Item No.: 7a_supp_1
Date of Meeting: August 6, 2013

BAGGAGE RECAPITALIZATION / OPTIMIZATION

NEAR TERM PROBLEMS AND LONG TERM SOLUTIONS FOR AIRPORT MISSION CRITICAL BAGGAGE INFRASTRUCTURE

Briefing to the Port of Seattle Commission

August 6, 2013

Transportation Security Administration's (TSA) Immediate Problems

- Explosive Detection Machines (EDS) maintenance cost
- EDS life span-almost time to replace
- Staffing-spread across six areas
- Working conditions:
  - Conditioned (heating/cooling) work areas
  - Safety (lifting)
- Federal budget pressures

Airport's Long-Term Problem

- 33 Million Annual Passengers (MAP) now
- Need to double to 60 MAP
- Existing baggage configuration won't make it past 45 MAP
- Need to move forward now to Optimize baggage configuration to accommodate airport growth to 60 MAP

Joint TSA and Airport Solution

- 14 months of work with the TSA has allowed the selection of the best alternative and 30% design progress.
- Use TSA funds for Airport long term 60 MAP solution
  - Solves TSA problems
  - Reconfigures baggage to an expandable configuration to first reach 45 MAP, then 60 MAP in the future
  - Avoids short term fixes that cannot effectively meet 60 MAP
  - TSA funds available now will lessen the Airport's long-term costs

Contents

Prior Briefings and History

Briefings:

- January 8, 2013
- January 22, 2013

Post-9/11:

