ACI NORTH AMERICA
AIRPORTS COUNCIL INTERNATIONAL

ACC

AGC
THE CONSTRUCTION ASSOCIATION

PROJECT DELIVERY CASE STUDIES

SESSION 6

Airport Construction Strategy Summit

Kansas City, MO | May 21, 2019

KANSAS CITY
AVIATION DEPARTMENT

Panel Participants

- Clay Paslay, Paslay Management Group
- Ellen Brunjes-Brandt,
  - Austin Bergstrom International Airport
- Sean Brennan, RS&H, Inc.
- Joan Zatopek, Oakland International Airport
- Peter Aarons, Burns Engineering

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- Joan Zatopek, Oakland International Airport
- ~~Peter Aarons, Burns Engineering~~ Matt Griffin, ACC

Joan Zatopek, P.E.

- Port of Oakland Aviation Planning and Development Manager
- 30 years of experience in project management; airport planning and project delivery; and capital program management

I ✈ OAK
The best way to San Francisco Bay.

Ellen Brunjes-Brandt, P.E.

- ABIA Program Manager Terminal & Apron Expansion
- 20+ years experience in airport design, construction and program management in public and private sector

Austin-Bergstrom International Airport

Sean A. Brennan, P.E.

- Project Manager – RS&H, Inc.
- 25+ years experience in airport design, construction Management and project management

R.Clay Paslay

- President & Managing Partner Paslay Management Group
- PMG founded in 2006 and has provided Advisory and Executive Program Management services on some of the aviation industries largest and most complex airport developments in the past 13 years.
- PMG is currently providing Executive Advisory/Program Management services at 10 airports across the country totaling more than $20B in aviation capital development.
- 25 year career with Dallas Fort Worth International Airport as the Executive Vice President responsible for the airports capital development and commercial operations.
- Over 38 years of experience in aviation facility development

Omaha Airport Authority Case Study

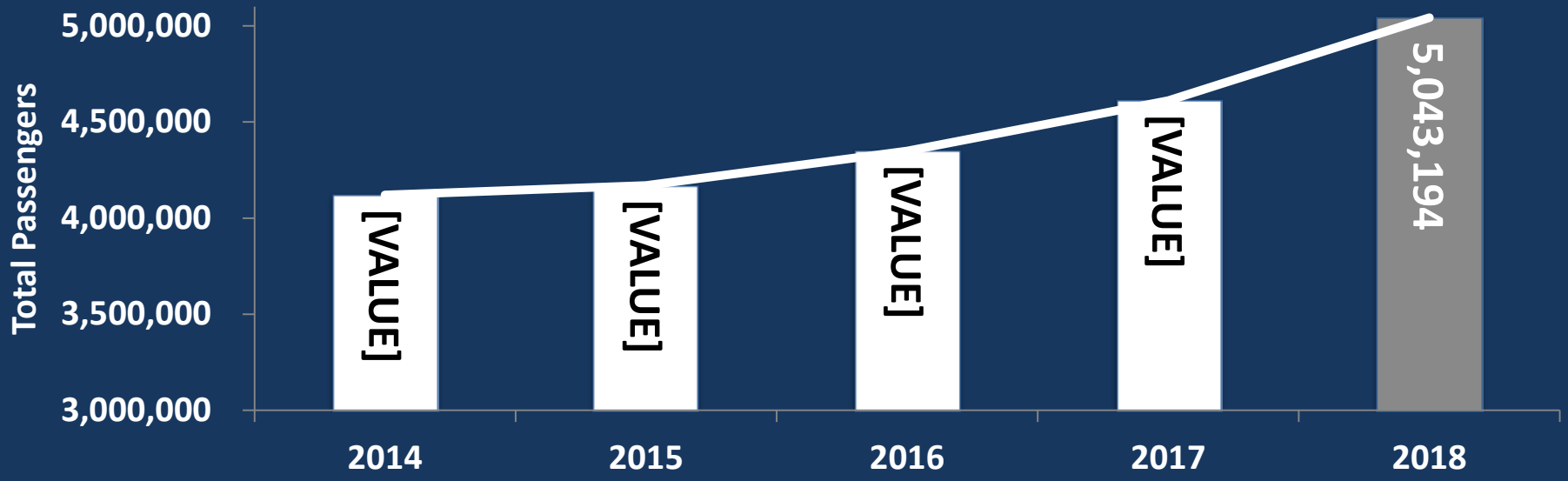
OMA Overview

- Medium Hub Airport
  - Ranked 61st by Total Enplanements (FAA, 2017)
- 5.0M Total Passengers (2018)
- 34 Non-Stop Destination Airports
- 8 Passenger Airlines
- 3 Major Cargo Airlines

Passenger Traffic Increased in 2018 at OMA

Eppley Airfield Total Passengers

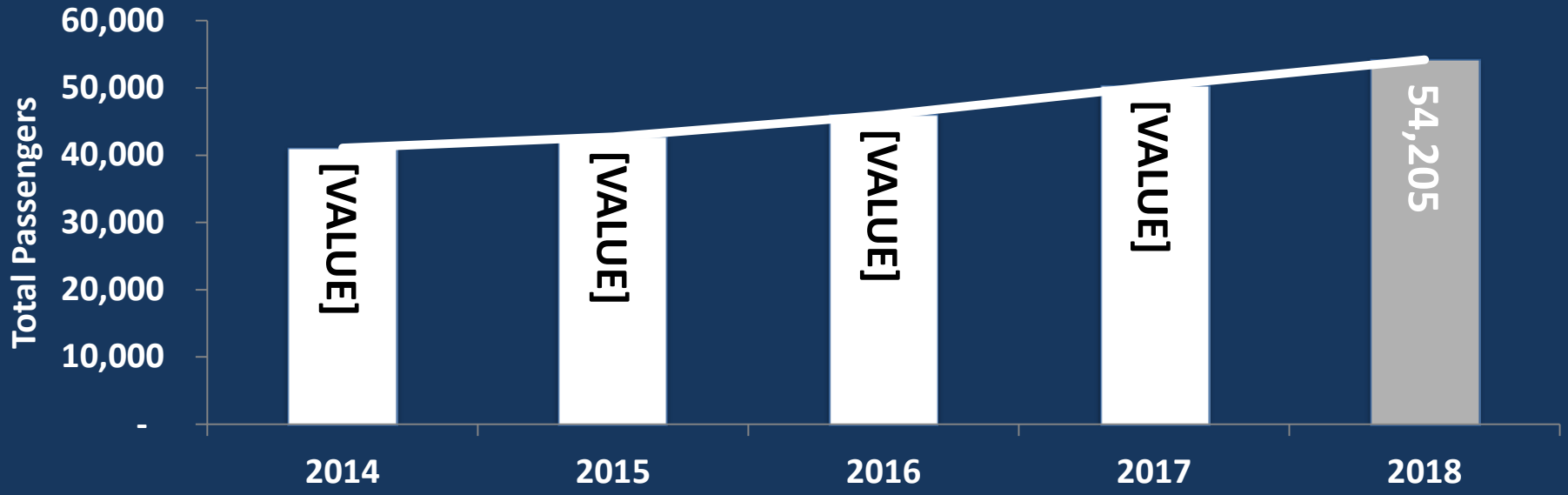
2014-2018



Air Carrier Operations Have Grown Over the Last Five Years

Eppley Airfield Total Air Carrier Operations

2014-2018



Nonstop Destinations Have Increased 100% in Five Years

Recent Additions Since 2013

Air Canada
- Toronto

Alaska Airlines
- Seattle
- Portland
- San Diego

Allegiant
- St. Petersburg/Tampa Bay
- Orlando/Sanford
- Phoenix/Mesa
- Las Vegas
- Punta Gorda, FL
- Destin, FL

