

Item No.: 7a_supp

Date of Meeting: June 23, 2015

Baggage Optimization Program

Commission Briefing

June 23, 2015



Port 
of Seattle®

Baggage Optimization

The checked baggage optimization project replaces six individual baggage screening systems with a centralized system that optimizes the operation and functionality of the bag system.

Purpose:

- Optimize the baggage system to achieve maximum capacity within current airport footprint.

Outcome:

- Increased capacity (no limitations on number of checked bags), reliability, redundancy, and security
- Flexibility in Airline ticket counter use and related gate assignments
- Reduce minimum connect times where possible
- Long term energy savings

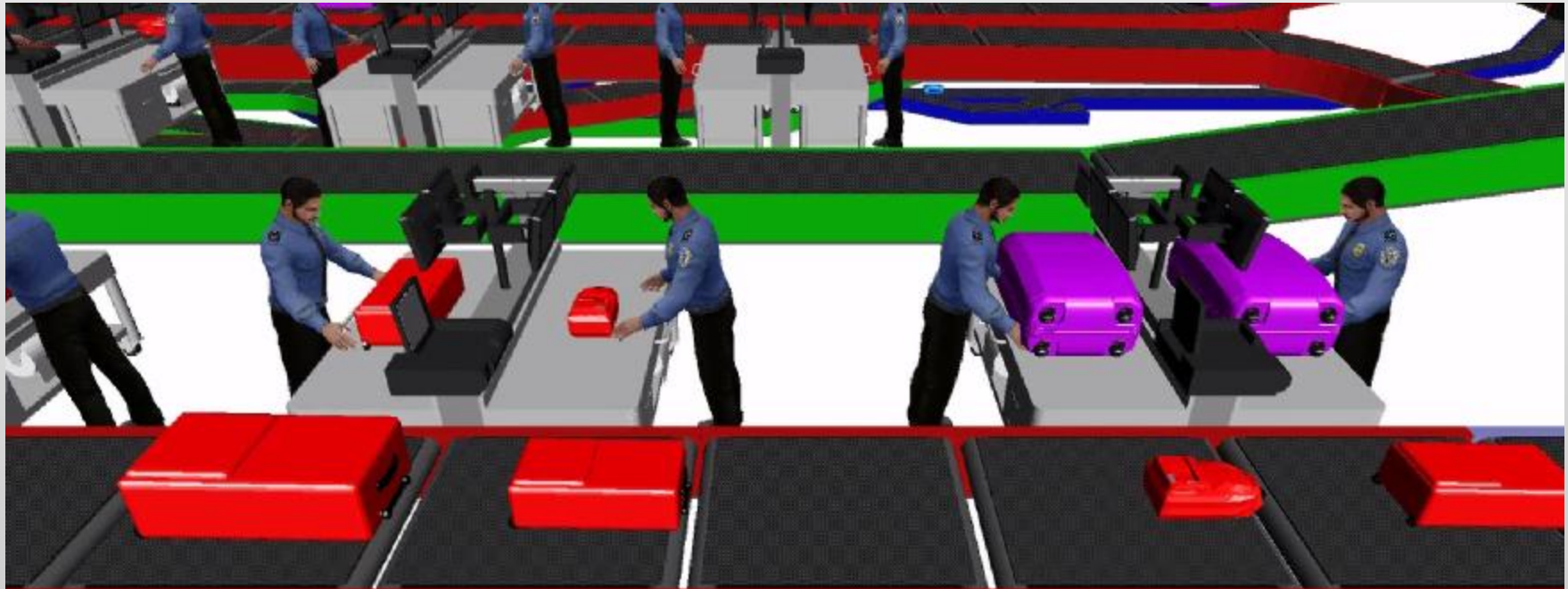
Optimization provides adequate capacity to match growing traveler needs.

Existing Baggage System



Existing separate systems cannot grow to meet future demand.

