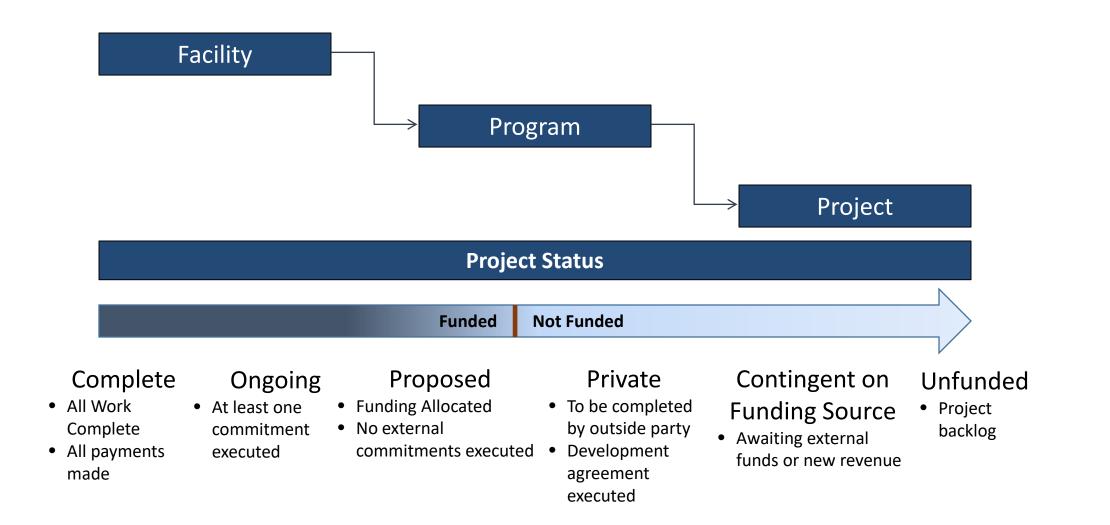






John Audi, PhD. Assistant Director









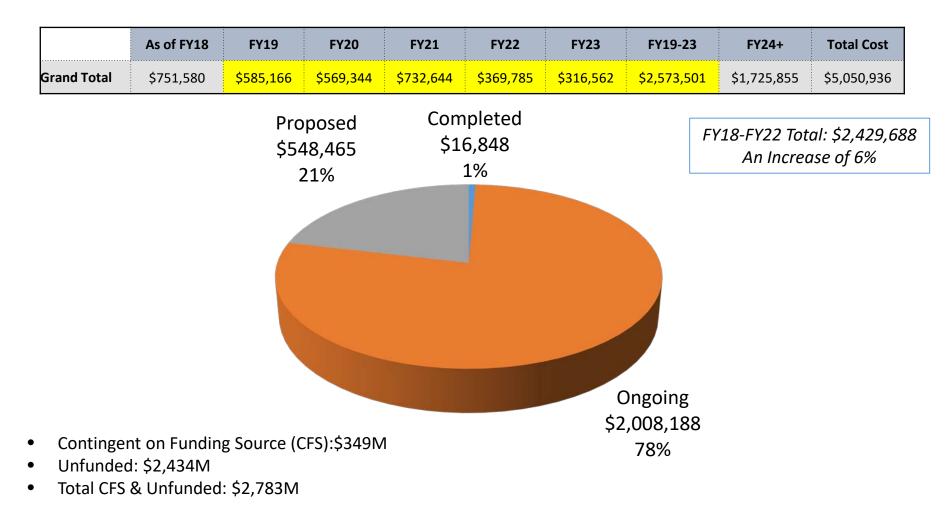
- Project Evaluation Criteria
  - Safety and Security
  - Asset Maintenance
  - Operational Efficiencies
  - System Enhancement/ Customer Service
  - HOV/Ground Access Improvements
  - Commitment to Surrounding Communities

- Financial Evaluation Criteria
  - Grants and Outside Funding
  - PFC Eligibility
  - Cost Recovery
  - Rates and Charges Impact
  - Credit Rating Impact

# • Complement and Support Strategic Plan

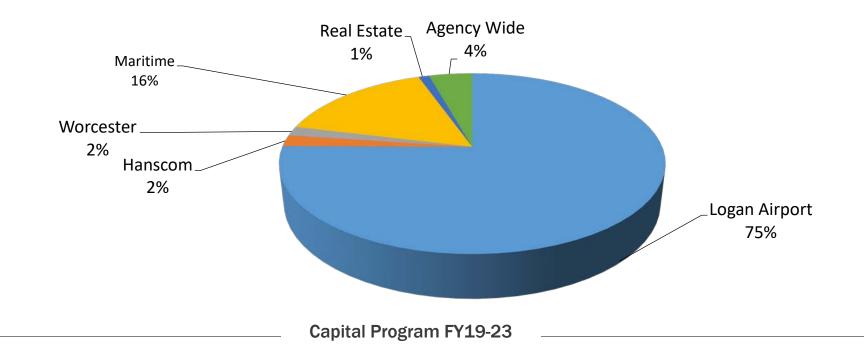


# FY19-FY23 Total: \$2,573,501





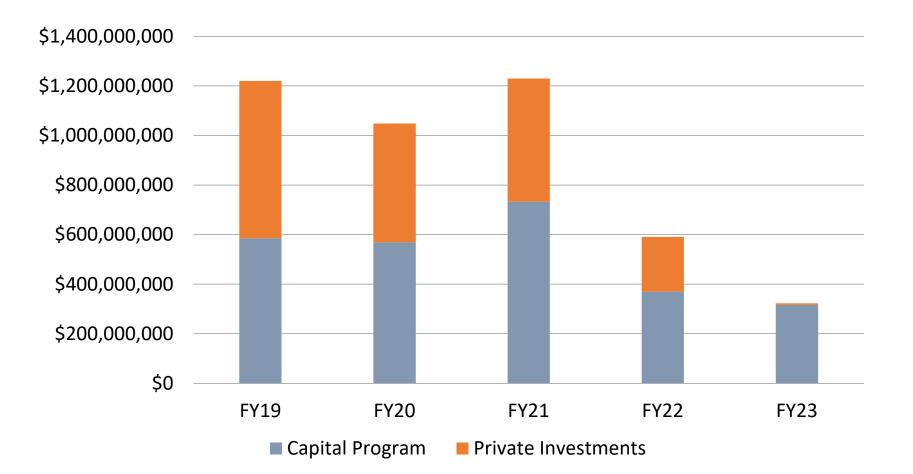
Project	FY19-23	Current Program %	
Logan Airport Total	\$1,933,464	75.13%	
Hanscom Airport Total	\$52,095	2.02%	
Worcester Airport Total	\$43,267	1.68%	
Maritime Total	\$405,654	15.76%	
Real Estate Total	\$ 27,425	1.07%	
Agency-Wide Total	\$111,596	4.34%	
Grand Total	\$2,573,501	100.00%	