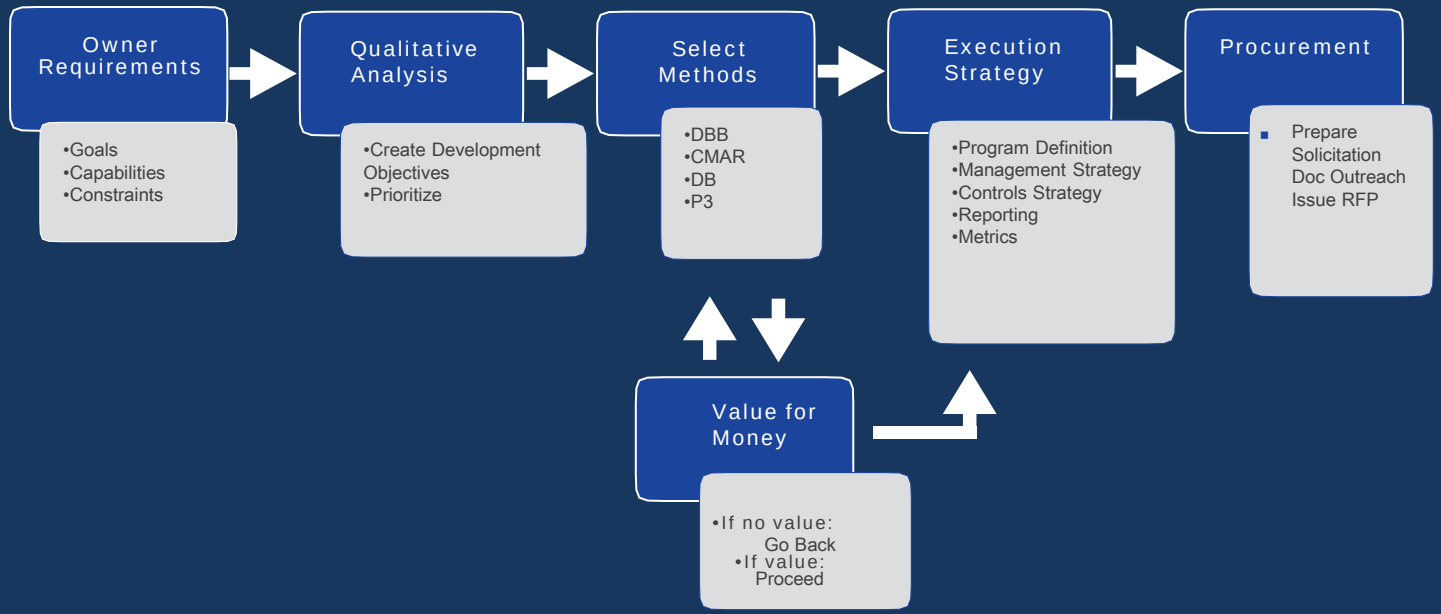
American Airlines
- Los Angeles
- Miami
- Philadelphia

Frontier Airlines
- Ft. Myers
- Las Vegas
- Philadelphia

Southwest Airlines
- Los Angeles
- Dallas Love Field
- Washington Reagan
- Houston Hobby
- San Diego
- Nashville

United Airlines
- San Francisco

PMG's Execution Strategy Development Process

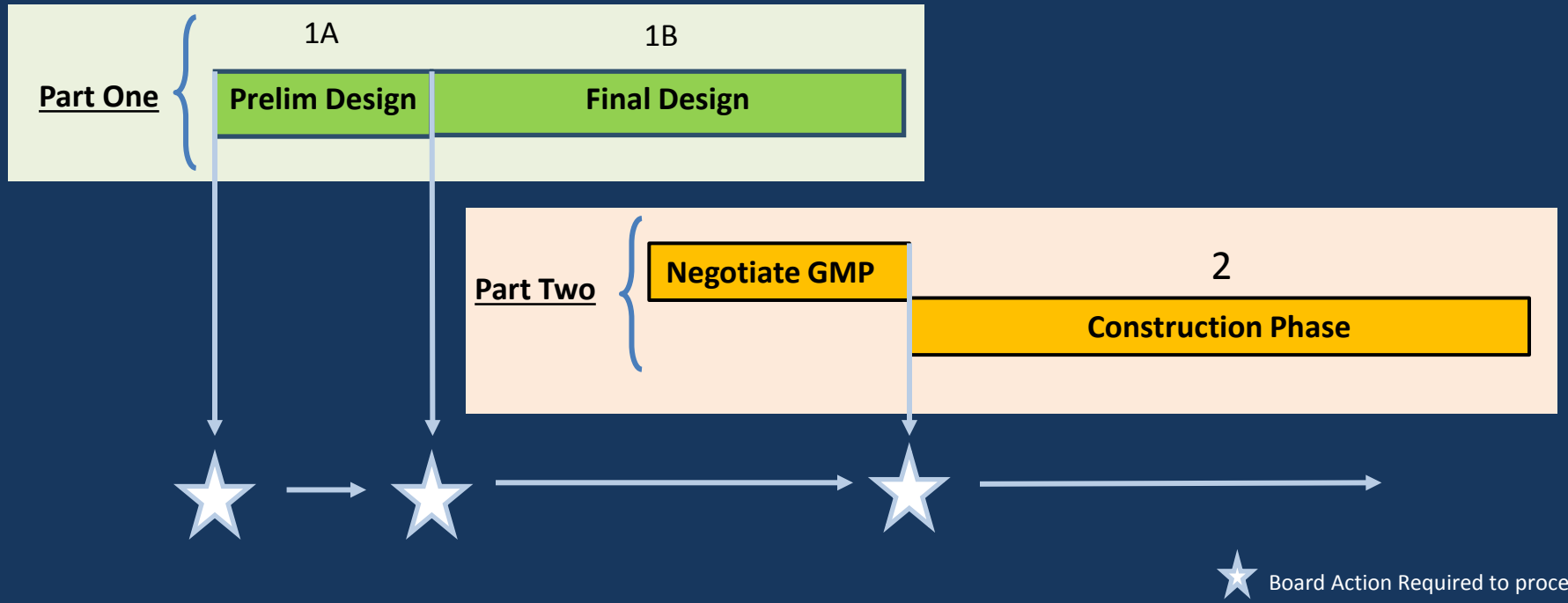


Qualitative Evaluation Process

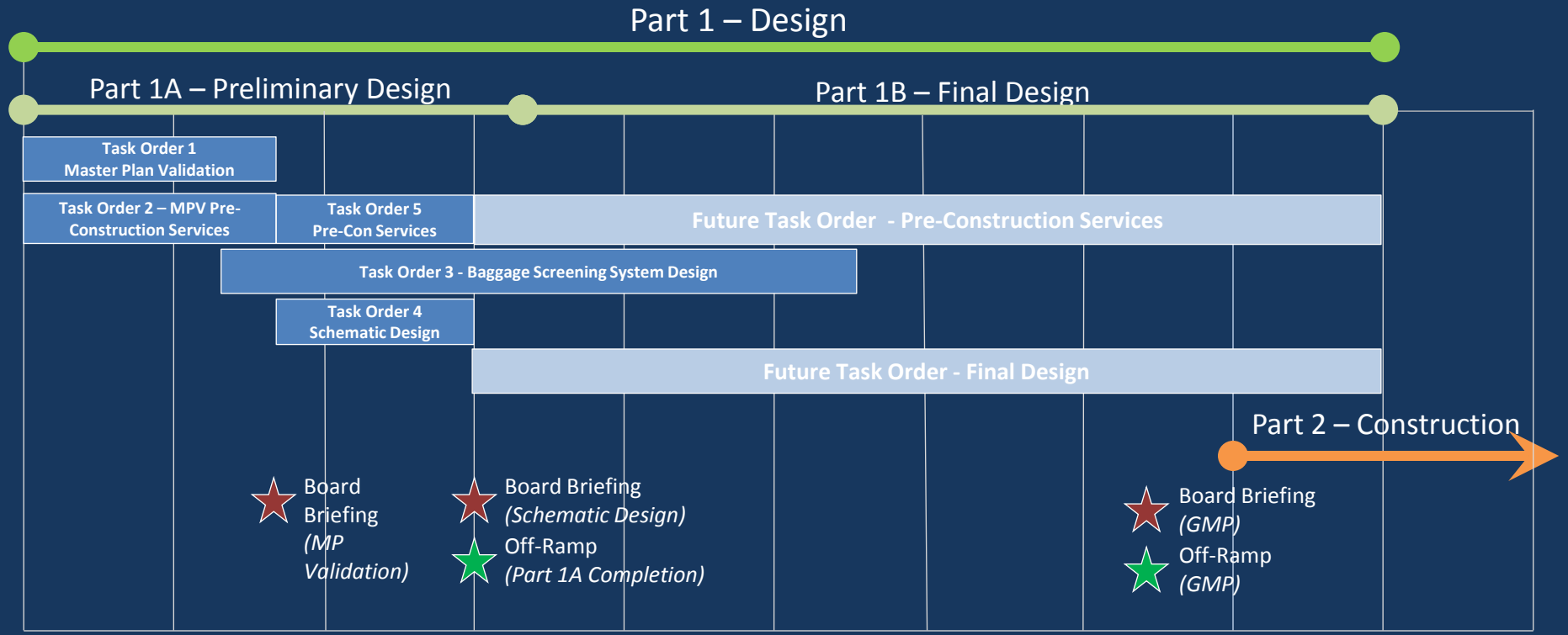
- Key OAA Objectives:
  - Design Control
    - MP Validation
  - Cost Certainty
  - Cost Effective Risk Transfer
  - Development “Off-Ramps”

