically locate elements such as Lost & Found, Customer Service, service counters, and alternative seating to serve various passenger needs.
- Baggage Information**
Ensure Baggage Information Displays (BIDs) are easy to find.

SOME ESSENTIALS

- Airlines Regulations**
The International Terminal will have different constraints and will need to comply with federal customs regulations.
- Ad Space & SFO Marketing Opportunities**
Advertising and/or SFO marketing opportunities may be required in the Baggage Claim area and should be considered in the overall look and feel.

Future Forecast



1 RFID Systems

The air transportation industry continues to explore different technologies, in particular when thinking about security. Radio Frequency Identification (RFID) tags are just one of those systems that airports are testing out as a way of locating both luggage and passengers. Misplaced or lost luggage may not be an issue in the future, decreasing the space needed for Lost & Found and other Baggage Claim services. Instead, space and infrastructure will be required to support these new technologies.

3 Concessions and Amenities

A lot of emphasis is put on the departing passenger experience. However, there is an express desire for arriving passengers to have access to amenities and concessions as well. Adding a coffee shop would be a great way to tap into this need.

2 Baggage Delivery Services

Different options for baggage delivery solutions are now available as an alternative to airline baggage fees. Startups like Lugless, LuggageFree, LuggageForward and even FedEx are offering passengers an alternative for getting their baggage to their final destination at competitive prices. If this catches on, expect to see a decrease in the area needed for Baggage Claim as the luggage system evolves. Availability of adequate luggage carts will still be a priority for passengers who opt not to use these services.