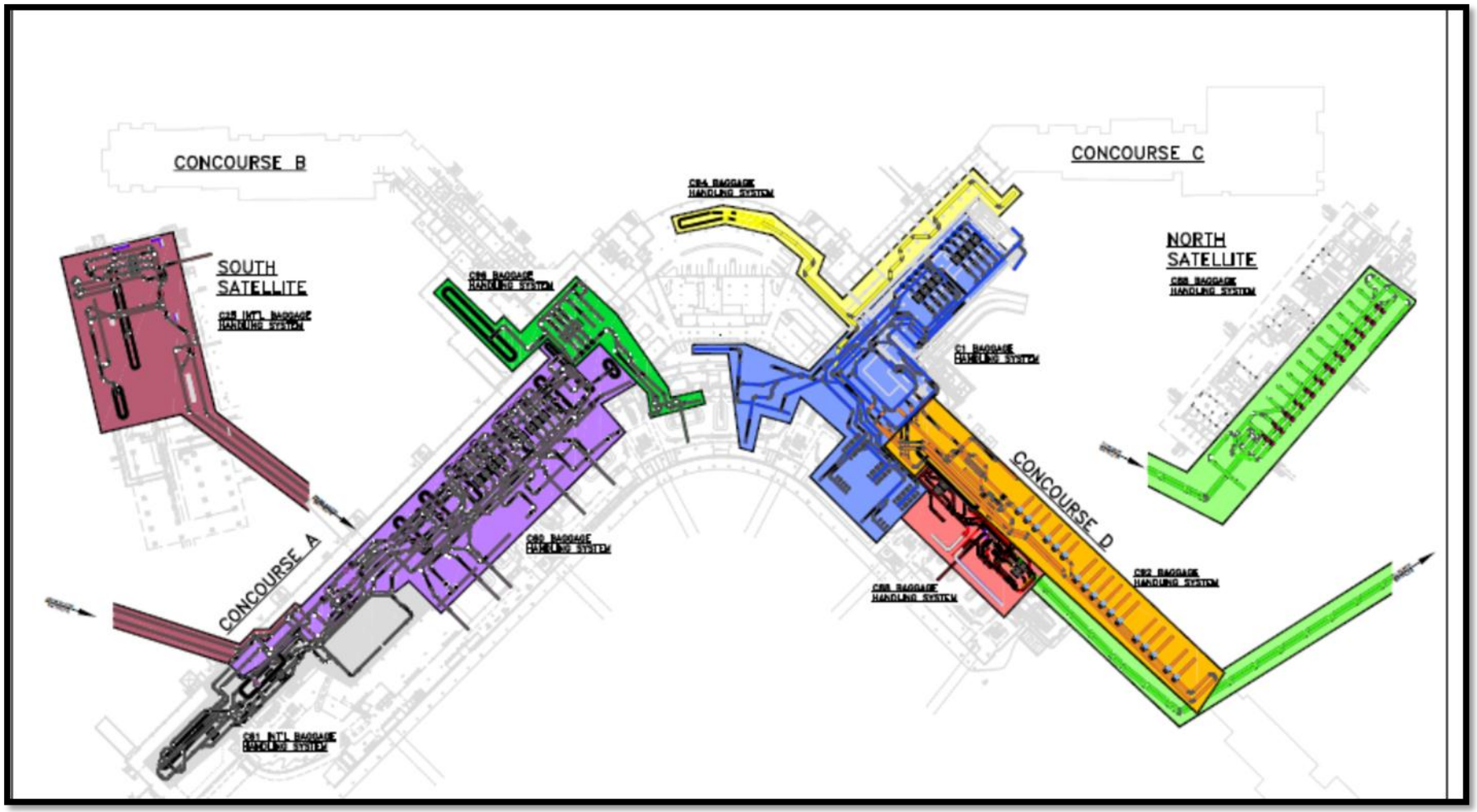
Passengers had to cross lobby twice

Check In → Bag Check → Bag Drop

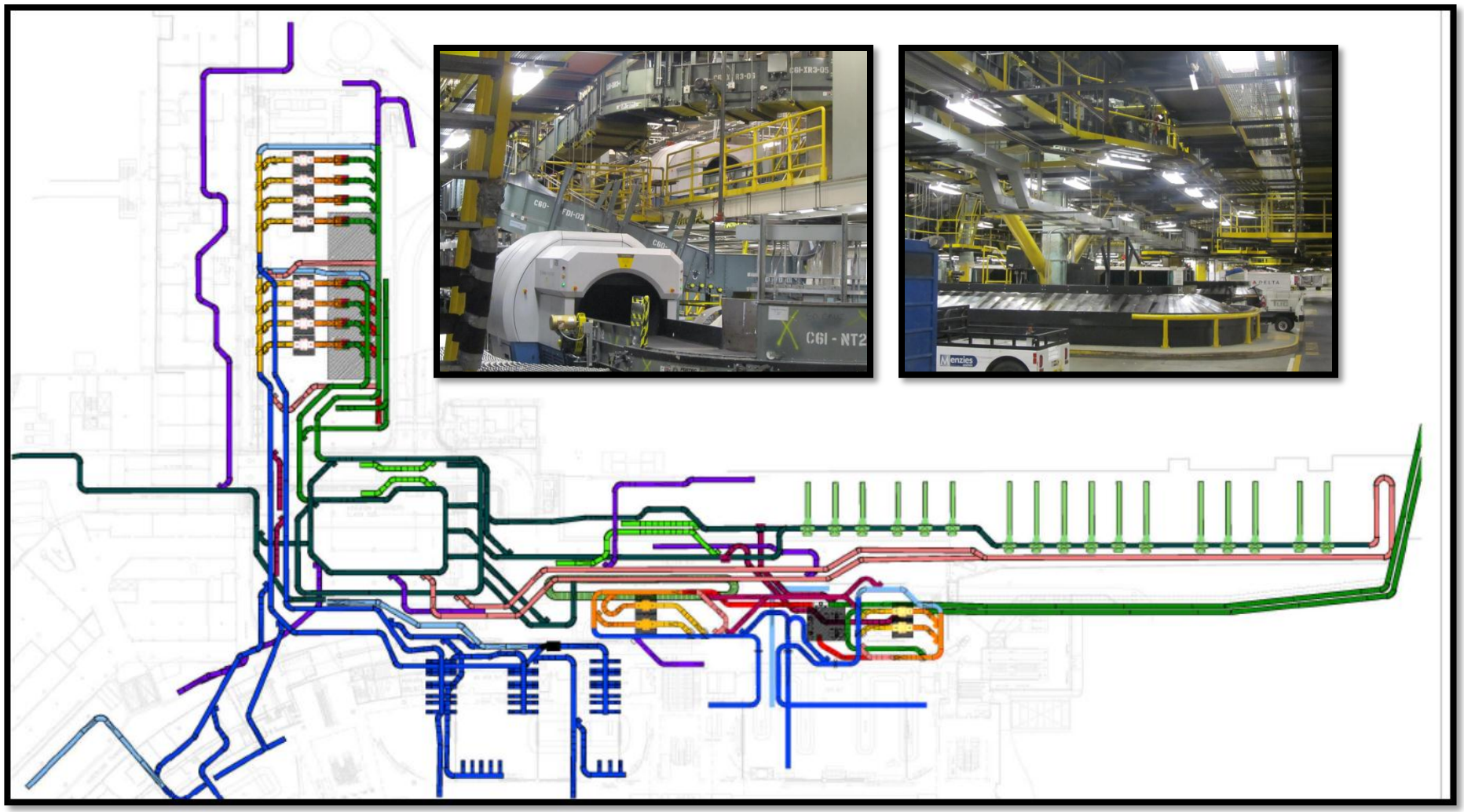
Explosive Detection Systems

Timeline	# of EDS	Miles of Conveyor	# of BHS Systems	Notes
Pre-9/11	2	5	10+	
9/11	38*	6	10+	* during construction
Post-9/11 (current)	27	9.5	6	
Proposed	11	9	1**	**one common BHS system

Existing Baggage Systems



C1/C88 Baggage Systems



Recapitalization

Summary

- TSA only provides EDS equipment
- Replace existing EDS equipment with new EDS (27 = 33 MAP)
- Add EDS equipment as needed for growth (10-16 = 45 MAP Max)
- No change to conveyor configuration or building
- Current throughput stays the same; capacity remains the same
- Maximum capacity is 45 MAP even after additional EDS are added

Notes

- Does not meet current and future baggage demand and Airport growth
- Must add 11 EDS and conveyors to reach 45 MAP
- All future baggage handling systems (BHS) infrastructure (main lines, power, conveyors) will be 100% Airport cost
- Addition of new buildings will also be 100% Airport cost

Optimization

Summary

- TSA provides replacement of existing EDS machines with new EDS machines and upgrades to conveyors and infrastructure (main lines, power, conveyors, belts)
- Changes conveyor configuration to single, consolidated system with redundancy
- Provides capacity to 45 MAP
- Designed for future Airport growth to 60 MAP