Objective	Weighting Factor	Design Bid Build		CMAR		Design Build	
		Raw	WTD	Raw	WTD	DB	WTD
Maintain customer convenience	3	1	3	3	9	5	15
Improve customer experience	2	3	6	3	6	3	6
Need (activity) based development	1	3	3	3	3	3	3
Phased implementation plan	1	1	1	3	3	5	5
Minimize rates and charges impacts	3	3	9	4	12	5	15
Cost Growth	2	1	2	3	6	5	10
Schedule Growth	1	1	1	3	3	5	5
Risk Tranfer	2	1	2	3	6	5	10
Phasing Flexibility	3	3	9	4	12	5	15
Life Cycle Costs	1	1	1	3	3	5	5
Owner Control	3	4	12	5	15	1	3
Unweighted Totals		22		37		47	
Weighted Totals			49		78		92

Two-Part Design-Build Contract



Task Order Two Part Design-Build Master Contract



OMA Case Study

R.Clay Paslay
(972)550-1062
cpaslay@pmglp.com

Austin Bergstrom International Airport

Terminal and Apron Expansion Program

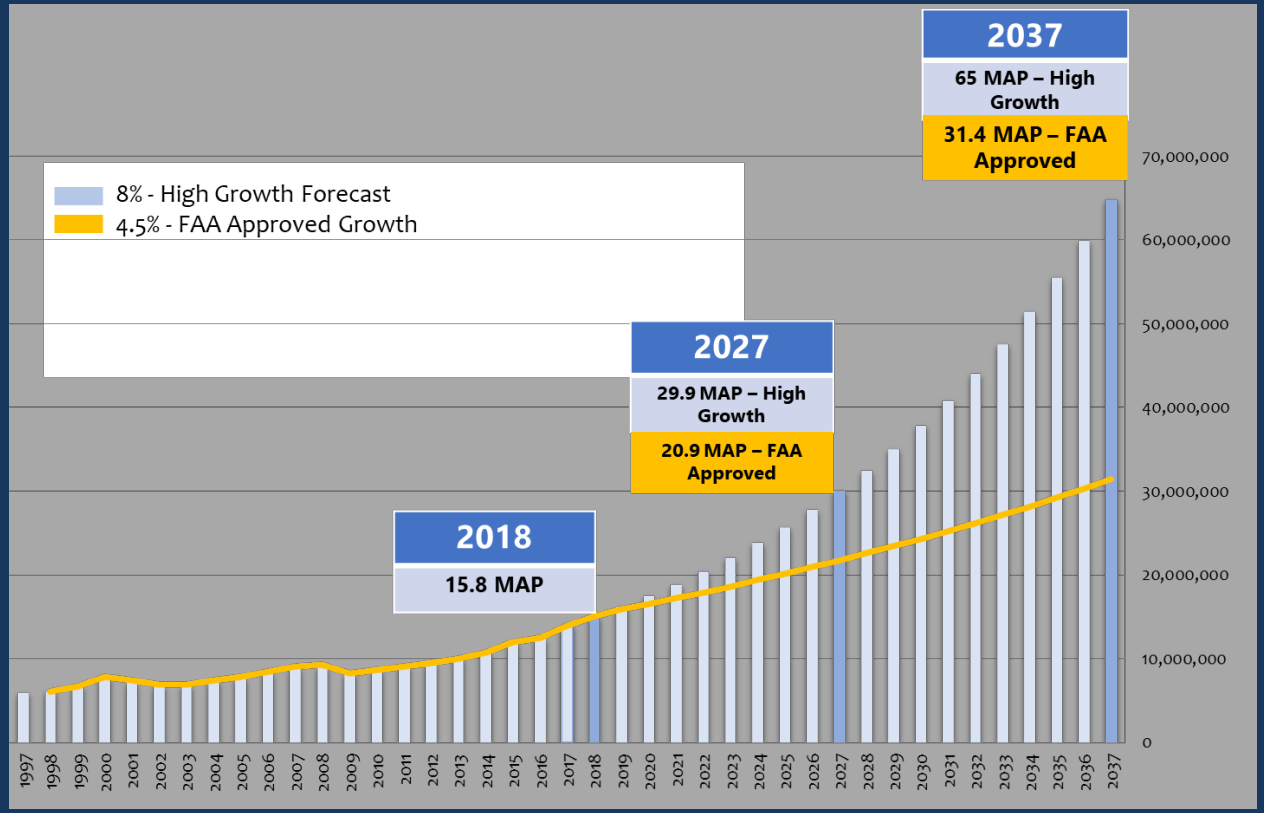
CMAR Project Delivery A Case Study

Airport Background - Facilities

- 4,242 acres owned by the City
- 34 Gate Pax Terminal – 925,000+ s.f.
- South Terminal- 3 Gate Ultra Low Cost Terminal; 193,619 total enplanements
- 2 wide spaced parallel runways simultaneous landings and takeoffs
  - 17L-35R Length of 9,000 ft. (CAT IIIb runway)
  - 17R-35L Length of 12,250 ft.
- 1.6M S.F. Car Rental Facility
- Three FBOs: 200+ based aircraft
- 40 acre Texas National Guard

Airport Background- Growth

- ABIA FAA APPROVED FORECAST 4.5%
- 2018 ENPLANEMENTS = 15.8 M
- 2014-2018 AVERAGE 9.5% YEAR OVER YEAR
- DOUBLED IN SIZE IN LAST 10 YEARS
- ANTICIPATING TRANSITIONING TO LARGE HUB IN CURRENT PLANNING CYCLE