Element	Value		
Total Projects	336		
Total Program	\$2,574M		
Private Funds	\$1,837M		
Total and Private Funds	\$4,411M		
Contingent on Funding Source (CFS)	\$349M		
Unfunded	\$2,434M		

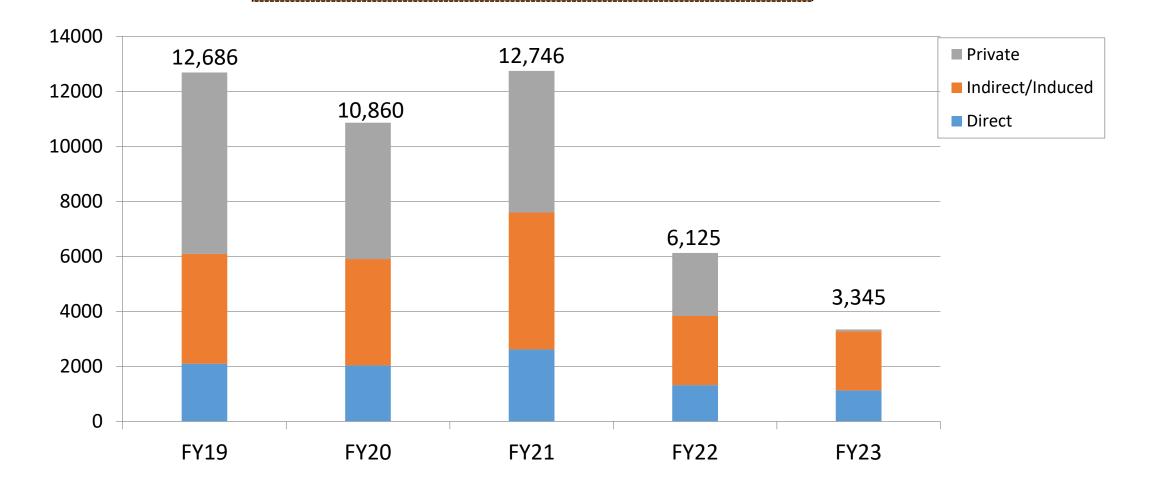




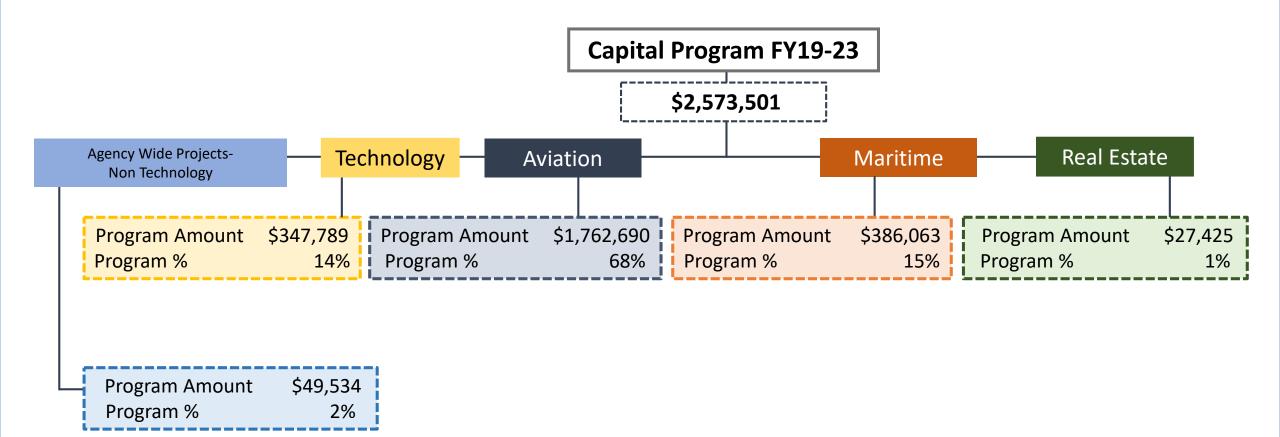


# ECONOMIC IMPACT BY YEAR

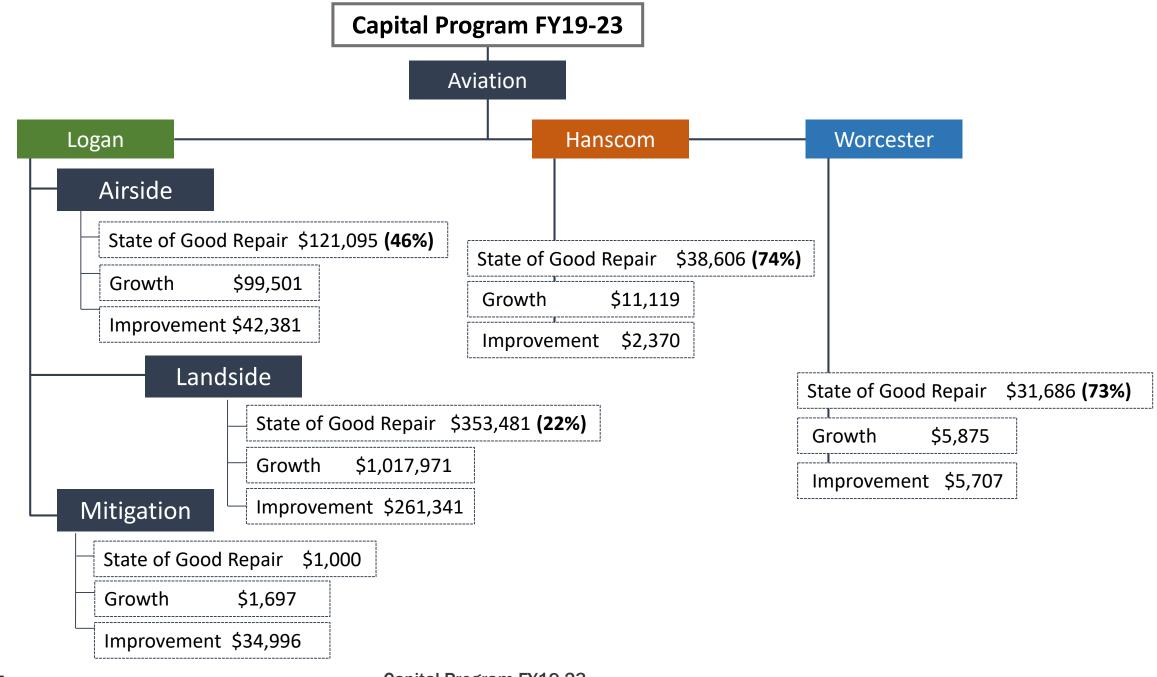
# Estimated Job Creation (FTEs): Total 45,762