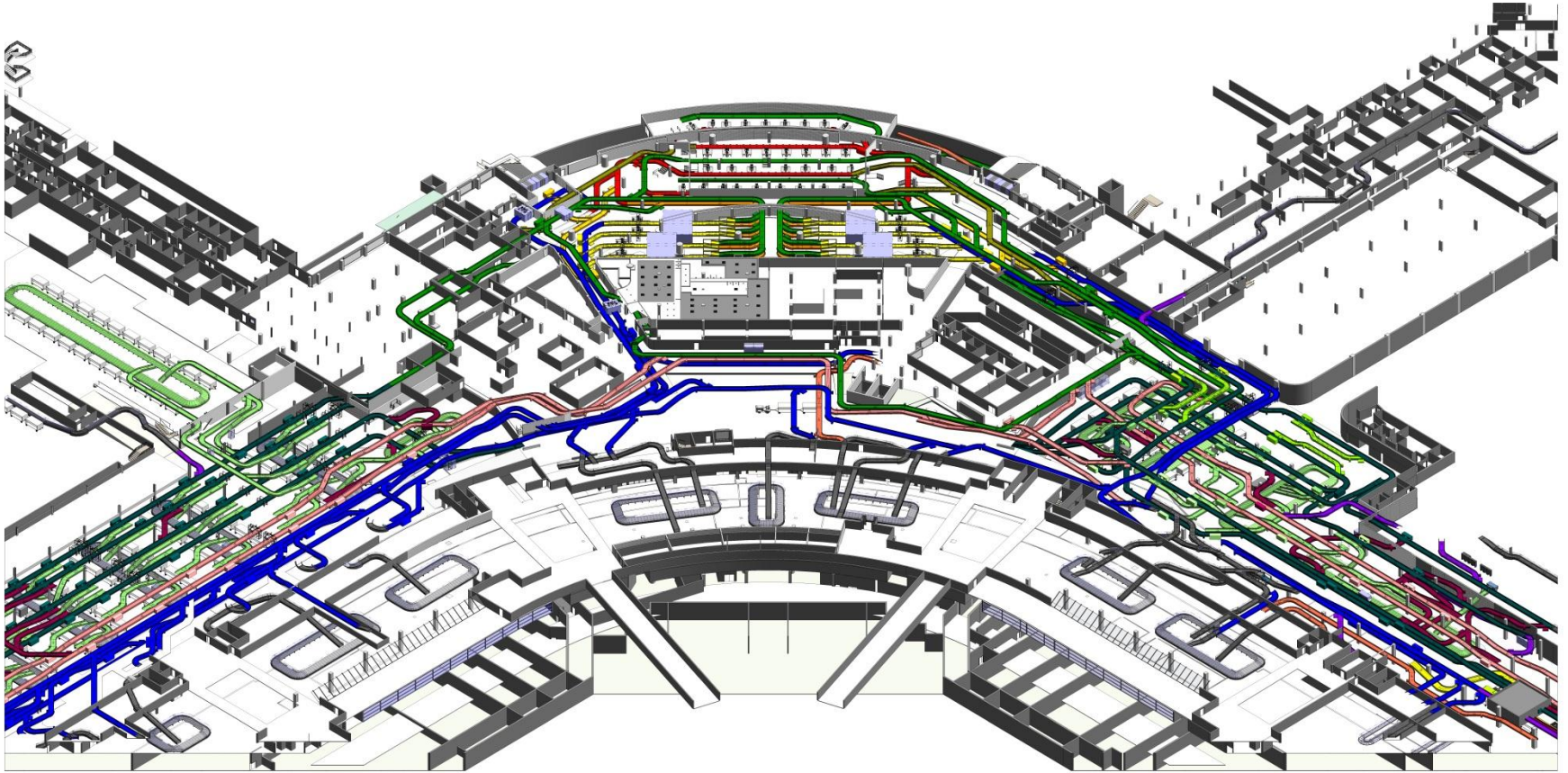
TSA Checked Baggage Resolution Area



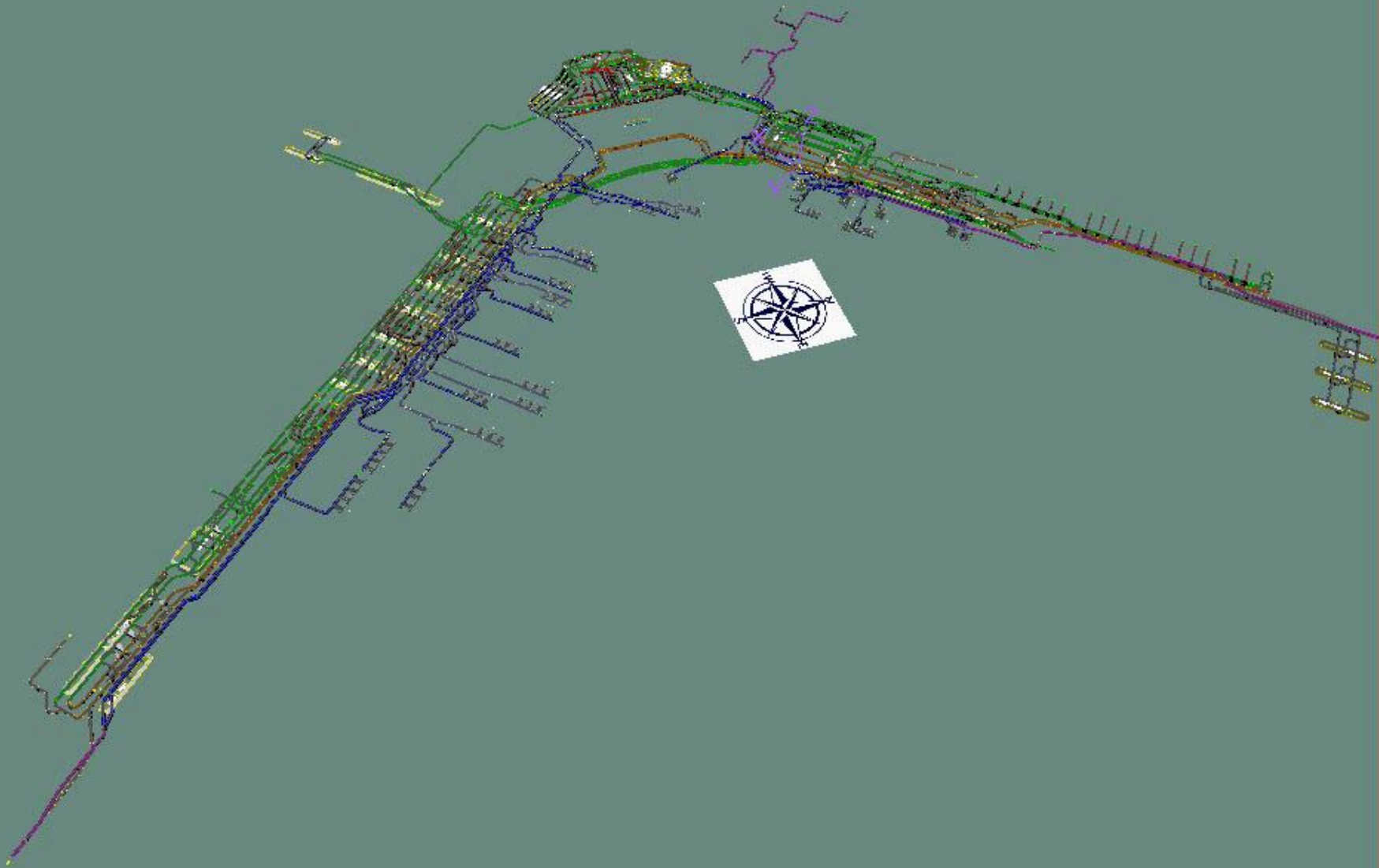
ETD Screening of Suspect / LIT / OOG Bags



Optimized baggage handling system



A combined single system can meet future growth needs.



Airport Passenger Growth (million annual passenger: MAP)

Annual Projections from Basis of Design Report 2012:

- 2014 -33.9 MAP
- 2015 -35.3 MAP
- 2020 -39.1 MAP
- 2022 -40.7 MAP

Annual Current Projections:

- 2014 -37.5 MAP
- 2015 -41.2 MAP
- 2020 -45 MAP
- 2024 -52 MAP
- 2034 -66 MAP

Growth is faster than predicted three years ago when project was scoped. This creates need for acceleration and additional interim projects.

Impact of Very Rapid Growth

- Scope of 2012 Baggage Optimization project:
 - Design and build to 45 MAP over the next 10 years with built in flexibility for the system to be later expanded to 60 MAP.
- Today's need:
 - Construct interim projects to meet Airline growth needs per SAMP to achieve 66 MAP
 - C60 capacity: Increased make-up and screening (\$10M)
 - Other projects scope and cost to be determined
 - Accelerate where possible
 - Cost to be determined

Additional capacity investments needed sooner.

Optimization Budget

2012 Estimated Cost	\$320,400,000
Total TSA Contribution (OTA commitment: September 2013)	\$ 93,220,422
Net Estimated Cost to Port	\$227,179,578
Total Commission Authorization to Date	\$ 20,225,000
Amount Spent to Date (as of April 2015)	\$ 7,080,551
TSA Reimbursement to Date (as of April 2015)	\$ 5,231,891