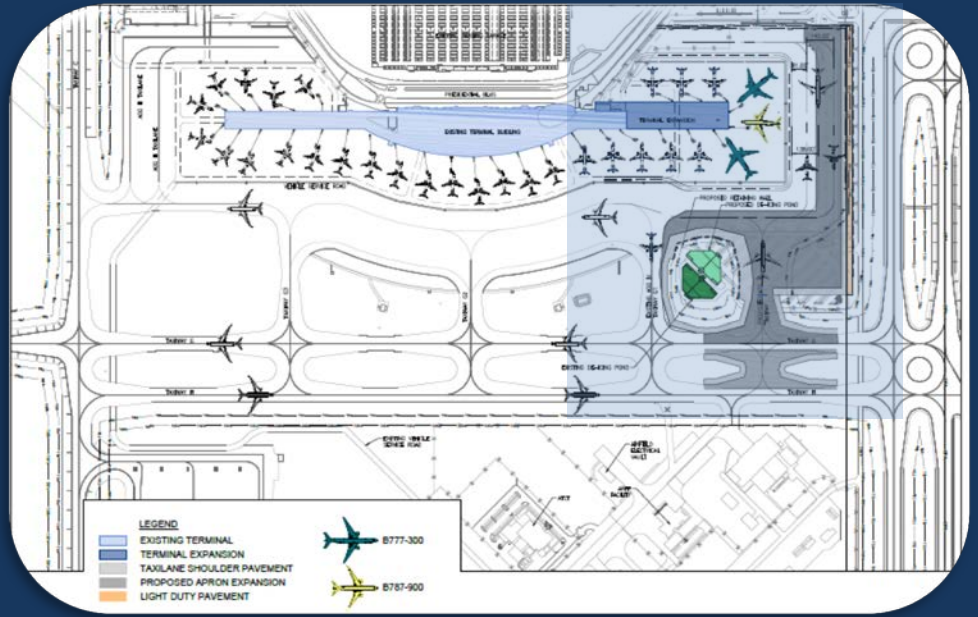
Overall Program

- Terminal Expansion
- Terminal Improvements
- RCCF Demolition
- Stormwater and Deicing Collection Facility
- Remote Deicing Disposal Facility
- Apron Expansion
  - Multiple Phases
  - Multiple FAA Funding Years (Grants)

Apron Program Background/Evolution

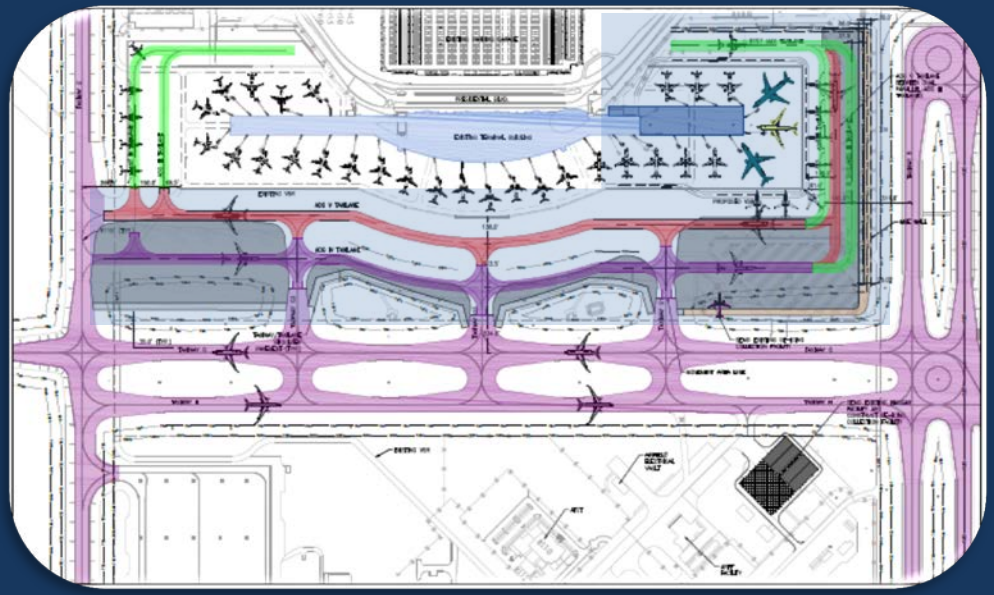
Original Program
75 M

- Terminal Expansion
- Apron Expansion
- Single GMP
- Single FY FAA Grant



Apron Program Background/Evolution

Evolved Program 377 M	
Terminal Expansion (5 packages)	Apron Expansion (3 Phases)
Temporary Aircraft Loading Walkways	RCCF Building Demolition
Terminal Improvements	Stormwater and Deicing Collection Facility
Four GMP Packages	Remote Deicing Disposal Facility
Three FAA Grants	



ABIA Apron Expansion Phase 1

- Phase 1A – FAA Grant 59 - Entitlements

- Phase 1B – FAA Grant 59 - discretionary

ABIA Apron Expansion Phase 2

✈ Phase 2A FAA Grant 60

✈ Phase 2B FAA Grant 60

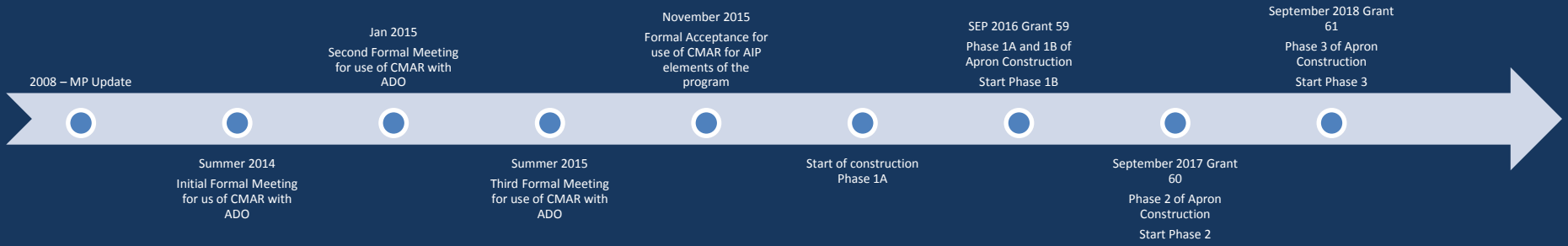
ABIA Apron Expansion Phase 3

✈ Phase 3 FAA Grant 61

✈ Pre-Construction

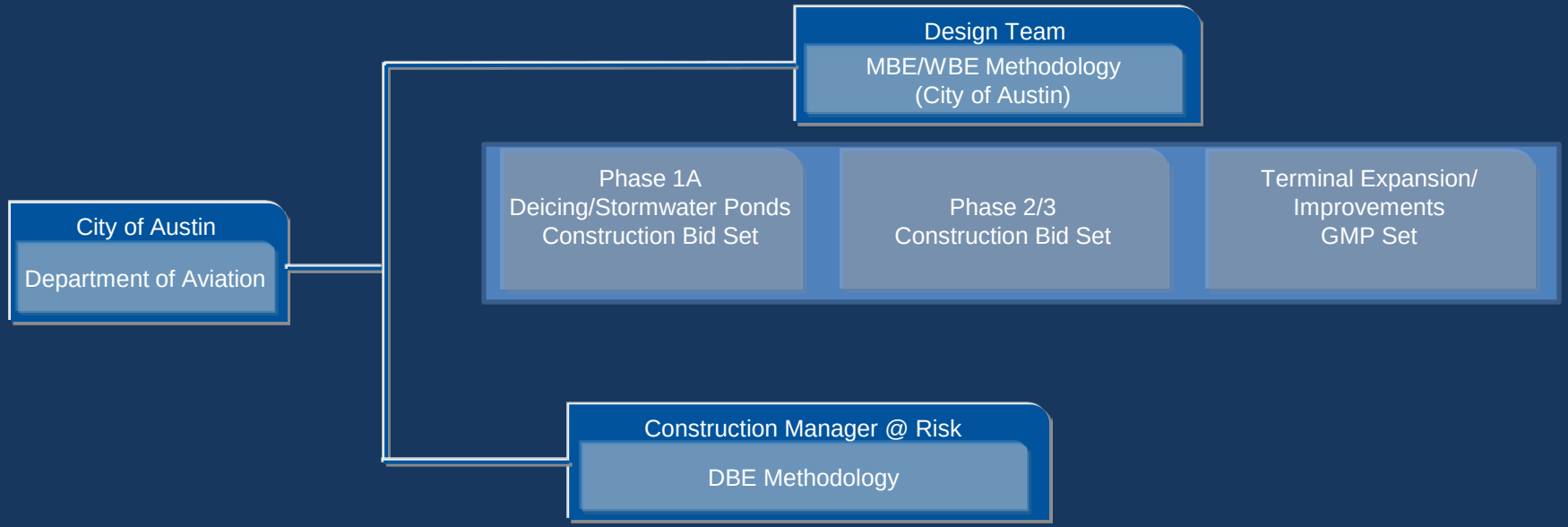
Program/Funding Timeline

✈ Funding Timeline



✈ Program Timeline

Team Structure



GMP Outline

GMP 1
November 2015

-RCCF Demolition
-Stormwater/ Deicing Collection Facility

-Terminal Exit Lanes
-Procurement of a Portion of PBBs

All Non-AIP Funded

GMP 2
May 2016

AIP Funded
-Apron Phase 1-2

Non-AIP Funded
-Elevated Walkways
-Installation of PBBs
-Terminal Hoisting

GMP 3A/B
October 2016
February 2017

-Existing Terminal Improvements
-Terminal Expansion (subsurface and superstructure)
-Terminal Expansion

