



[Appropriation - Capital Improvement Projects - \$4,832,455,418 - FY2016-2017]

Ordinance appropriating \$4,832,455,418 of proceeds from the sale of revenue bonds or commercial paper for capital improvement projects to the Airport Commission for Fiscal Year 2016-2017; ~~and placing the total appropriation of \$4,832,455,418 placing \$2,100,000,000 of those proceeds on Controller's Reserve pending receipt of proceeds of indebtedness; and placing the remaining \$2,732,455,418 on Board of Supervisors' reserve.~~

Note: Additions are *single-underline italics Times New Roman*; deletions are *strikethrough italics Times New Roman*. Board amendment additions are double underlined. Board amendment deletions are ~~strikethrough normal~~.

Be it ordained by the People of the City and County of San Francisco:

Section 1. The sources of funding outlined below are herein appropriated to reflect the funding available in Fiscal Year 2016-17.

**SOURCES Appropriation**

Fund	Index/Project Code	Subobject	Description	Amount
5A CPF 7CP	*AIR5ACPF7CP	80111	Proceeds from	\$4,832,455,418
2017 SFIA Capital Project Fund	CACPRJ01		Sale of Bonds or Commercial Paper	
<b>Total SOURCES Appropriation</b>				<b>\$4,832,455,418</b>

1 Section 2. The uses of funding outlined below are herein appropriated and reflect the  
 2 projected uses of funding to support capital improvement projects for the Airport Commission  
 3 for Fiscal Year 2016-2017.

4  
 5 **USES Appropriation**

6	7	8	9	10	11
	Fund	Index/Project Code	Subobject	Description	Amount
8	5A CPF 7CP	AIR047X7CP	06700 Buildings,	Airfield	\$8,293,664
9	2017 SFIA Capital	CAC047 UN4701	Structures, and	Improvements	
10	Project Fund		Improvement		
12	5A CPF 7CP	AIR050X7CP	06700 Buildings,	Airport Support	\$489,265,228
13	2017 SFIA Capital	CAC050 UN5001	Structures, and	Improvements	
14	Project Fund		Improvement		
16	5A CPF 7CP	AIR054X7CP	06700 Buildings,	Groundside	\$382,773,947
17	2017 SFIA Capital	CAC054 UN5401	Structures, and	Improvements	
18	Project Fund		Improvement		
20	5A CPF 7CP	AIR087X7CP	06700 Buildings,	Terminal 3	\$787,340,000
21	2017 SFIA Capital	CAC087 UN8701	Structures, and	Program	
22	Project Fund		Improvement		

	<b>Fund</b>	<b>Index/Project Code</b>	<b>Subobject</b>	<b>Description</b>	<b>Amount</b>
1					
2	5A CPF 7CP	AIR077X7CP	06700 Buildings,	Terminal 1	\$1,451,316,909
3	2017 SFIA Capital	CAC077 UN7701	Structures, and	Program	
4	Project Fund		Improvement		
5					
6	5A CPF 7CP	AIR057X7CP	06700 Buildings,	Other Terminal	\$590,448,474
7	2017 SFIA Capital	CAC057 UN5701	Structures, and	Improvements	
8	Project Fund		Improvement		
9					
10	5A CPF 7CP	AIR060X7CP	06700 Buildings,	Utilities	\$102,707,228
11	2017 SFIA Capital	CAC060 UN6001	Structures, and	Improvements	
12	Project Fund		Improvement		
13					
14	5A CPF 7CP	AIRCSAPAC17	081C4	City Services	\$7,624,291
15	2017 SFIA Capital	CACPRJ AU	Controller	Auditor 0.2%	
16	Project Fund		Internal Audits	Controller's Audit	
17				Fund	
18					
19	5A CPF 7CP	AIRFINCOST17	07311 Bond	Cost of	\$14,892,437
20	2017 SFIA Capital	CACPRJ FC	Issuance Cost-	Issuance	
21	Project Fund		Unamortized		
22					
23	5ACPF7CP	AIRFINCOST17	07311 Bond	Debt Service	\$411,608,451
24	2017 SFIA Capital	CACPRJ FC	Issuance Cost-	Reserve	
25	Project Fund		Unamortized		

	Fund	Index/Project Code	Subobject	Description	Amount
1					
2	5ACPF7CP	AIRFINCOST17	07311 Bond	Capitalized	\$452,540,040
3	2017 SFIA Capital	CACPRJ FC	Issuance Cost-	Interest	
4	Project Fund		Unamortized		
5					
6	5ACPF7CP	AIRFINCOST17	07311 Bond	Contingency	\$112,785,385
7	2017 SFIA Capital	CACPRJ FC	Issuance Cost-	Account	
8	Project Fund		Unamortized		
9					
10	5ACPF7CP	AIRFINCOST17	07311 Bond	Underwriters	\$20,859,364
11	2017 SFIA Capital	CACPRJ FC	Issuance Cost-	Discount	
12	Project Fund		Unamortized		
13					
14	<b>Total USES Appropriation</b>				<u><u>\$4,832,455,418</u></u>

17 Section 3. ~~The total appropriation of \$4,832,455,418~~ \$2,100,000,000 of the total  
18 appropriation is placed on Controller's Reserve pending receipt of proceeds of indebtedness,  
19 and remaining \$2,732,455,481 of the total appropriation is placed on Board of Supervisors'  
20 reserve.