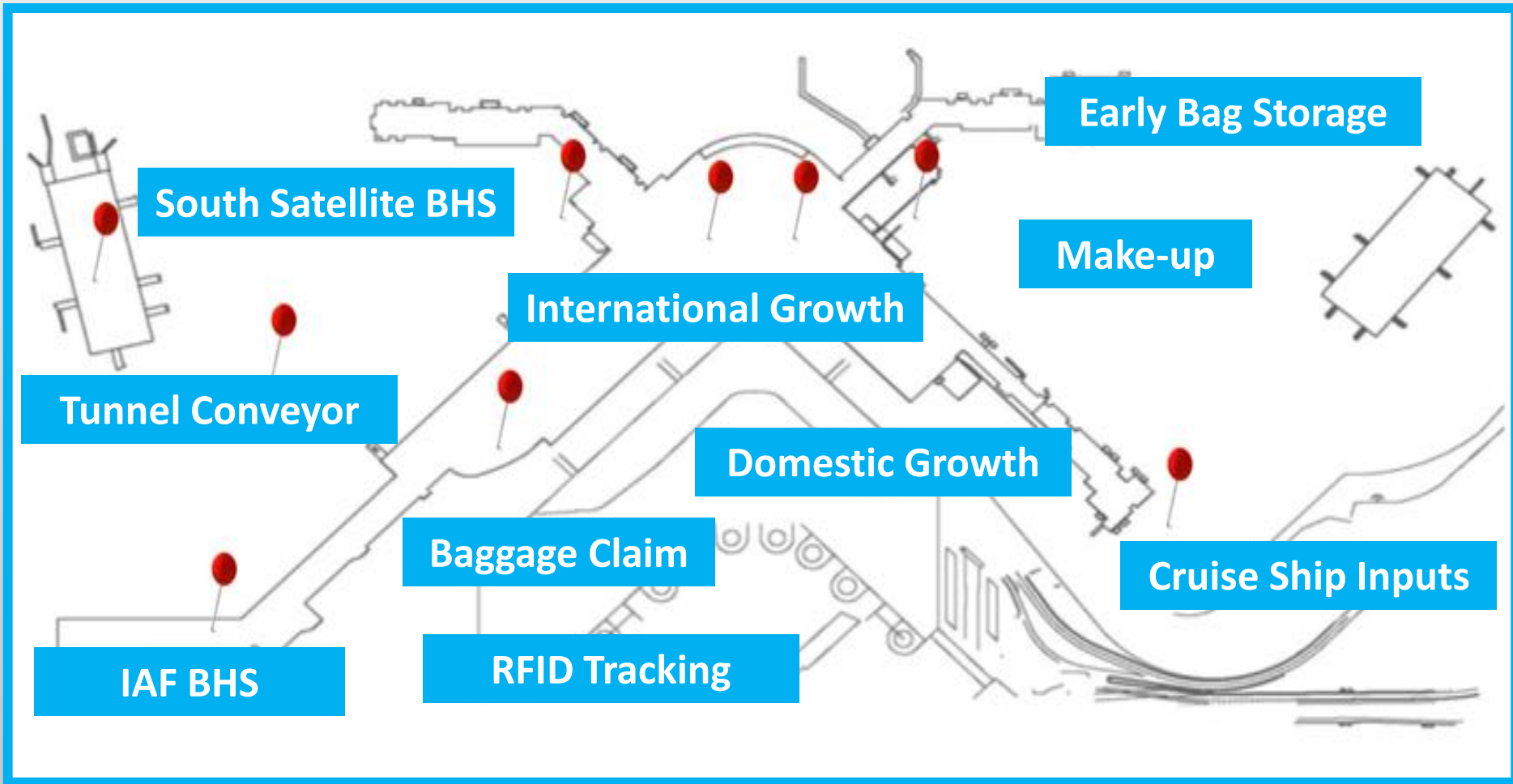
ON BUDGET PER ORIGINAL PROJECT SCOPE

Optimization Schedule

- 70% Design Documents to TSA – April, 2015
 - Currently under TSA review
- 100% Design Documents to TSA – Q4, 2015
- Commission Briefings and requested Approval
 - Phase 1 Construction:
 - Notice to Proceed – Q2, 2016
 - Beneficial Occupancy – Q2, 2019
 - Overall Project Completion:
 - Beneficial Occupancy – Q3, 2023

ON SCHEDULE PER ORIGINAL SCOPE. HOWEVER, NEED TO ACCELERATE.

Rapid Growth Adds Complexity



Growth drives baggage needs in many areas.

IAF Baggage



The IAF cost estimate includes baggage. No cost increase to Baggage Optimization.