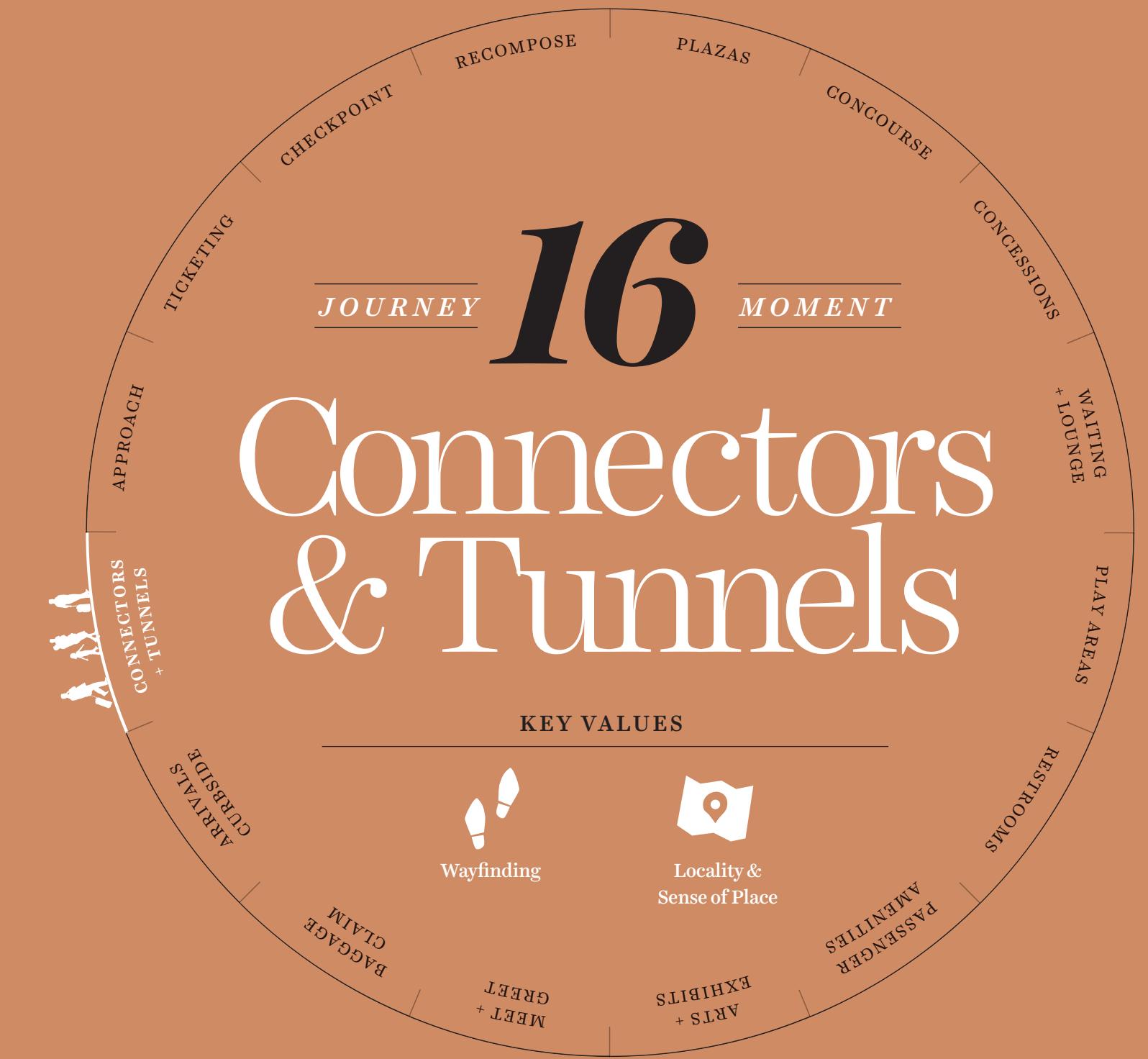


ARRIVING PASSENGERS

There are a lot of moods and needs to moderate in a family. What fun activities could be provided for children that might distract them from the sometimes tedious experience of waiting for bags? Is there a restroom with a nursery for nursing mothers? How about a seating area large enough to accommodate the whole family? The important thing to ensure in Baggage Claim, where wait times are unpredictable, is activities and choice as well as a harmonious built environment.

SFO TERMINAL 2 BAGGAGE CLAIM

Brightly lit Baggage Claim areas can invigorate passengers who've just exited a long flight. Consider finishes and materials that can make an impact upon exit.



Connectors are defined as areas that link one terminal to another, facilitating connecting passengers as well as aiding in general circulation. Connectors are further defined as either “secure” (aiding post-security connecting passengers) or “non-secure” (aiding in general circulation for both passengers and airline employees). Clear and concise wayfinding signage is of prime importance. The design of these Connectors should be dynamic in character, providing an opportunity for enjoyment and anticipation as travelers move through the airport.

Tunnels are defined as conveyances connecting parking structures to terminals. The same practical and aspirational elements applied to Connectors are relevant in these areas. Additionally, advertisements may be located in Tunnels, and careful consideration should be given to their inclusion. Tunnels and Connectors, due to their transitory nature, are an opportunity to create energetic design that adds another layer of surprise and delight to the passenger experience.

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Baggage Claim
Arrivals Curbside
Connectors & Tunnels

Key Values

Wayfinding

Connectors and Tunnels can be disorienting spaces. As such, wayfinding is a top priority. When possible, allow views to the outside and consider branding these areas with a similar look and feel to the terminals they primarily connect to. Above all, ensure that wayfinding signage is visible and reassures passengers along their journey.

BUSINESS PASSENGERS



For Business Passengers new to San Francisco, Connectors & Tunnels are essential in getting them to their final destination. Make sure wayfinding is clear, both going to and leaving the airport.

LEISURE PASSENGERS



For a Leisure Passenger, vacation begins as soon as they leave the door. Consider how these transitional spaces can build upon the anticipation and adventure of travel.

FAMILY PASSENGERS



Landing in a new location can be exciting, particularly for kids. Consider this space as the city's greeting to travelers. The passenger experience should extend beyond the airport walls.