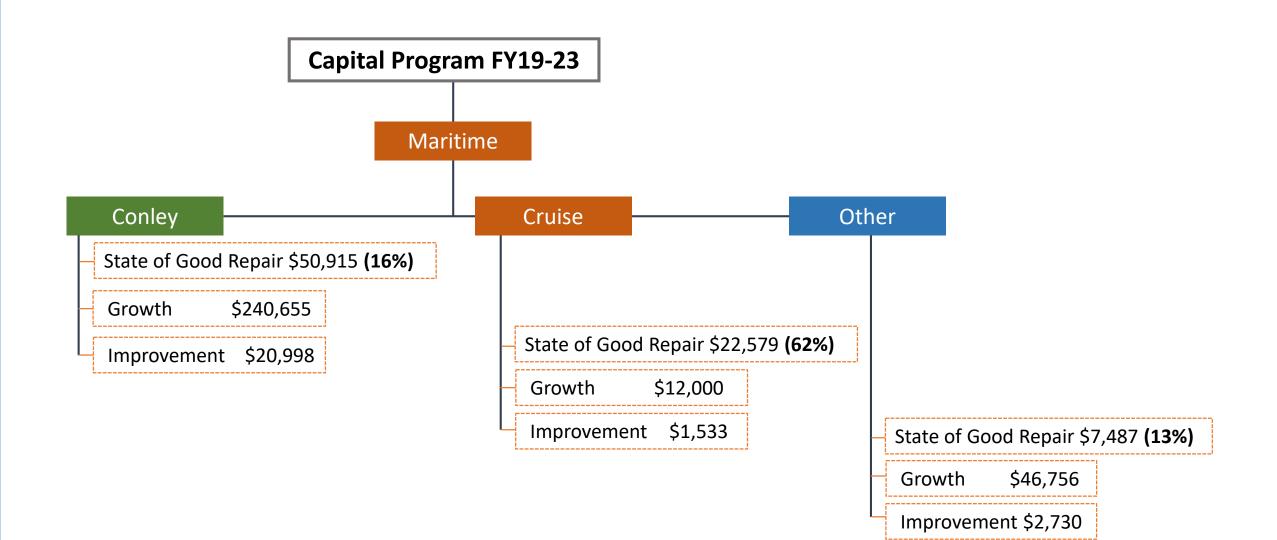




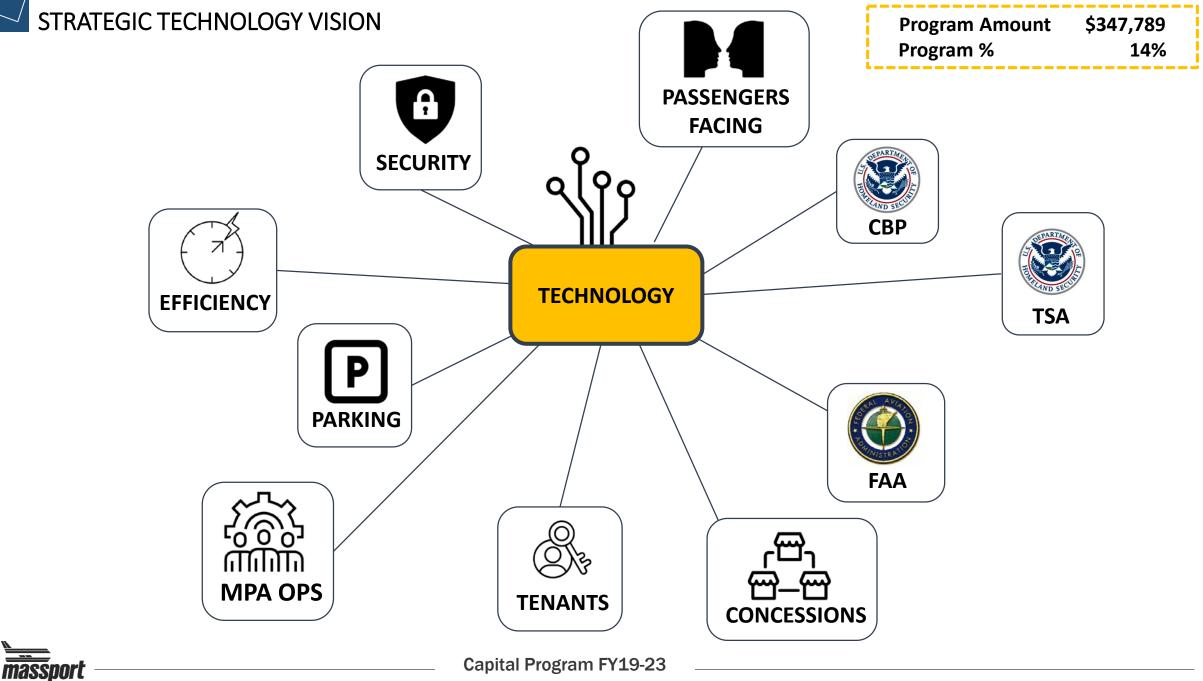










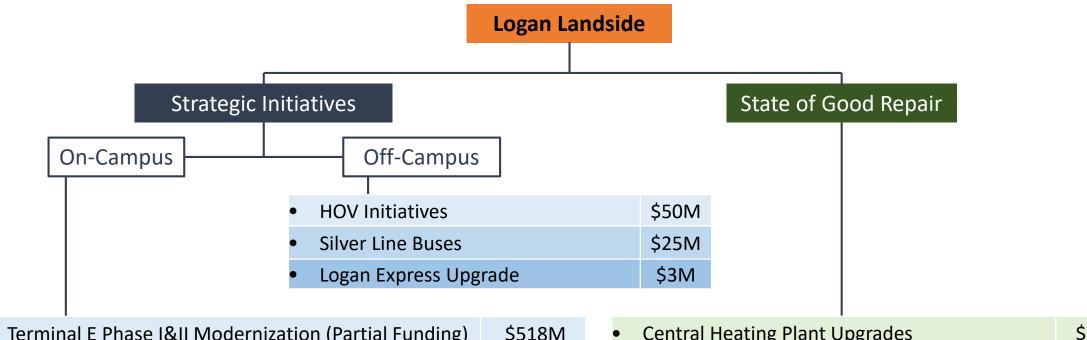








### LOGAN LANDSIDE PROGRAM



\$193M
\$189M
\$120M
\$65M
\$25M
\$17M
\$15M

•	Central Heating Plant Upgrades	\$50M
•	HVAC Equipment Replacement	\$30M
•	South Cargo Building 57, 58, and 62 HVAC Equipment Upgrade	\$16M
•	Roof Replacement Phase II	\$15M
•	Terminal B Sanitary Main Pipe Replacement	\$14M
•	Terminal B Pier A Ceiling Renovations	\$5M



•

# LOGAN ON CAMPUS TERMINALS, ROADWAYS, CURBS INITIATIVES OVERVIEW



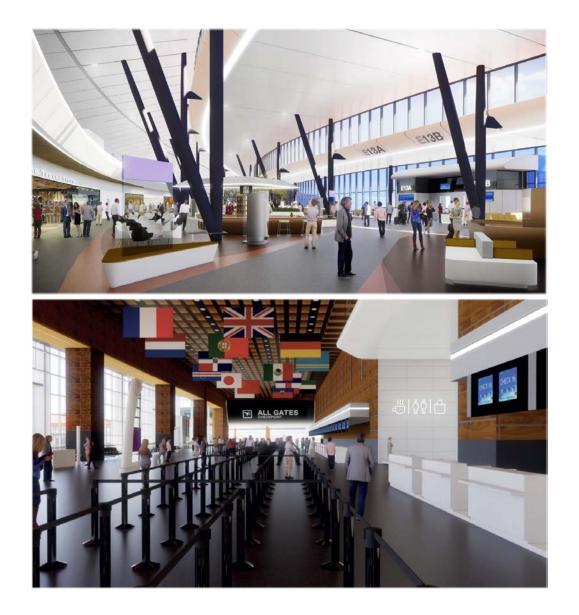




### TERMINAL E MODERNIZATION

Project:	Terminal E Modernization (Logan International Airport)
<b>Construction Start:</b>	April 2019
Project Completion:	March 2022 (Temporary Certificate of Occupancy for first [4] gates) - Phase 1

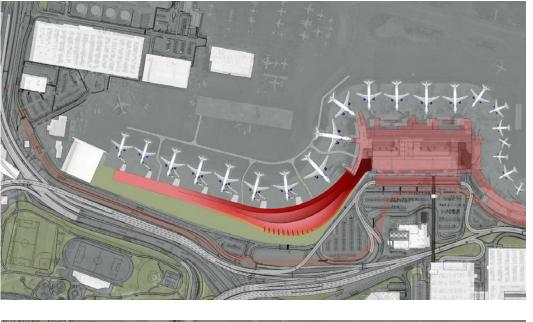
- Renovated Ticketing Hall | Additional Ticket Counters & Kiosks
- Additional Vertical Circulation for Domestic and Pre-Cleared Flights
- New Larger Checkpoint with faster Automated Screening Lanes (ASL)