-**All Non-AIP Funded**

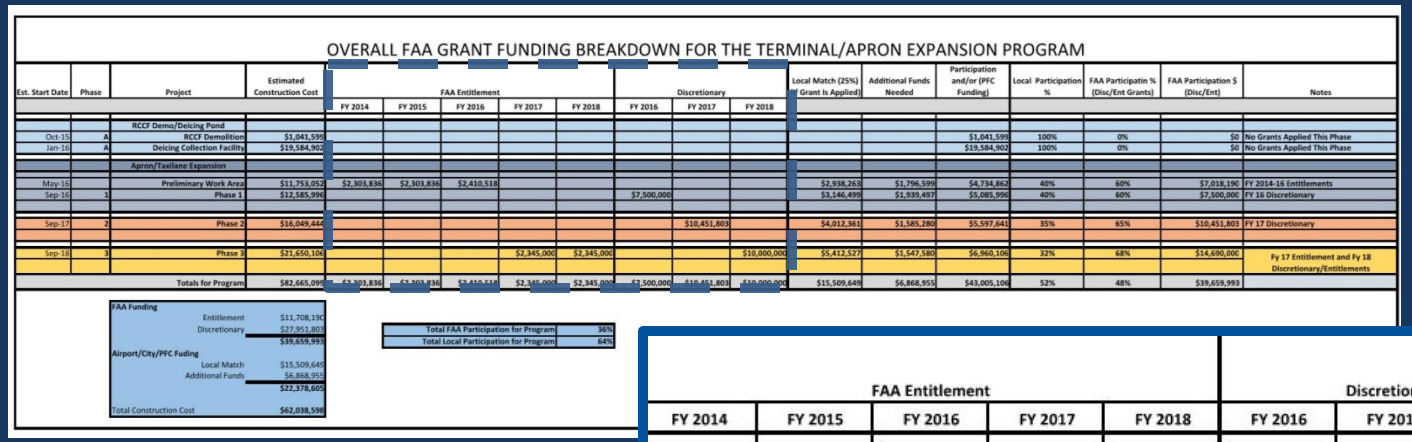
GMP 4
March 2018

AIP Funded
-Apron Phase 3

Non-AIP Funded
-Deicing Disposal Pond

Currently at 15 Proposal Packages from CMAR

Program Funding - Outline



OVERALL FAA GRANT FUNDING BREAKDOWN FOR THE TERMINAL/APRON EXPANSION PROGRAM

Est. Start Date	Phase	Project	Estimated Construction Cost	FAA Entitlement FY 2014	FAA Entitlement FY 2015	FAA Entitlement FY 2016	FAA Entitlement FY 2017	FAA Entitlement FY 2018	Discretionary FY 2016	Discretionary FY 2017	Discretionary FY 2018	Local Match (25%) (Grant Is Applied)	Additional Funds Needed	Participation and/or (PFC Funding)	Local Participation %	FAA Participatin % (Disc/Ent Grants)	FAA Participation $ (Disc/Ent)	Notes
		RCCF Demo/Deicing Pond																
Oct-15	A	RCCF Demolition	$1,041,599											$1,041,599	100%	0%	$0	No Grants Applied This Phase
Jan-16	A	Deicing Collection Facility	$19,584,902											$19,584,902	100%	0%	$0	No Grants Applied This Phase
		Apron/Taxilane Expansion																
May-16		Preliminary Work Area	$11,753,052	$2,303,836	$2,303,836	$2,410,518						$2,938,263	$1,796,599	$4,734,862	40%	60%	$7,018,190	FY 2014-16 Entitlements
Sep-16	1	Phase 1	$12,585,996						$7,500,000			$3,146,499	$1,939,497	$5,085,996	40%	60%	$7,500,000	FY 16 Discretionary
Sep-17	2	Phase 2	$16,049,444							$10,451,803		$4,012,361	$1,585,280	$5,597,641	35%	65%	$10,451,803	FY 17 Discretionary
Sep-18	3	Phase 3	$21,650,104				$2,345,000	$2,345,000			$10,000,000	$5,412,527	$1,547,580	$6,960,106	32%	68%	$14,690,000	Fy 17 Entitlement and Fy 18 Discretionary/Entitlements
		Totals for Program	$82,665,095	$2,303,836	$2,303,836	$2,410,518	$2,345,000	$2,345,000	$7,500,000	$10,451,803	$10,000,000	$15,509,649	$6,868,955	$43,005,106	52%	48%	$39,659,993	

FAA Funding	
Entitlement	$11,708,190
Discretionary	$27,951,803
	$39,659,993
Airport/City/PFC Fuding	
Local Match	$15,509,649
Additional Funds	$6,868,955
	$22,378,605
Total Construction Cost	$62,038,598

Total FAA Participation for Program	36%
Total Local Participation for Program	64%

FAA Entitlement FY 2014	FAA Entitlement FY 2015	FAA Entitlement FY 2016	FAA Entitlement FY 2017	FAA Entitlement FY 2018	Discretionary FY 2016	Discretionary FY 2017	Discretionary FY 2018
$2,303,836	$2,303,836	$2,410,518					
					$7,500,000		
						$10,451,803	
			$2,345,000	$2,345,000			$10,000,000
$2,303,836	$2,303,836	$2,410,518	$2,345,000	$2,345,000	$7,500,000	$10,451,803	$10,000,000

- Updates
  - Monthly at Beginning
  - At each Bid
  - At each Grant issuance

Grant Eligible Cost- Tracking

- Updates
  - Monthly Pay Apps
  - Monthly Tracking
  - Monthly/Ongoing Auditing

Monthly FAA Grant Summary - Total Cost of Work
Terminal/Apron Expansion- Package 2A-Apron Expansion
FAA Grants: AIP #3-48-0359-059-16 and AIP #3-48-0359-060-17