Opportunities Checklist

THINGS TO CONSIDER

- Wayfinding**
Signage and wayfinding is extremely important and should be clearly recognizable for out-of-town visitors. Make maps (static or interactive) accessible to passengers upon approach to the airport.
- Visual Landmarks**
Consider lighting, banners or some other visual landmarks to indicate airport exits from the freeway.
- Transportation + Marketing**
Consider the AirTrain waiting areas as opportunities for passengers to learn more about the airport and the different amenities that are offered.

SOME ESSENTIALS

- ADA Accessibility**
- Circulation Constraints**
- Traffic & Congestion**
Congestion can be a major issue. Ensure that the Connectors & Tunnels remain a transitory part of the journey and discourage lingering.
- Federal & Local Traffic**
Must comply with federal and local traffic standards.
- Urban Planning**
These areas may require greater city planning efforts.
- Life Safety Issues**
Exit paths for various modes of transportation and fire/life safety issues need to be considered.

Future Forecast



1

Anticipation of Travel

The romance of travel is not as it once was, but Connectors and Tunnels can and should be designed to exhilarate the passenger and add to the anticipation of air travel or of connecting to the city. The TWA Terminal in New York City's John F. Kennedy Airport (JFK) has a simple sculptural passageway that adds to the passenger experience.

2

An Urban Experience

Principles of urban design theory are being applied as a trend toward the airport as a "city within a city." Connectors and Tunnels can provide a physical reminder through large scale art and sculpture. The Los Angeles Airport has large scale light sculptures that indicate the location of the airport from the freeway. Consider other urban design elements such as wayfinding, connecting boulevards, open plazas and public art. Make sure there is visual connectivity, organized spaces and information is readily available.



CONNECTING PASSENGERS

For visitors new to the area, or those who are unaccustomed to traveling, wayfinding to and from the airport should be clear and easy, particularly for those looking for their connecting flights. Being clear about designated areas can help ease any nervousness or anxiety passengers experience while they are traveling.



SFO T2 CONNECTOR

The connector tunnel provides a varied experience from other terminals through different finishes and lighting.

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GLOSSARY

AOA

Air operations area

ACC

Airline Consultative Committee

ACSSP

Airline Carrier Standard Security Program

Apron Level

Ground level accessible to airfield

Arrivals Level

For arriving passengers

Airside

All areas after security checkpoint

AIMS

Airport Information Management System

BHC

Baggage Handling System

BICE

Building Inspection And Code Enforcement

BIDS

Baggage Information Display System

BIM

Building Information Modeling

CalGreen

California Green Building Standards Code

CID

Counter Information Display System

CEQA

California Environmental Quality Act

Concourse

Post security circulation area

Concessions

Breaks into two distinct categories:
Food and Beverage (F&B) and Retail

D&C

Design and Construction

DRC

Design Review Committee

Departures Level

For departing passengers

FF&E

Furniture, Fixtures and Electric

FIDS

Flight information display system

FAA

Federal Aviation Administration

GID

Gate Information Display systems

ITB

International Terminal Building

Journey Moments

Spaces or activities that passengers using airport public spaces pass through, engage with or spend time in

Landside

Pre security areas

LEED

Leadership in Energy and Environmental Design

PBB

Passenger boarding bridge

PVC

Polyvinyl Chloride

Precompose Area

Immediately prior to security reserved for passenger to compose themselves before the security check

Recompose Area

Immediately post security reserved for passenger to compose themselves after the security check

Secure Connector

Area of connection between post security areas of the airport, typically two terminals

Ticket Lift

Boarding pass scanning device

T1

Terminal One

T2

Terminal Two

T3

Terminal Three

Terminal

The main building or structure. There are 4 Terminals at SFO. Terminal 1 Terminal 2 Terminal 3 and the International Terminal

QRT

Quick Response Team. A group of vested stakeholders assembled to develop program needs and review design related issues of a variety of

VOC

Volatile Organic Compound

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