- Great Space and 7 New Departure Lounges
- Additional Concessions and Airline Clubs
- Flex Gates to Accommodate Fleet Mix plus Flexibility for Domestic Flights
- 12 New Passenger Boarding Bridges
- Reconfigured CBP | INS with Facial Recognition
- 2 Additional International Bag Claim Devices
- Additional Outbound and Inbound Baggage Handling Devices
- Domestic and Precleared Bag Claim Devices
- Enhanced Re-Check Operations
- Additional Curb Capacity for both Departing and Arriving Flights

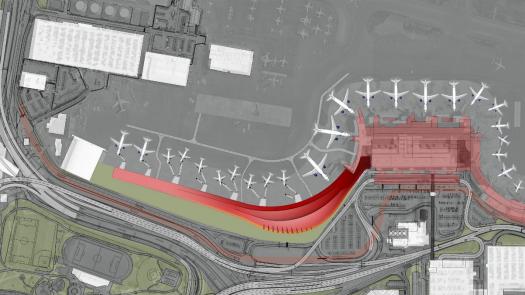




**TERMINAL E MODERNIZATION** 

# **TERMINAL E PHASE 2** 2023 **TERMINAL E PHASE 1** 2016 **TERMINAL E PHASE 1** 2022 **EXISTING TERMINAL E** TERMINAL C >>







# LOGAN AIRPORT PARKING PROGRAM

**Project:** 

Terminal E Garage Construction Start:Fall 201Terminal E Garage Construction Completion:March

Logan Airport Parking Program Fall 2019 March 2022

- 2,000 new parking spaces at Terminal E
- 3,000 new parking spaces at Economy Garage
- Design & Construction for Terminal E Garage only at this time
- MEPA Permitting for both Terminal E Garage and Economy Garage