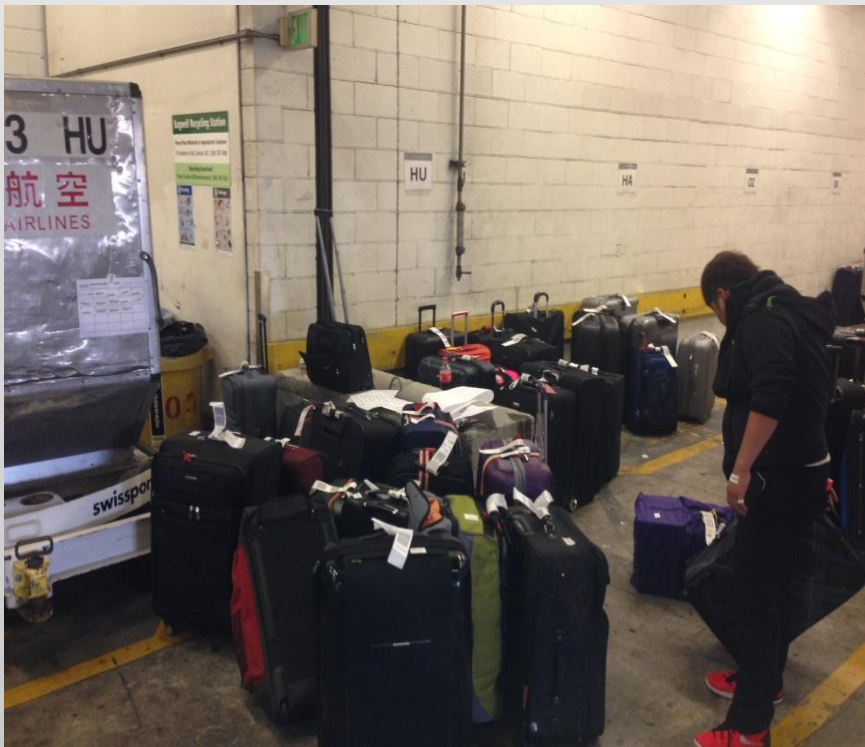
International Growth



International growth generates additional baggage handling and requires storage.

Early Bag Storage

Current Early Bag Storage



Automated Early Bag Storage



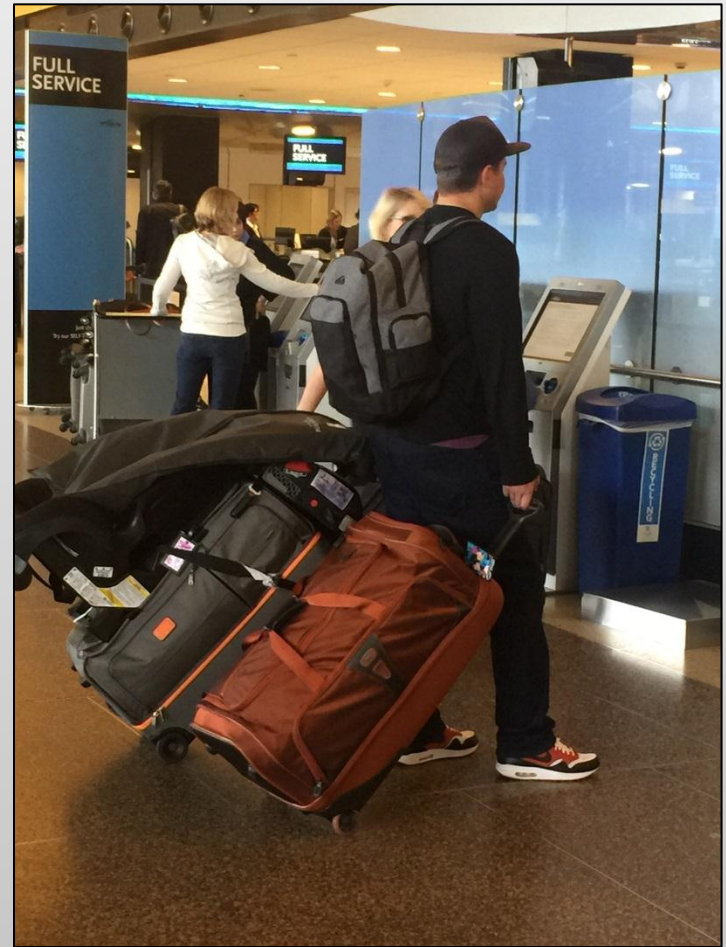
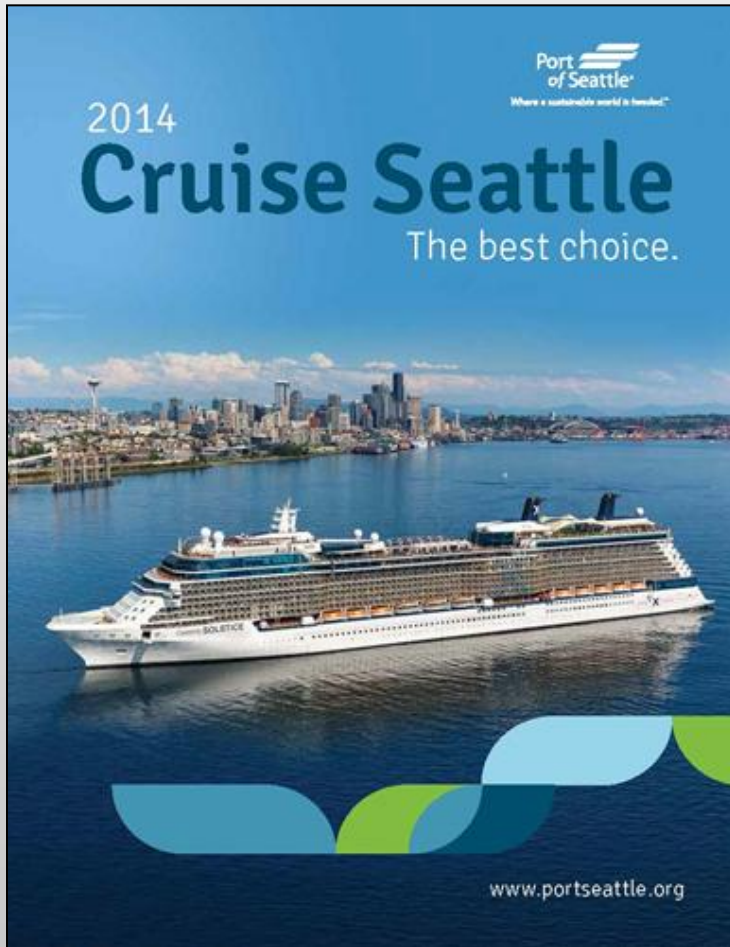
Existing storage is manual. Future storage must be automated to meet growth.