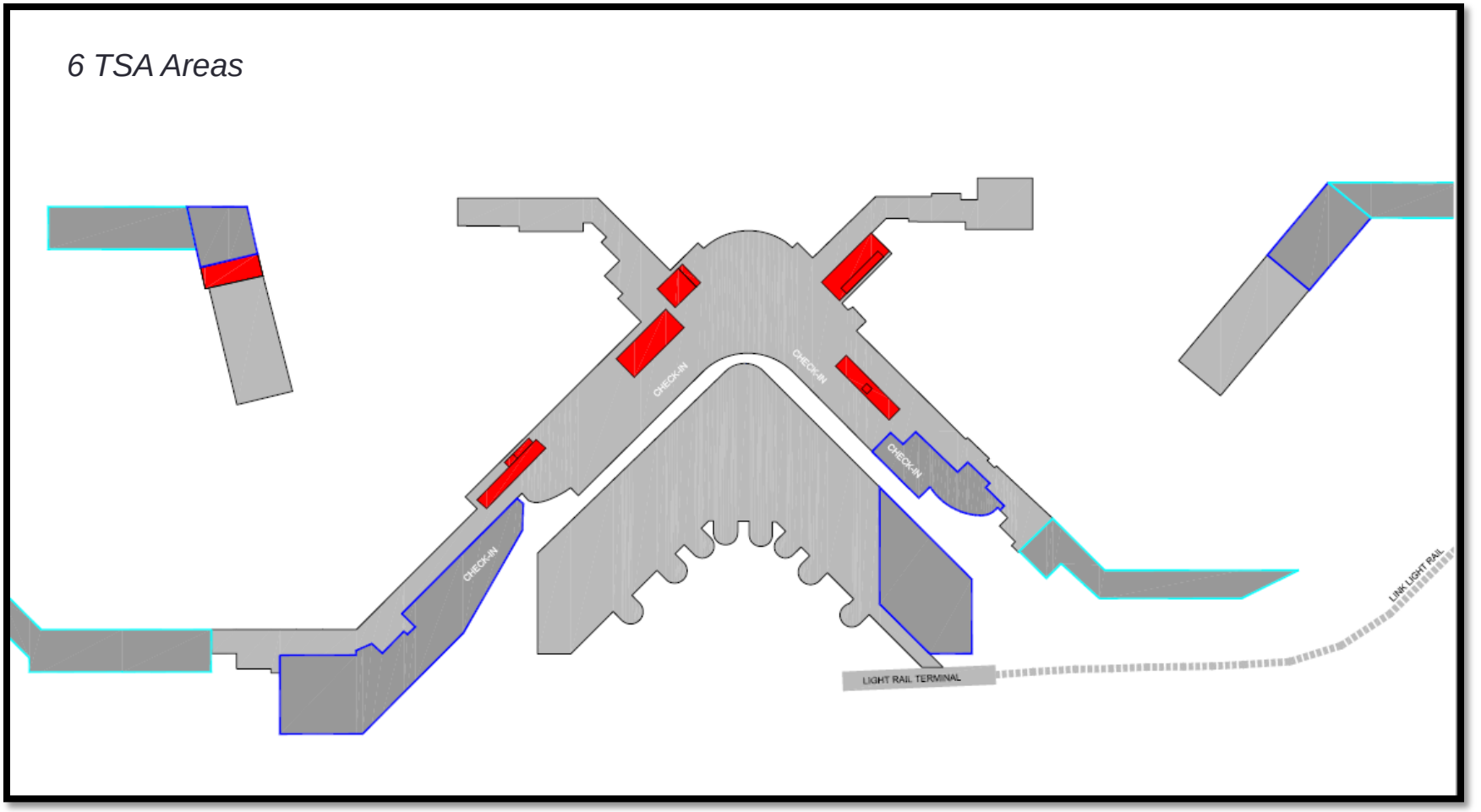
Notes

- Bags go from any check-in or transfer location to any output position
- Reduces Checked Baggage Resolution Areas from 6 to 1 centralized location