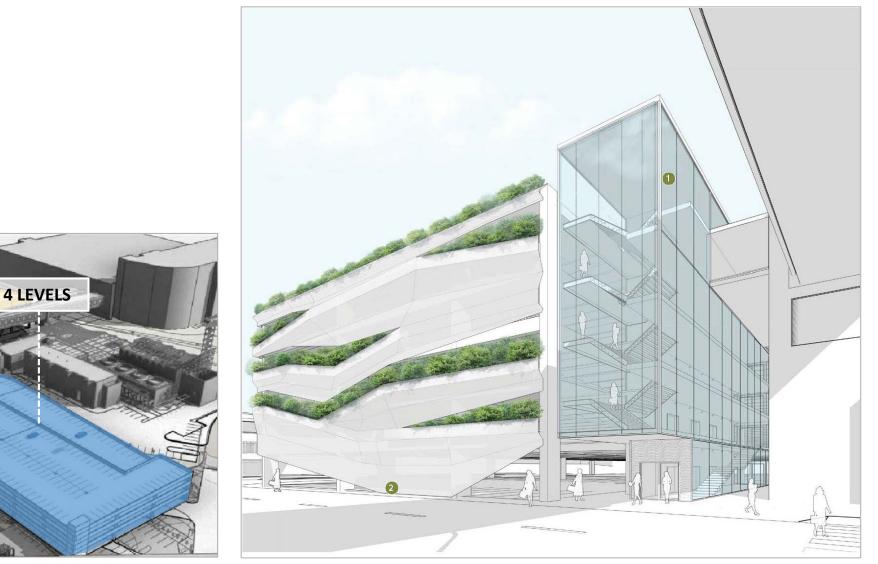








6 LEVELS



Terminal E Garage Aerial

**TERMINAL E** 

**Terminal E Arrivals Roadway** 



### TERMINAL B-C ROADWAYS – Project Scope, Goals and Issues

Terminal B-C Roadways		
Fall 2018		
Fall 2022		

#### **Project Scope**

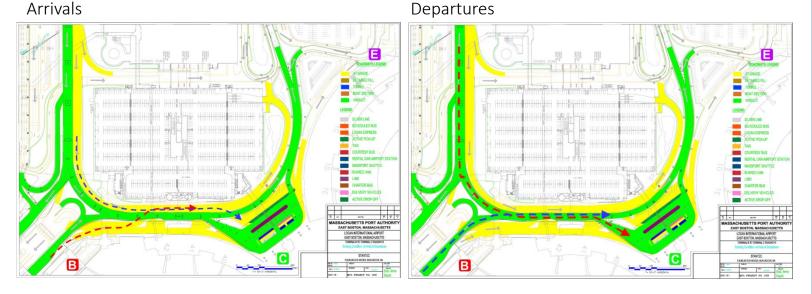
- Replace the 1960's vintage section of Departures Roadway located from Terminal B to Terminal C
- Reconfigure Arrivals Roadway

#### **Project Goals**

- Improve traffic conditions from Terminals B to C
- Eliminate costly and disruptive maintenance repairs of aging viaduct
- Support projected JetBlue flight growth and airline relocation projects

#### **Issues The Project Is Addressing**

- Substandard weave condition for traffic exiting Terminal B with traffic entering Terminal C
- Condition exists at both Arrivals and Departures Levels
- Contributes to extensive traffic back-ups at peak hours of operation
- Eliminates capacity to handle queuing back-ups from Terminal C curbside













# TERMINAL C CANOPY AND UPPER DECK

Project:	Terminal C Canopy and Upper Deck		
	(Logan International Airport)		
<b>Construction Start:</b>	March 2019		
Project Completion:	September 2021		

#### Project Goals

- Expand footprint of Departures Deck to gain more area for increased curb length and travel lanes
- New canopy to allow more daylight and more visibility of Terminal
- Improve views of Terminal from Roadway and Overhead Walkway
- Expand canopy footprint to cover departures curbside
- Provide permanent elevators to improve passenger movement capacity to and from Terminal



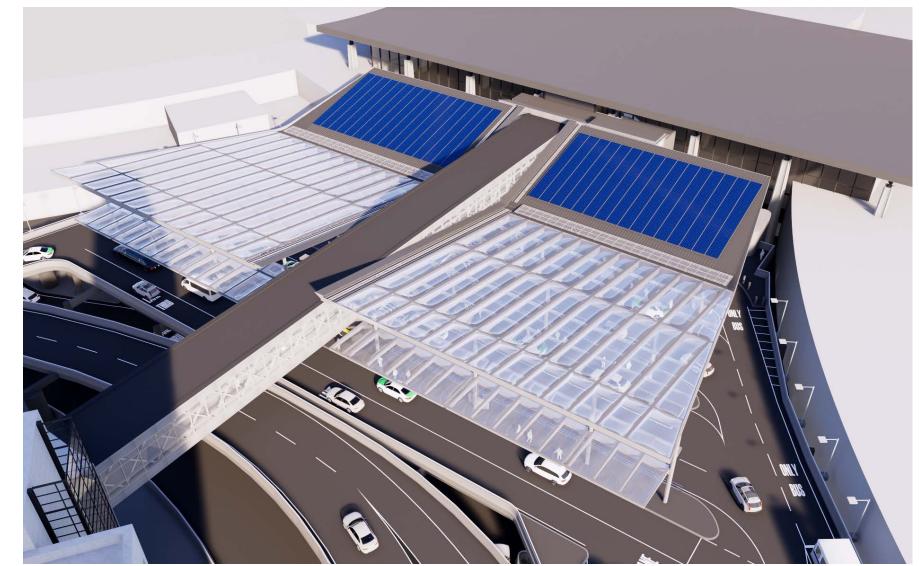




### TERMINAL C CANOPY AND UPPER DECK

**Rooftop Photovoltaic System** 

- Currently pursuing third party funding for 165kWhr system
- Sized to power all new arrivals and departures roadways level lighting with small energy surplus
- Panels would be highly-visible to passengers on the existing pedestrian bridge as a demonstration of Massport's commitment to renewable energy







### TERMINAL C-B OPTIMIZATION + CONNECTOR

Project:	Terminal C-B Optimization + Connector			
	(Logan International Airport)			
<b>Construction Start:</b>	October 2019			
Project Completion:	Fall 2021 (Certificate of Occupancy)			

- New post-security concourse connection between Terminals B and C
- Expanded concessions and passenger amenities along new concourse
- 1 new gate, 4 existing gates renovated and expanded, three of which to receive new facial recognition boarding systems
- New centralized vertical circulation + passenger exit
- Demolition of Old Tower and Tower bridge structure to accommodate new roadways and new Massport offices to replace those currently in Old Tower
- New level 4 airline club core/shell
- Expanded restrooms and concessions at Terminal C, Pier B to support new gate