Domestic Growth



Domestic growth adds bag volume quicker than anticipated.

Cruise Ship Inputs



Cruise passengers add a peak baggage load on top of baseline Airport summer peak.

South Satellite BHS

South Satellite Make-up Device



C-25 Baggage System



Future South Satellite baggage renovations will be necessary.

RFID



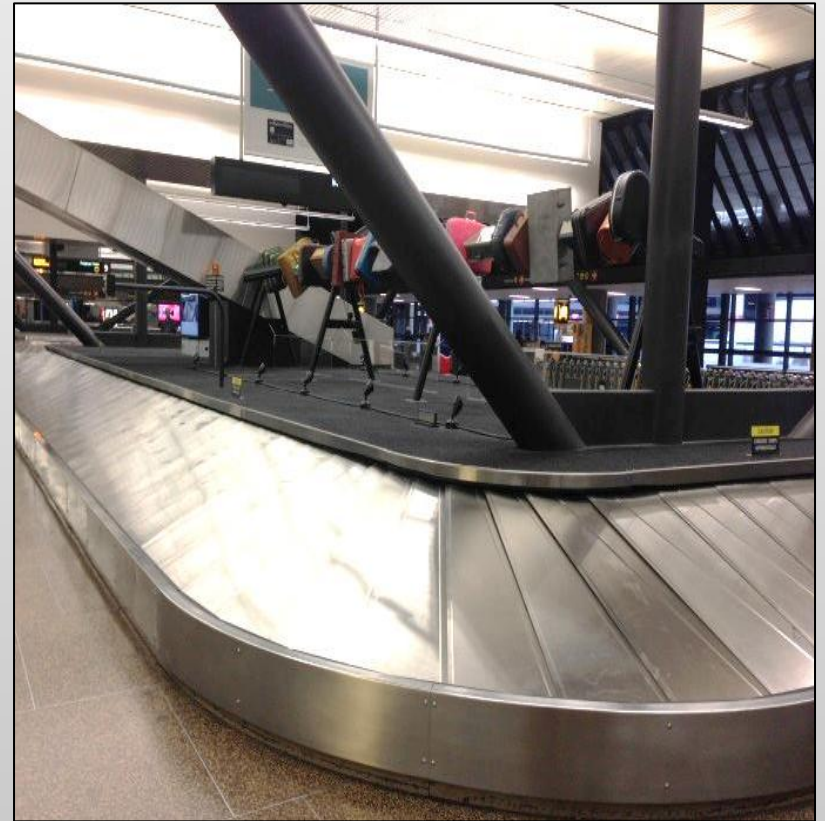
Current Airline Bag Tag



RFID Tag

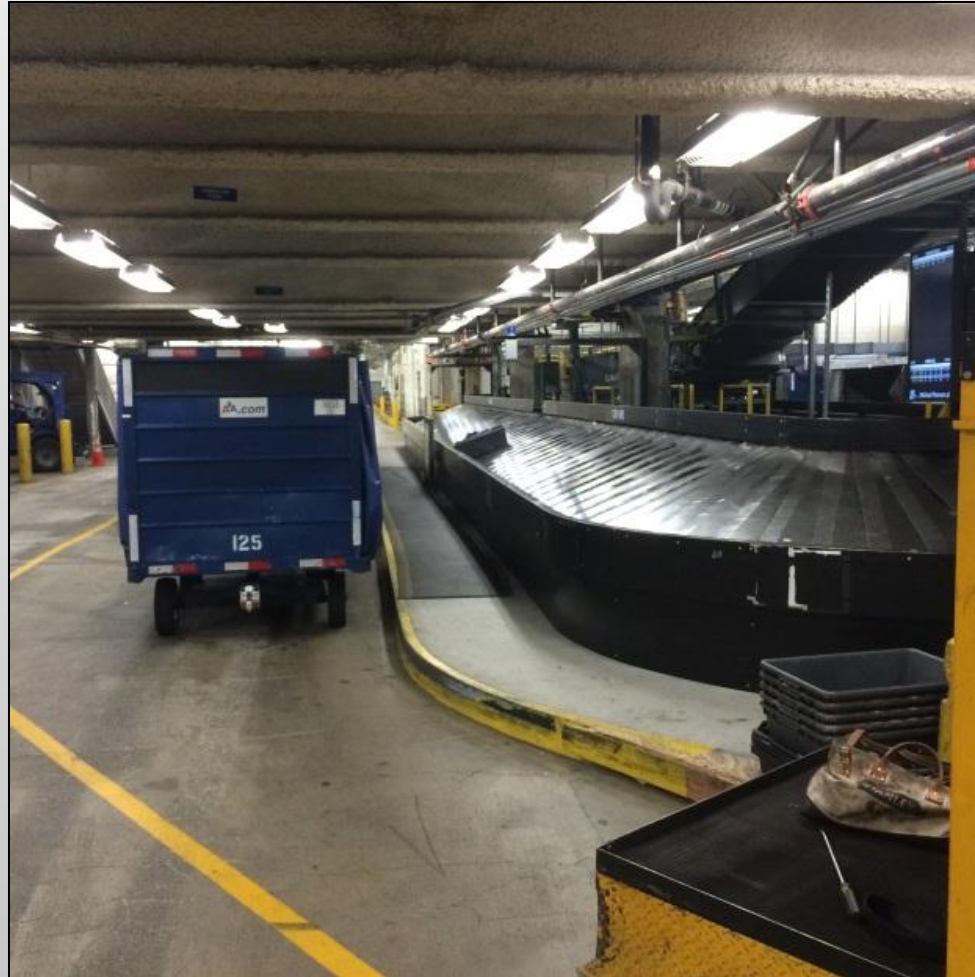
Current tracking system is bar code. Airlines are moving to RFID tracking.

Baggage Claim



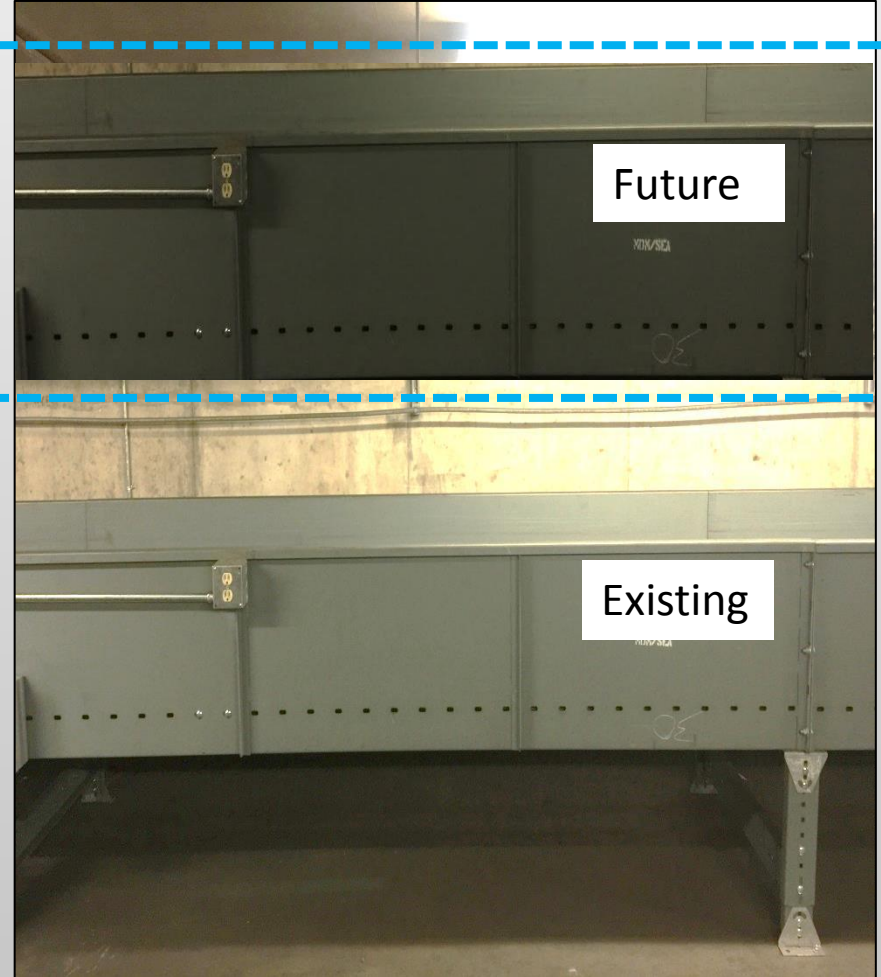
Peak arriving passengers require more claim devices in baggage claim.