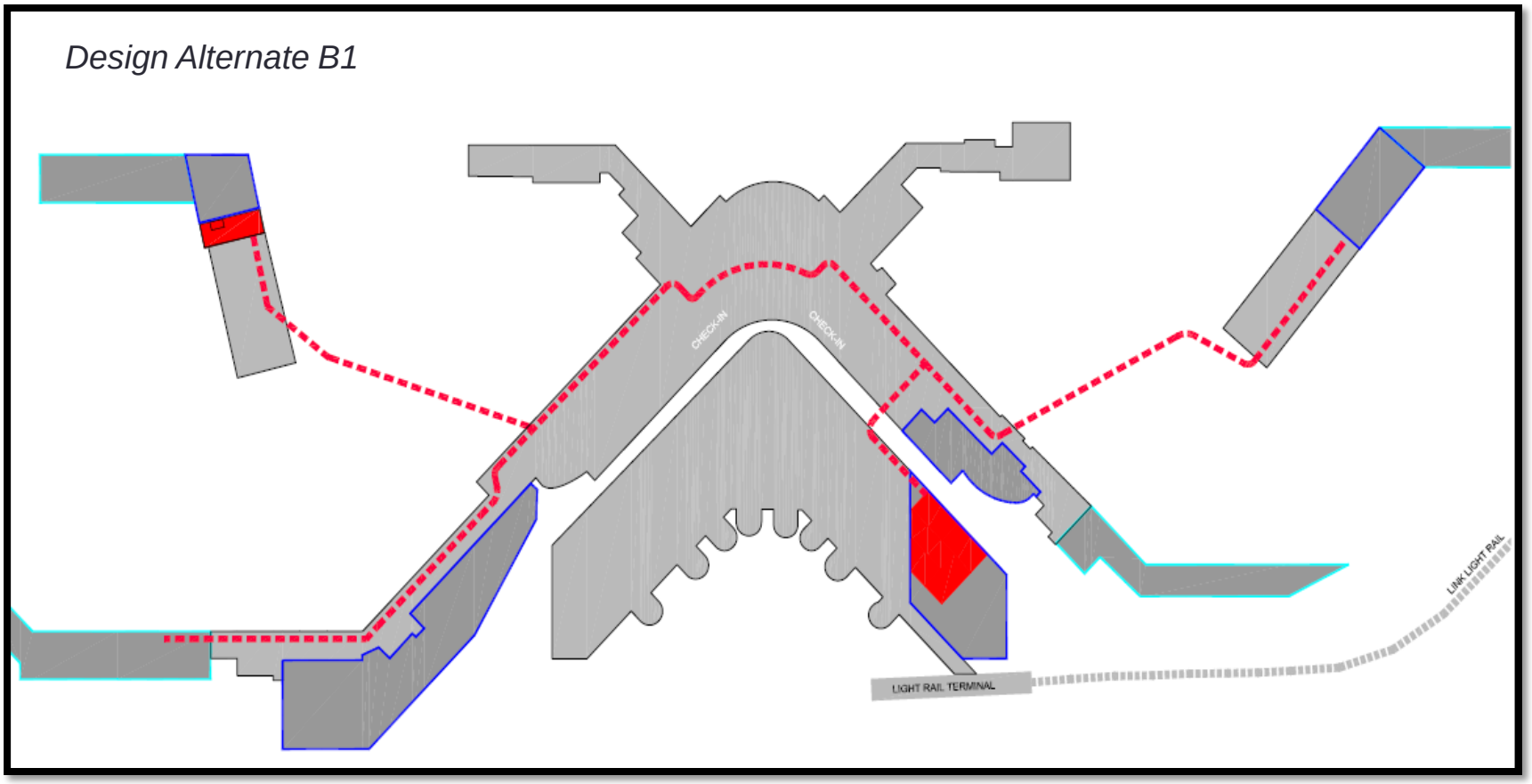
Effects

Stakeholder	Recapitalization	Optimization
TSA	Little change in TSA cost • High staffing • Same # of EDS • Work areas unchanged • Same budget pressure • Added EDS necessary for 45 MAP maximum	Lower TSA costs • Fewer staff • Fewer # of EDS • Improved work area • Less budget pressure • Capacity to 45 MAP and beyond
Airport	Separate configurations • Can't reach beyond 45 MAP • Must optimize later • Terminal expansion and new gates necessary to reach 45 MAP	Single configuration • Growth potential for 60 MAP • Little terminal expansion • EDS won't affect gates • Future flexibility
Airlines	Baggage customer service challenges as construction continually disrupts operations	Airline growth and moves can be accommodated
Cost	Less initially, but operationally painful and requires costly growth later • 37 EDS @ 45 MAP max • 60 MAP unattainable	• 11 EDS @ 45 MAP • 15 EDS @ 60 MAP