Month: March
Year: 2019

DESCRIPTION OF WORK	D WORK COMPLETED FROM PREVIOUS APPLICATION	E WORK COMPLETED THIS PERIOD	F MATERIALS PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE
Package 2A- FAA Grant 059 and 060				
FAA Grant 059 - Prelim Work Area and Phase 1				
GENERAL CONDITIONS	$ 954,373	$ -	$ -	$ 954,373.17
SITE SECURITY	$ 150,915	$ -	$ -	$ 150,915.00
LAYOUT PACKAGE	$ 360,000	$ -	$ -	$ 360,000.00
THIRD PARTY TESTING	$ 230,399	$ -	$ -	$ 230,399.00
DEMOLITION AND SITE UTILITIES	$ 5,659,347	$ -	$ -	$ 5,659,347.00
CONCRETE RETAINING WALL	$ 625,190	$ -	$ -	$ 625,190.00
ELECTRICAL / LOW VOLTAGE / TELECOM	$ 827,773	$ -	$ -	$ 827,773.00
EARTHWORK AND ASPHALT PAVING	$ 3,409,498	$ -	$ -	$ 3,409,498.00
SWPPP AND LANDSCAPING	$ 130,013	$ -	$ -	$ 130,013.00
SHORING	$ 428,144	$ -	$ -	$ 428,144.00
CONCRETE PAVING	$ 7,678,954	$ -	$ -	$ 7,678,954.00
STRIPING / SIGNAGE	$ 196,757	$ -	$ -	$ 196,757.00
FENCING / BARRICADES / GUARDRAIL	$ 525,251	$ -	$ -	$ 525,251.00
BLAST FENCE	$ -	$ -	$ -	$ -
POTHOLING AND UTILITY LOCATION SERVICES	$ 40,030	$ -	$ -	$ 40,030.00
CONTRACTOR'S FEE	$ 978,854	$ -	$ -	$ 978,853.99
FAA Grant 060 - Phase 2				
GENERAL CONDITIONS	$ 846,674	$ 11,596.00	$ -	$ 858,270.00
SITE SECURITY	$ 170,834	$ -	$ -	$ 170,834.00
LAYOUT PACKAGE	$ 240,291	$ -	$ -	$ 240,291.00
THIRD PARTY TESTING	$ 366,225	$ 10,553.00	$ -	$ 376,778.00
DEMOLITION AND SITE UTILITIES	$ 958,232	$ -	$ -	$ 958,232.00
CONCRETE RETAINING WALL	$ 1,189,211	$ -	$ -	$ 1,189,211.00
ELECTRICAL / LOW VOLTAGE / TELECOM	$ 669,950	$ -	$ -	$ 669,950.00
EARTHWORK AND ASPHALT PAVING	$ 2,694,254	$ 25,000.00	$ -	$ 2,719,254.00
SWPPP AND LANDSCAPING	$ 504,986	$ 13,365.00	$ -	$ 518,351.00
SHORING	$ 29,625	$ -	$ -	$ 29,625.00
CONCRETE PAVING	$ 7,727,061	$ -	$ -	$ 7,727,061.00
STRIPING / SIGNAGE	$ 222,913	$ -	$ -	$ 222,913.00
FENCING / BARRICADES / GUARDRAIL	$ 136,882	$ -	$ -	$ 136,882.00
BLAST FENCE	$ 194,089	$ -	$ -	$ 194,089.00
POTHOLING AND UTILITY LOCATION SERVICES	$ 20,745	$ 54,126.00	$ -	$ 74,871.00
CONTRACTOR'S FEE	$ 521,490	$ 3,857.00	$ -	$ 525,347.00
Total Grant 059	$ 22,195,498	$ -	$ -	$ 22,195,498
Total Grant 060	$ 16,493,462	$ 118,497	$ -	$ 16,611,959

Program Challenges

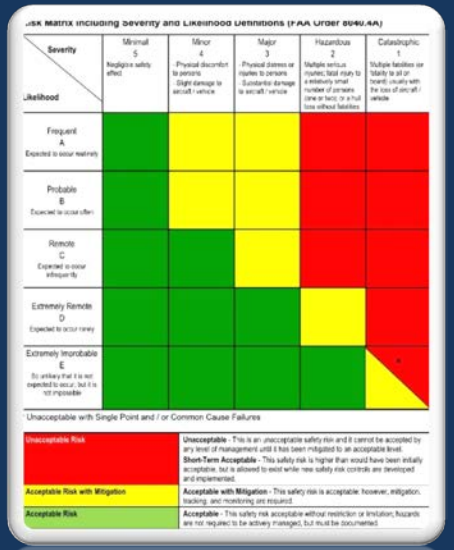
- Continuation of Staffing – Construction and Management
- Integrating CMR AIP and City Processes into cohesive program
- Airport Staff Requirements
- Balance of Design Team W/ Construction Team
  - Large Amount and Duplicate of RFI's, Submittals
- Number of Packages
- Non-Funded and Funded Elements should be separate GMP's
- CMAR's Mechanism to Bid Packages
  - Unit price vs. Lump sum or Cost Plus
- Familiarity of FAA Airfield Construction Packages

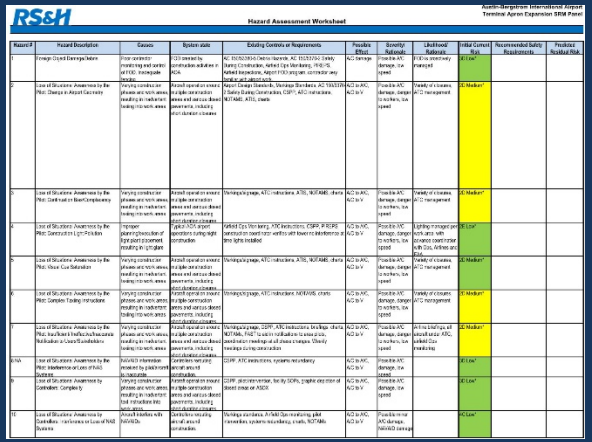
Advantages to Using CMAR

- Technologies
- Knowledgeable Staff
- Coordination Between Construction Packages
- Estimating
- Flexibility

Advantages to Using CMAR in SMS Process

- SRM Panel
  - CMAR
  - Airport Staff
  - Design Team
  - ADO Program Manager
  - Part 139 Inspector
- CMAR Hazard Mitigation
  - Routes
  - Utilities
  - Work hours
  - FOD control
  - Crane plan
  - Communication





Quote From Panelist:
"CMAR PARTICIPATION greatly improved the ability to mitigate hazards"

Lessons Learned

- CMAR Selection
- CMAR Prime Contract
  - Differs to most city contracts
- Program Setup
- GMP Packages
  - Non Funded/Funded
- Start Discussions with ADO Manager and Conduct Meetings Often
  - Distribute grant funding differently

AUS CMAR

✈ Sean A. Brennan, PE, LEED AP

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✈ Ellen Brunjes-Brandt, P.E.

Ellen.brandt@austintexas.gov

Oakland International Airport Project Delivery

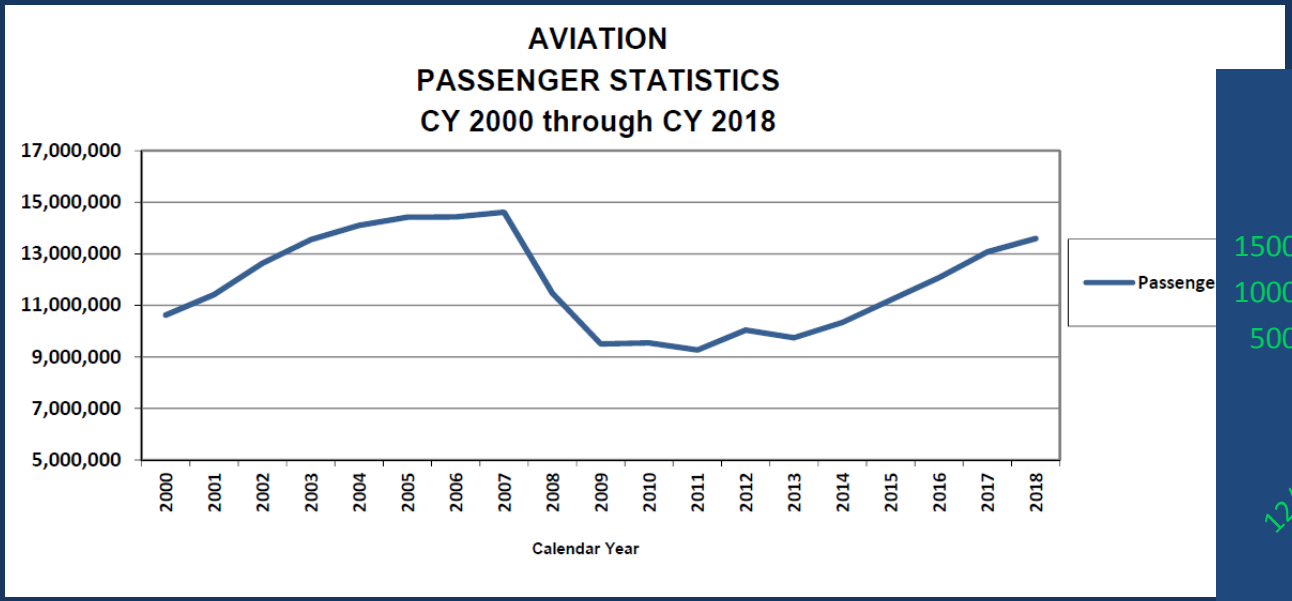
OAK Governance

- Owned and operated by Port of Oakland
  - Aviation, Maritime and Commercial Real Estate
- Board of Commissioners appointed by Oakland Mayor