Make-up



No building footprint for increased make-up capacity for Airlines use.

Tunnel Conveyor



Future South Satellite may require added conveyor capacity, redundancy.

Top 3 Project Challenges

1. Accommodating Faster Growth Rate in Passengers

Projected MAP (published by Airport Planning Department)

- 2020 45 million
- 2024 52 million
- 2034 66 million

Mitigation:

- Build to 45 MAP design flexibility with capacity for 66 MAP
- Add separate projects to meet rapid passenger growth rate
 - Being studied within SAMP
- Seek to accelerate

Status:

- Current growth rate projects the Airport exceeding 45 MAP by 2020

**Increased growth will require more capacity to be built sooner.
Interim projects will be necessary to keep up with growth.**

Top 3 Project Challenges

2. Maintain 24/7 Operations During Construction

Mitigation:

- System acceptance testing prior to cutovers
- Detailed phasing plan
- Operational contingency and fallback plans
- Include Holiday and peak periods blackouts in construction contracts
- Consider temporary screening and other facilities

Status:

- Port baggage team is engaging all involved departments and Airlines

Proactive efforts underway with all stakeholders

Top 3 Project Challenges

3. TSA Explosive Detection System (EDS) machine not yet selected

Mitigation:

- Design BHS to the largest EDS machine footprint
 - Design options are the Morpho (CTX 9800), L3 and Smith Detection

Status:

- TSA selected new Morpho (CTX 9800) machine



No Longer a risk. TSA determined Machine (CTX 9800) on March 30, 2015

Summary of Project Objectives

Project Objective to Increase:	Achieved in 70% Design?
1. Screening/conveyor capacity to match airport growth	yes
2. Energy efficiency	yes
3. Flexibility and redundancy to send bags from any ticket counter to any CTX to any make-up device	yes
4. Baggage system performance	yes
5. Compliance to meet Federal mandates	yes

Each project objectives has measurable metrics.

Project Metrics

Objective #1: Baggage handling system capacity to match airport growth:

<u>Metrics</u>	<u>Current</u>	<u>45 MAP</u>
Number of bags per day (average)	103K	124K

Objective #2: Flexibility and redundancy to send bags from any ticket counter to any CTX to any make-up device:

<u>Metrics</u>	<u>Current</u>	<u>45 MAP</u>
Any ticket counter to any CTX to any makeup	No	Yes
Number of separate screening systems	6	1

Project Metrics

Objective #3: Energy Efficiency

<u>Metrics</u>	<u>Current</u>	<u>45 MAP</u>
Energy consumption	Full load	Up to 35% reduction
Conveyor run time after last bag	10 min	2 min
Clutch brake repair costs per month	\$30K	\$2K

Objective #4: Baggage System Performance

<u>Metrics</u>	<u>Current</u>	<u>45 MAP</u>
Bag transit time NSAT to SSAT	Not possible	30 min
Bag transit time SSAT to NSAT	30 min	30 min
Tracking rate percentage	97%	99.5%

Project Metrics

Objective #5: Compliance to meet Federal mandates

<u>Metrics</u>	<u>Current</u>	<u>45 MAP</u>
Meet Federal Safety Mandate compliance	Yes	Yes
Meet Current TSA Standards (PGDS v4.2)	No	Yes
Optimize Federal Operational Staffing	No	Yes

Integrated Local Design Team



Transportation
Security
Administration



End of Briefing