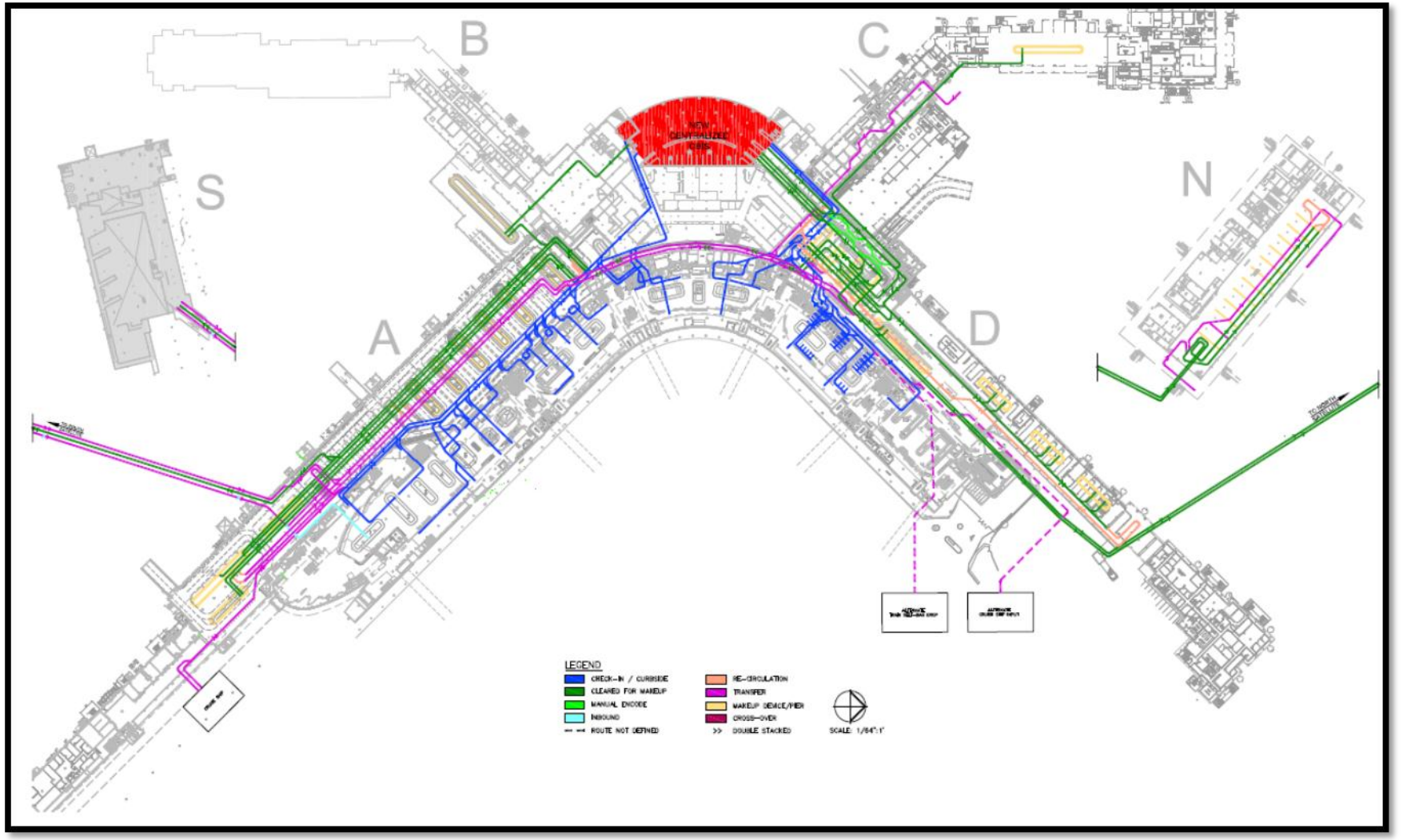
Recapitalization



Optimization - Analyzed 7 Options



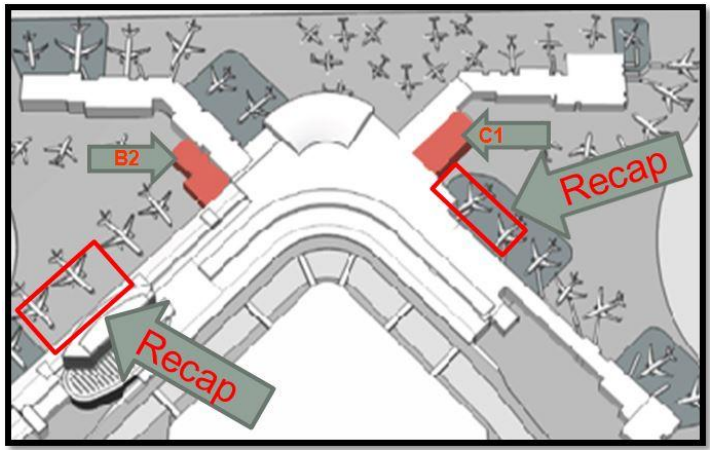
Optimization Alternate D - Preferred

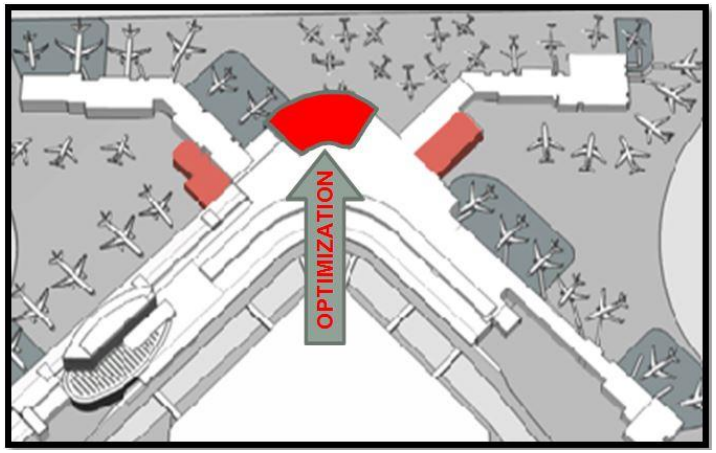


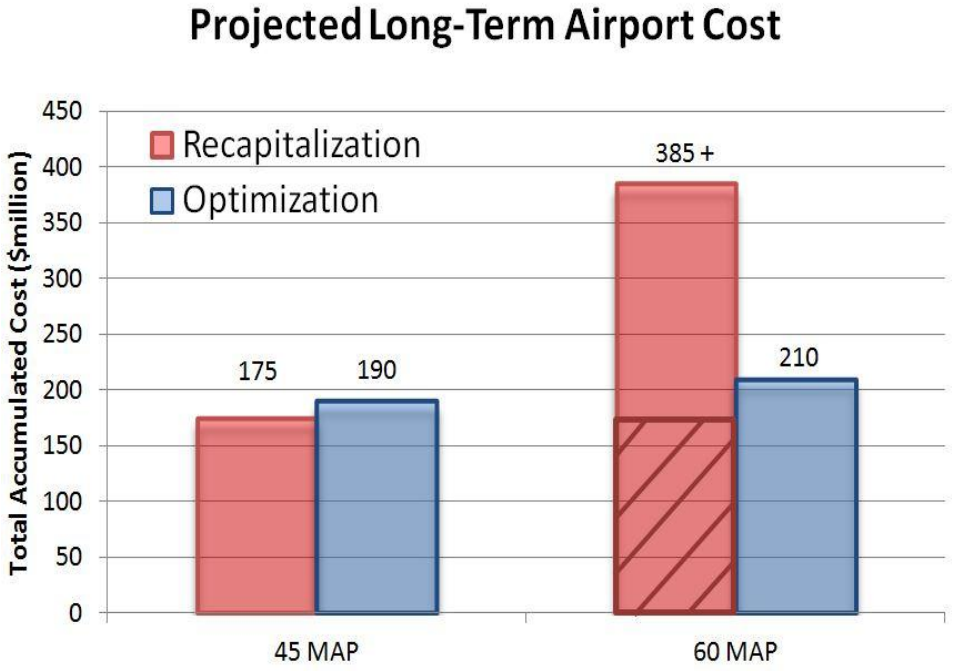
Recapitalization vs. Optimization

Components	Recapitalization	Optimization
Million Annual Passengers	45 MAX Later Optimize	45 and Beyond
Machines	27 Now, Need 10-16 more	11-15
Impact to Operations	High	Medium
Customer Service	Low	High
Building Expansion	High	Medium
Potentially ‘dead-end’ Construction	Yes	No

Recapitalization vs. Optimization Costs







Notes:
- All costs shown are capital costs
- Cost shown in today's dollars
- TSA contribution $50M-100M not included above
- Cost estimates based on pre 30% design levels

Alignment with the Century Agenda

- ‘Meet the region’s transportation needs at Sea-Tac for the next 25 years…’
  - Optimization allows Airport to grow to its ultimate capacity of 60 MAP in 25+ years
- ‘Meet all increased energy needs through conservation and renewable sources’
  - Optimization allows fewer machines to save energy
  - Opportunity to improve controls and add high efficiency conveyor components to save energy

TSA Timeline

- Design start: February 25th
- 30% design submittal: June 12th
- Approved 30% TSA design submittal: July 12th
- Receive notification of TSA funding level
  - August 15th
- Overall program cost estimate finalized
  - August 21st
- Commission Authorization
  - September 10th
- Execute Other Transaction Agreement (OTA)
  - September 11th
- Congressional notification
  - September 18th (+5 business days from OTA)
- Congressional approval
  - September 25th

Summary

- The Airport will continue to grow
- Existing baggage configuration won't make it past 45 MAP even with Recapitalization efforts
- Need to move forward now to Optimize baggage configuration to accommodate airport growth to 60 MAP
- Unique opportunity with TSA reimbursing the airport for $50M-$100M (TBD) in program costs
- New system would be more reliable, energy efficient and in line with Century Agenda Goals

Recommendation

- Continue finalization of an agreement with TSA to create an optimized baggage system that will allow the airport to grow and achieve our century agenda goals.
  - Contingent on approval of TSA funds in the amount of $50-$100M
  - Continue to work with airlines on long term baggage plans
  - Continue design and cost estimating effort