OAK Profile

- 2,600 acres
- Two terminals-29 gates, with additional RON parking
- Four runways, 1 primary commercial runway (10,000')
- 14th busiest air cargo
- 37th busiest passenger airport in US
- Cargo hubs for Fedex and Primary Norcal for UPS
- 2 FBO's: Kaiser Air and Signature Flight Support

OAK Growth


AVIATION
PASSENGER STATISTICS
CY 2000 through CY 2018
17,000,000
15,000,000
13,000,000
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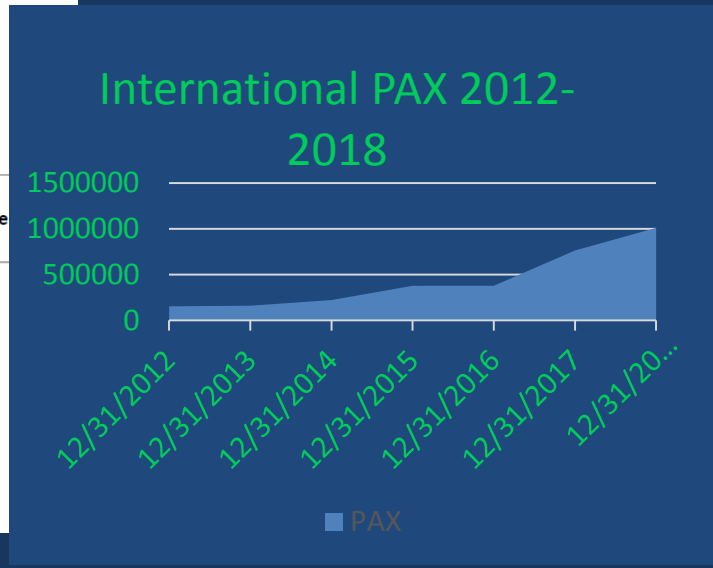
International PAX 2012-2018
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12/31/2012
12/31/2013
12/31/2014
12/31/2015
12/31/2016
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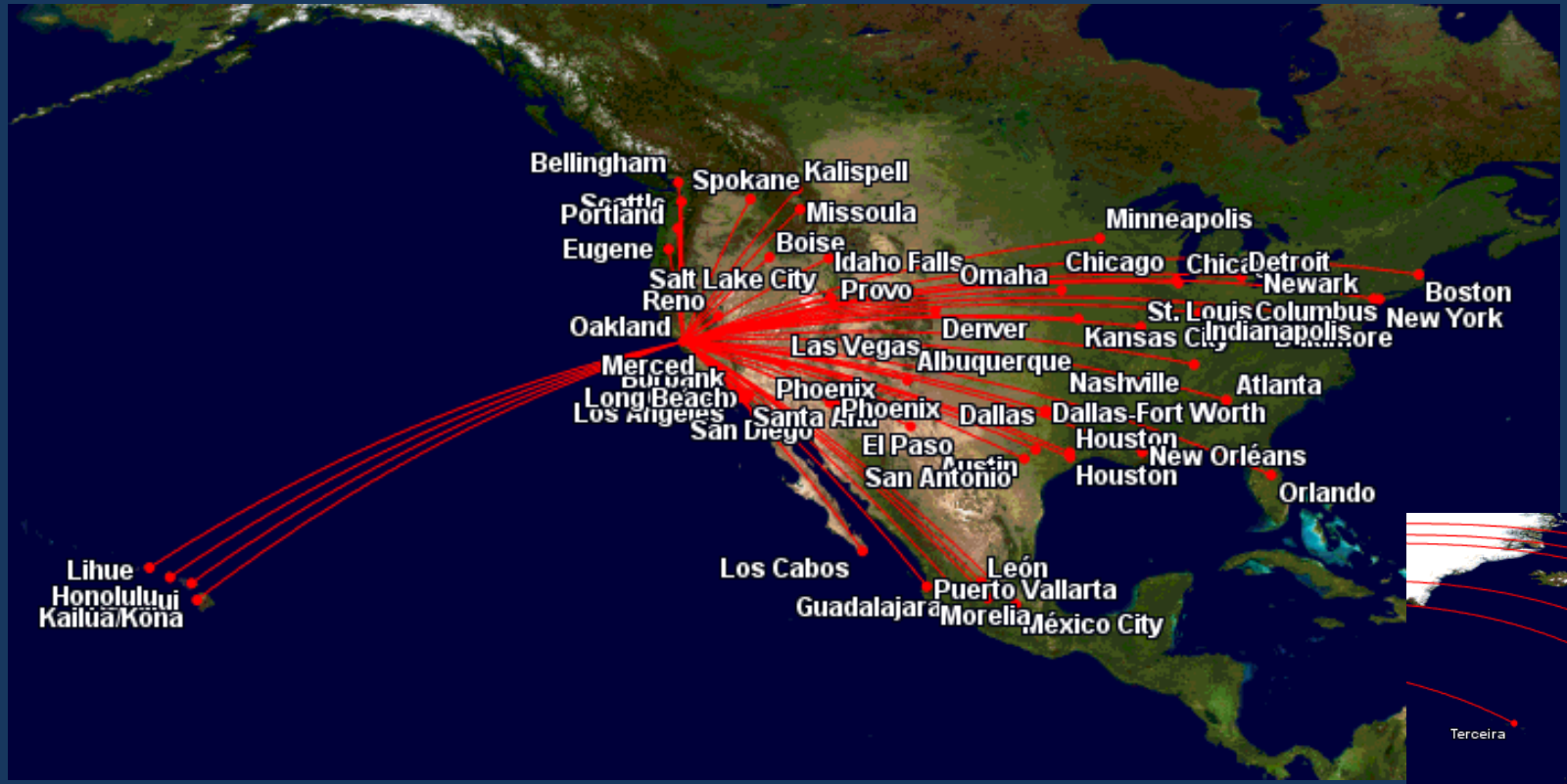
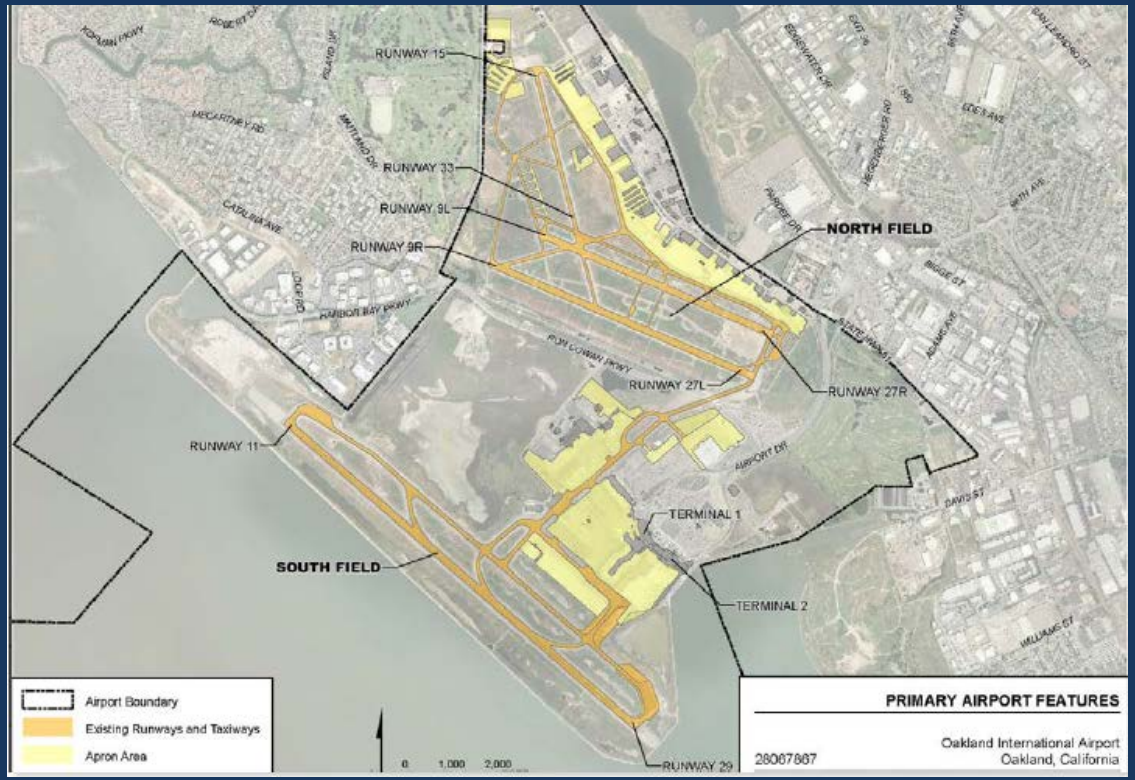
12/31/20...
PAX