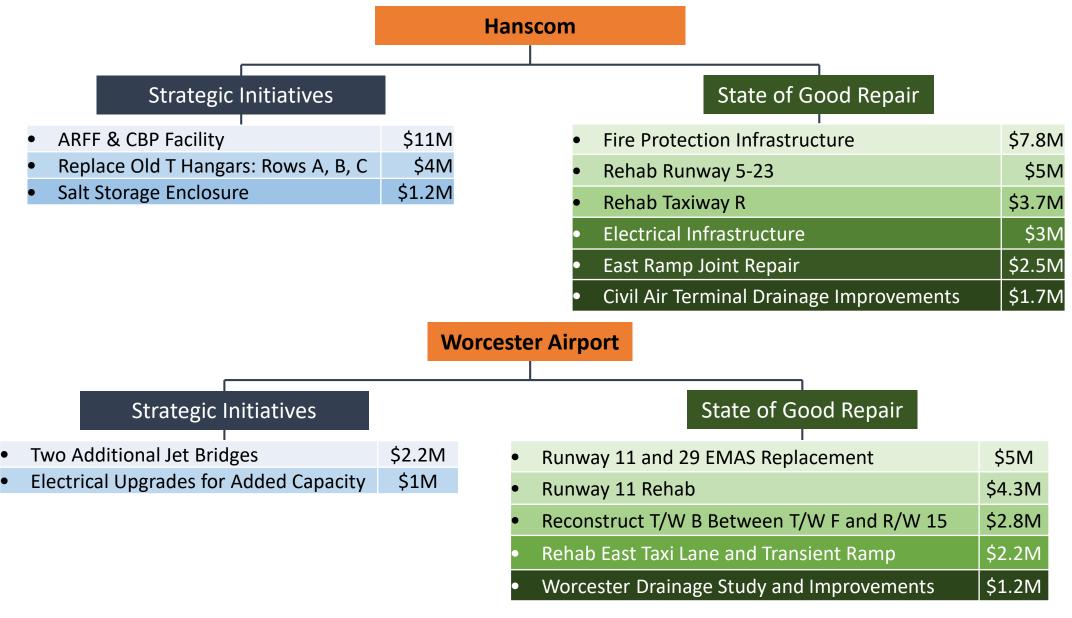


# TERMINAL C-B OPTIMIZATION + CONNECTOR

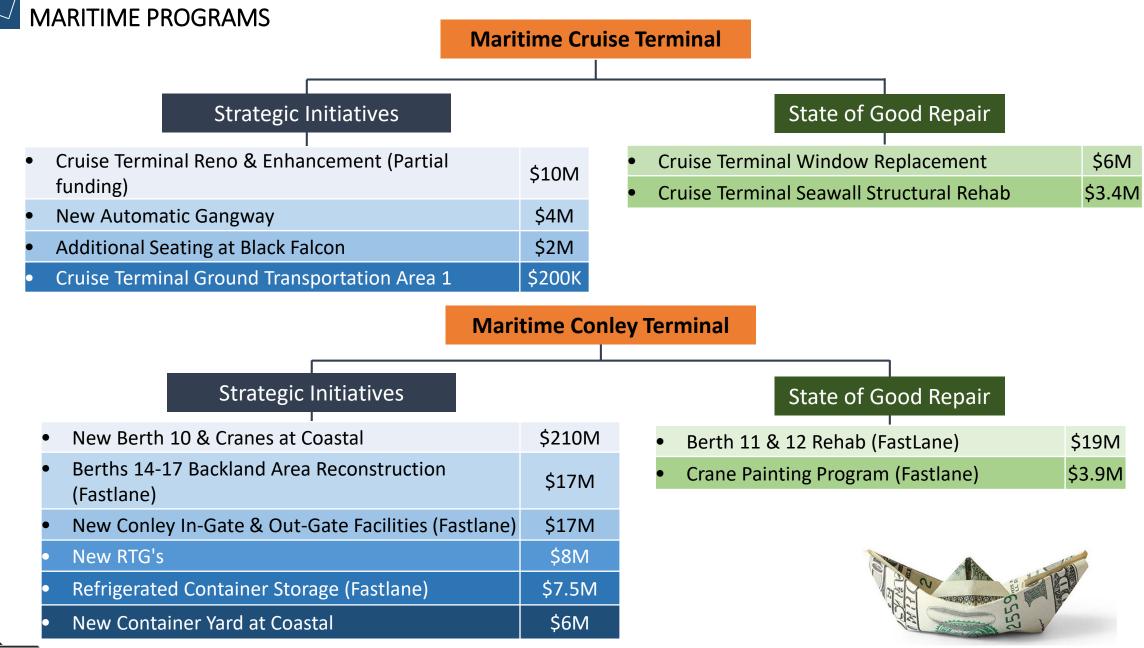




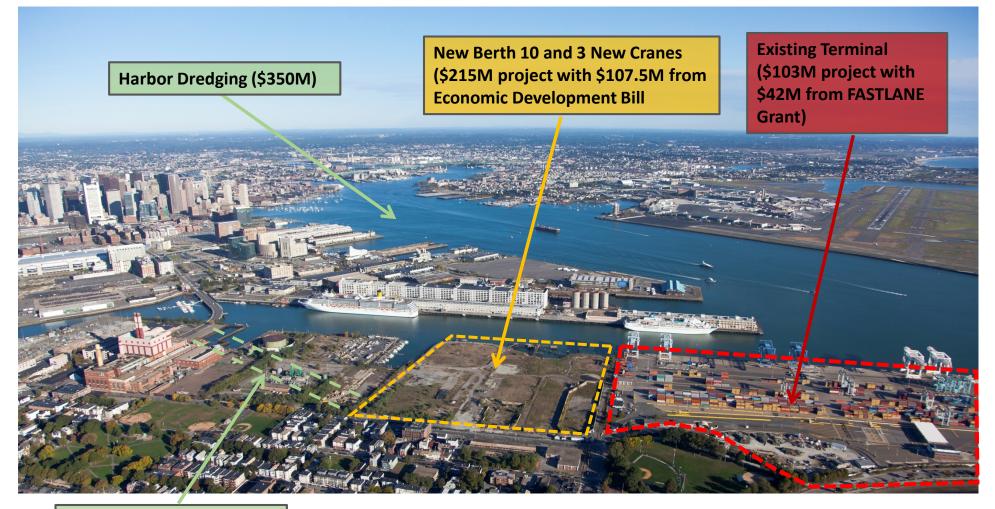
# HANSCOM AND WORCESTER PROGRAMS











Dedicated Freight Corridor (\$75M)



**Project:** 

Conley Terminal New Berth 10

Construction Start: Project Completion: July, 2018 December, 2020

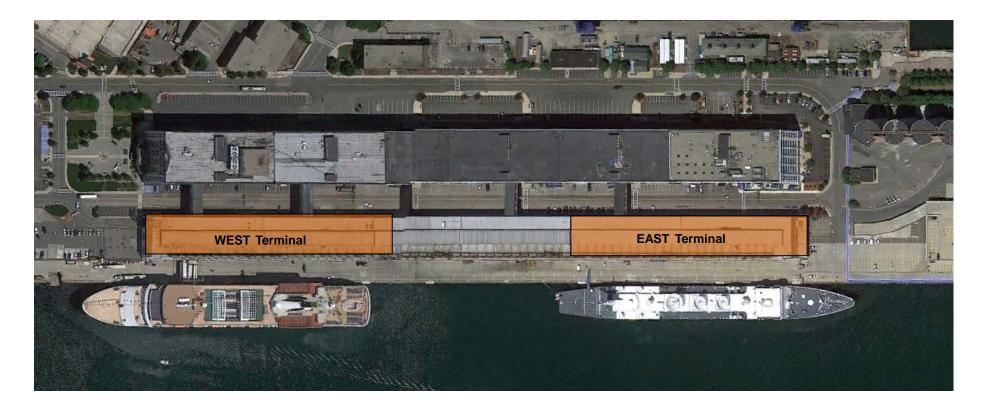
#### New 1,278 foot long berth, 108 feet wide

- 900 steel pipe piles supporting new concrete deck,
- 1,350 If of sheet pile wall,
- Soil stabilization for oil impacted soils behind sheet pile wall,
- Improvements to Lobstermen Cove Facilities,
- New utilities and electrical infrastructure to support new cranes.
- Dredging to -50 MLLW 336,100cy of dredging & rock removal
- Three new ship-to-shore cranes





# FLYNN CRUISEPORT BOSTON



### **IMPROVEMENT SCOPE OF WORK:**

- Two homeport terminals
- 1<sup>st</sup> floor common core for CBP, expanded baggage handling
- Total estimated project cost = \$100M
- \$10M allocated in fy19-23 for design & permitting



# MARITIME STRATEGIC PLAN FY19-23



- Provide adequate harbor depth to serve next-generation container ships
- Modernize & upgrade existing container terminal facilities to better serve current needs
- Develop facilities & equipment to serve next-generation container ships
- Support the growth of the seafood processing business
- Provide efficient operation for the growing cruise terminal business





### Capital Programs & Environmental Affairs Department

#### **Professional Services**

- Design Services:
  - > Building
  - > Non-Building
- Term Consultants
- Environmental Services

#### **Construction Services**

- MGL c.149: Building Construction Contracts (ECC < \$5 MIL)
- MGL c.149A: CMR (Construction Management at Risk) (ECC > \$5 MIL)
- MGL c.30: Public Works (Non-Building)
- MGL c.149A s.14-21: Design-Build Public Works (ECC > \$5 MIL)

#### **Term Construction Contracts**

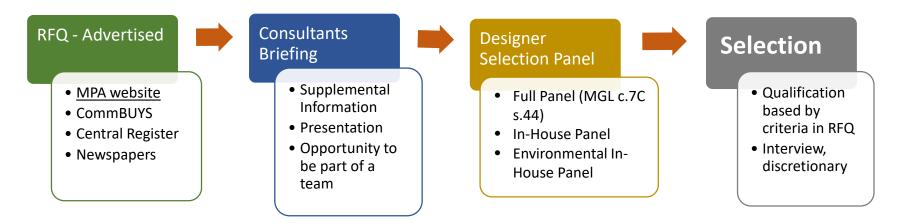


### Capital Programs & Environmental Affairs Department

### **Professional Services**

- Design Services:
  - ➢ Building (MGL c.7C s.44)
  - > Non-Building
- Term Consultants
- Environmental Services

The process is similar, but the Selection Panel changes by project type





# CONSULTANTS SELECTION CRITERIA

- Experience of the team and communication skills of the <u>PM</u>
- Minimal disruption to airport operations
- Familiarity with Ch. 149, Ch. 149 A, Ch. 30
- Experience in using and managing BIM
- Experience in Lean Design & Construction
- Cost and Schedule management
- M/WBE proposed percentage
- Current and Past work with the Authority
- Experience with Sustainability and Resiliency
- Design Approach ... "Design Excellence"





- Expansion of Framingham Garage
- Braintree Parking Garage
- Cruise Terminal
- R/W 27 Safety Area Environmental and Preliminary Design
- Hanscom Navy Hangers
- T/W R Hanscom
- Terminal A Improvements and Connectivity Analysis
- EA Airfield On-Call
- EA Landside On-Call
- AE On-Call
- Project Controls On Call



# ONGOING INITIATIVES

- PMWeb Implementation
- Bid Express Online Bidding
- CPM P6 Scheduling
- BI and Data Warehouse
- Earned Value Guidelines
- Cost Estimating Guidelines
- Project Dashboards







- All Projects > \$5 Million are being completely managed in PMWeb
- All contracts are being initiated and approved in PMWeb
- Consultants are submitting work orders and work order amendments in PMWeb
- Change Orders are being initiated in PMWeb
- In early May, consultants will start submitting all invoices in PMWeb

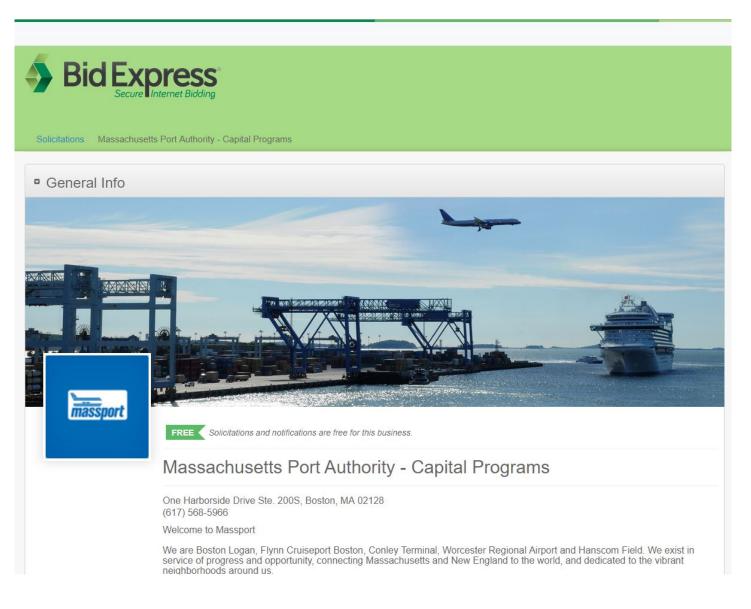


# PMWeb Accomplishments

- Successfully configured and utilizing the Engineering, Financial Modules and Document Manager on Capital Projects
- Successfully migrated all Authority-Wide contracts from legacy Contract Execution system (30,000 records)
- Successfully replaced all functionalities of the old Contract Execution system with PMWeb
- Successfully integrated the Authority's Capital Planning System with PMWeb
- Successfully integrated vendors, contracts, work orders, invoices and requisitions between PMWeb and PeopleSoft
- Successfully migrated all Work Orders, Work Order Amendments, Change Orders, Invoices, and Requisitions for all projects dating back to 2012
- Zero Audit Findings for First Project to be completely managed within PMWeb



# MassPort Bid Express Home Page





Primavera P6 Team Member serves as the primary tool for Project Managers and Assistant Project Managers to access, update, and manage their assigned projects schedules.