2019: 67 Nonstop Destinations



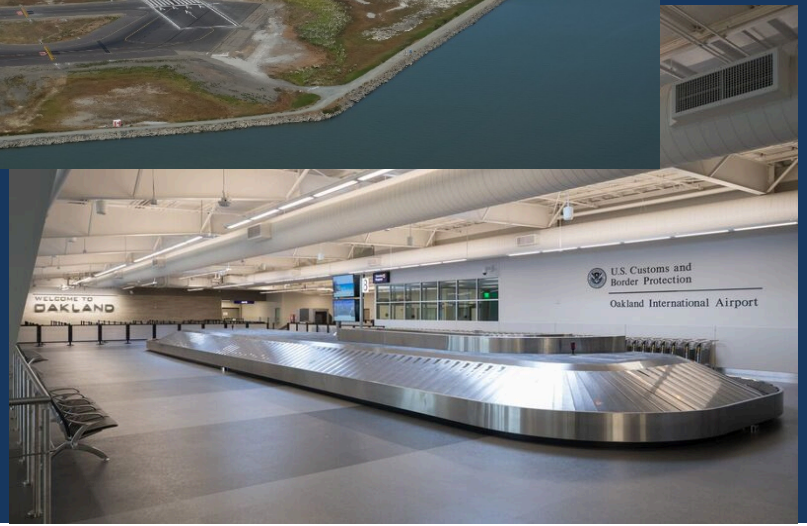
OAK Capital Budget

- 5-year FY20-24 budget-$387M
- About $80M each FY
- 117 projects
- Major projects—Dike, Utilities Upgrades, Paving



Recent Major Projects

- Runway 12/30 Overlay-$67m
- Terminal 1 M102 Renovation-$85m
- IAB Upgrades-$45m

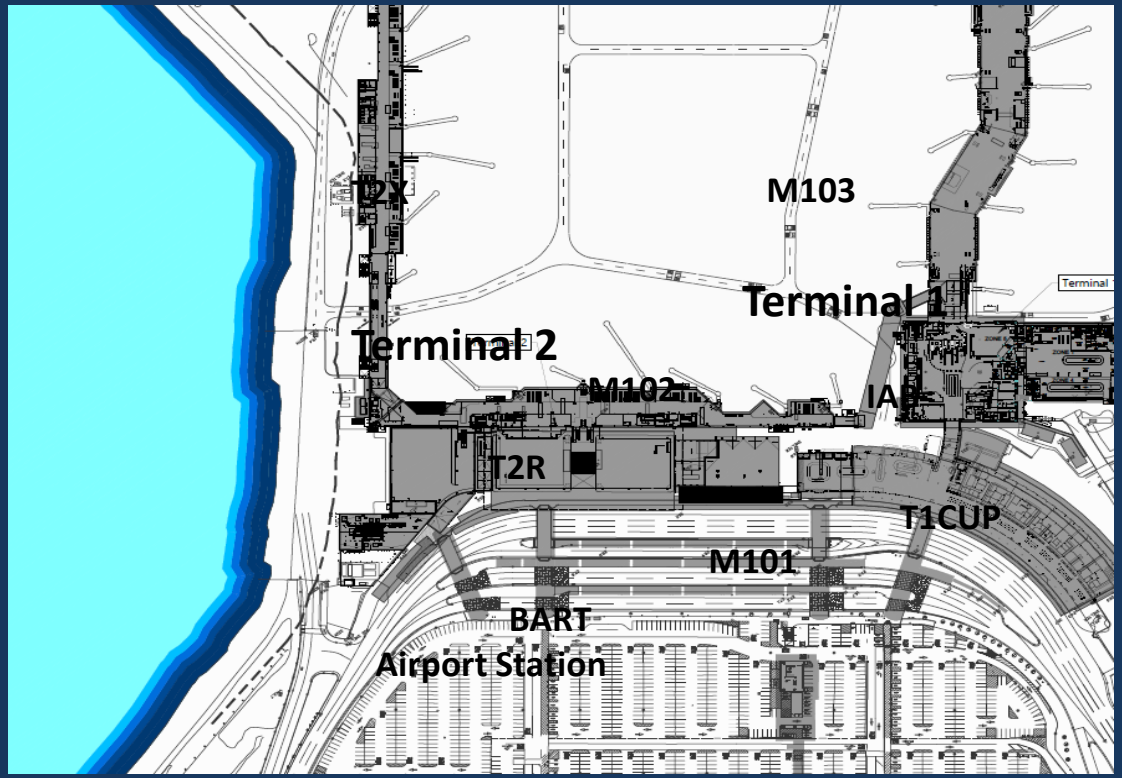


Challenges with Project Delivery

- Organizational Desires
  - Local participation
  - Union labor
  - Legal requirements
- Project Needs
  - Speed
  - Best value
  - Limited staff resources

OAK Terminal Facilities

- Terminal 1—1962
- Terminal 2—1985
- Terminal 2 expanded and renovated—2007
- T1CUP expanded—2013
- BART Connector—2014
- IAB expanded—2017
- T1 M102 retrofit—2017



Contracting History at the Airport

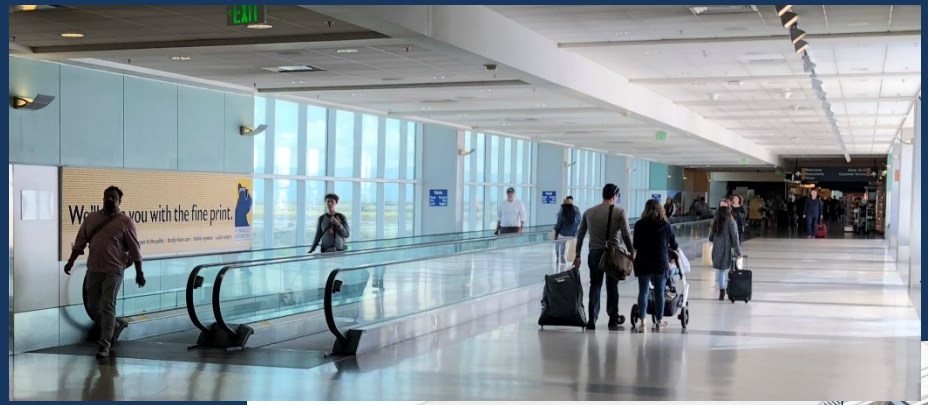
- Prior to 2000, primarily design-bid-build
- Introduced CM@R for Terminal 2 Expansion and Renovation
  - Initial learning curve
  - Need to build team trust
  - Leveraged original contract over 15 years and $400m in construction improvements

Benefits of CM@R

- Contractor involvement during design
- Advantages of GMP and risk allocation
- Maximizing local/small business utilization

On-Going Use of CM@R

- Identify suitable projects
  - Terminal and facility upgrade
- Selection process and contract
  - Revised fees and incentives



On-going Use of CM@R

- Building on team's familiarity of Port and previous projects

Steps to Success

- Take time to prepare initial contract language and requirements
- Get “buy-in” from legal and SRD
- Be flexible and creative

Thank You

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Questions & Answers

- Thank You

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SESSION 6

Airport Construction Strategy Summit

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