### **Benefits to Date**

- Easy Retrieval and Review/ Updates of Schedules (approximately 200 active projects)
- Schedule Integrity
- Executive Schedule Templates for all Capital Program Projects
- Repository for Consultant, Contractor and CM Schedules and linking to Templates
- Improved Cash Flows

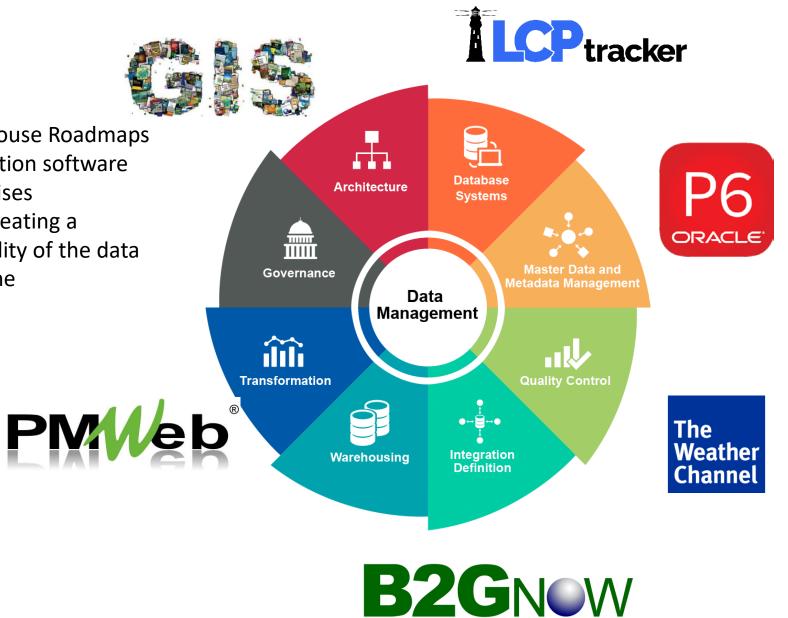




# BI and Data Warehouse Services

### **BI and Data Warehouse Major Objectives**

- Strategic planning and BI & Data Warehouse Roadmaps
- Selection of the front-end data visualization software
- Prototyping and proof-of-concept exercises
- Consolidating multiple databases and creating a standard ETL process to ensure the validity of the data
- Develop the architecture and oversee the implementation of the Data Warehouse
- Front-end analytical dashboards



#### Approach

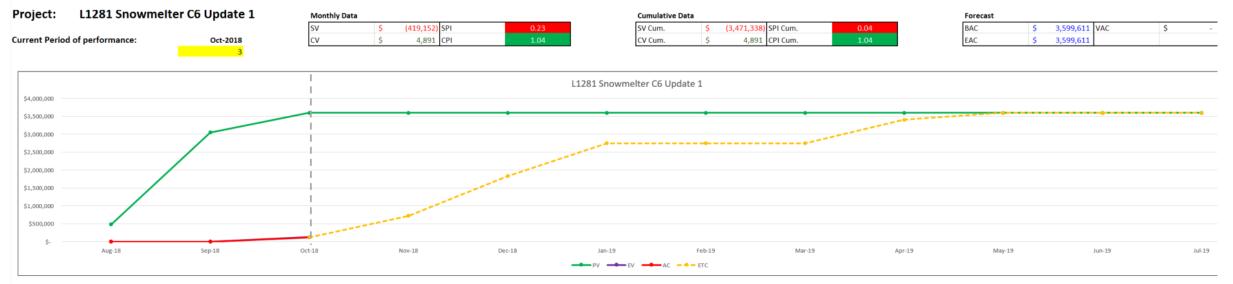
- Store
- Liberate
- Enrich
- Integrate
- Analyze

# Earned Value

### **EVM Objectives**

- Integrated technical schedule, and cost performance
- Identify key problems for proactive project management
- Consistent and clear communications for project progress





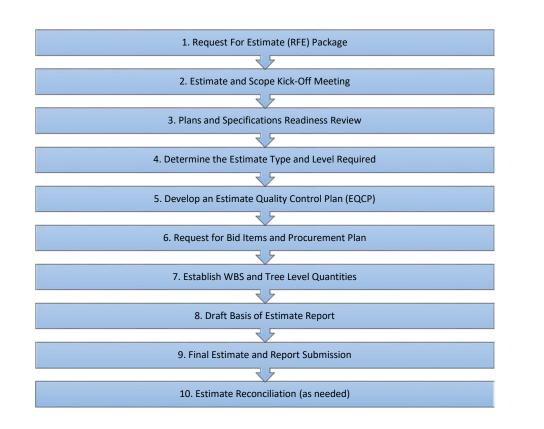




"The first number published is the only number remembered." – J. Oswell

#### **Estimating Guidelines Objectives**

To establish consistence and improve estimate accuracy



Estimate Level	Design Development	Project Phase	Typical Purpose of Estimate	Estimating Methodology	Basis	Estimate Type
Feasibility	0%-20%	Initial Early Planning	Feasibility study, justification for project, planning and/or funding.	Parametric, Cost Indices	OME or Historical Cost	Uniformat Level I
Conceptual	0%-20%	Initial Early Planning	Support investment decision	Parametric, Cost Indices	OME or Historical costs	Uniformat Level I
Schematic Design	20%-30%	Preliminary Design	Preliminary Cost Development	Parametric, Cost Indices	Average Unit Cost	Uniformat Level II with CSI Summary
Design Development (DD)	30%-60%	Detailed design on- going	Construction Cost Progression	Detailed Costing	N/A	CSI
Construction Documents (CD)	60%-90%	Detailed design furthered	Construction Cost Progression	Detailed Costing	N/A	CSI
Bid Documents	90%-100%	Design Complete	Final Cost Estimate. Used to compare bid results.	Detailed Costing	N/A	CSI
Bulletins	Post Bid	Post Bid	Change Pricing	Detailed Costing	N/A	CSI



# Project Dashboards