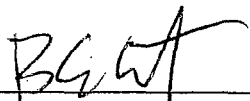
23 Section 4. The Controller is authorized to record transfers between funds and adjust  
24 the accounting treatment of sources and uses appropriated in this ordinance as necessary to  
25 conform with Generally Accepted Accounting Principles.

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APPROVED AS TO FORM:

DENNIS J. HERRERA, City Attorney

By:

  
\_\_\_\_\_  
BUCK DELVENTHAL  
Deputy City Attorney

FUNDS AVAILABLE

BEN ROSENFELD, Controller

By:

  
\_\_\_\_\_  
BEN ROSENFELD  
Controller

<p><b>Items 1 and 2</b> Files 17-0200 and 17-0211</p>	<p><b>Department:</b> San Francisco International Airport (Airport)</p>
<p><b>EXECUTIVE SUMMARY</b></p>	
<p><b>Legislative Objectives</b></p>	
<p>File 17-0200 is an ordinance appropriating \$4,832,455,418 of Airport Capital Plan bonds, consisting of \$4,358,694,227 in new Airport Capital Plan revenue bond authorization (File 17-0211) and \$473,761,191 in previously authorized Airport Capital Plan bonds. The funds would be placed on Controller’s Reserve pending sale of the bonds or commercial paper.</p>	
<p>File 17-0211 is a resolution authorizing (1) the sale of \$4,358,694,227 in Airport Capital plan revenue bonds; and (2) an increase in Airport Commercial Paper by \$100,000,000, from \$400,000,000 to \$500,000,000.</p>	
<p><b>Key Points</b></p>	
<ul style="list-style-type: none"> <li>• In FY 2015-16, the Airport had a record 51.4 million passengers, leading to congestion in the Airport. The Airport is requesting (a) additional revenue bond authorization to implement capital projects to address airport congestion, and (b) additional commercial paper authorization to increase the Airport’s capacity to issue short term, lower cost debt pending the sale of the bonds.</li> <li>• Projects to be funded by the \$4.8 billion in Airport Capital Plan bonds are included in the Airports Five-Year Capital Plan and consist of: (a) airfield improvements, including construction of a materials testing lab and a new advanced visual docking guidance system to assist pilots with safety information; (b) airport support improvements in technology and security; (c) groundside improvements to the AirTrain system, parking garages and other improvements; (d) terminal improvements to modernize Terminal 1; and (e) utility improvements.</li> </ul>	
<p><b>Fiscal Impact</b></p>	
<ul style="list-style-type: none"> <li>• The Airport proposes to sell the \$4,832,455,418 Airport Capital Plan bonds through a competitive sale with a 30-year term at an estimated 6.5 percent fixed interest rate. The Airport expects to issue bonds twice per year through FY 2020-21, but the timing and sizing of each issue would be determined based on an assessment of capital plan cash flow requirements and market conditions. The bonds are expected to be fully repaid in 2050 from Airport revenues. The Airport estimates total debt service over 30 years of \$10.8 billion, including \$4.83 billion in principal and approximately \$5.97 billion in interest. Average annual debt service is \$327.3 million.</li> <li>• Debt service on the Airport’s Capital Plan bonds is paid from Airport revenues. Under the Lease and Use Agreement between the Airport and the airlines, the Airport has the authority to increase the landing and terminal fees charged to the airlines to meet its operating expenses, including annual debt service on outstanding Airport revenue bonds</li> </ul>	
<p><b>Recommendation</b></p>	
<ul style="list-style-type: none"> <li>• Approve the proposed resolution (File 17-0211) and ordinance (File 17-0200).</li> </ul>	

## MANDATE STATEMENT

City Charter Section 9.105 states that amendments to the Annual Appropriations Ordinance, after the Controller certifies the availability of funds, are subject to Board of Supervisors approval by ordinance.

City Charter Section 4.115 states that the Airport Commission has exclusive authority to plan and issue Airport revenue bonds for Airport-related purposes, subject to the approval, amendment, or rejection of the Board of Supervisors.

## BACKGROUND

### Airport Revenue Bond Authorization

The San Francisco International Airport (Airport) issues Airport Capital Plan bonds, as authorized by the 1991 Master Bond Resolution. The 1991 Master Bond Resolution has been supplemented and amended nineteen times since its original publication. Since 2008, in preparation for the renovation of Terminal 2, Boarding Area E, Terminal 3 East, the Air Traffic Control Tower, and other capital projects, the Board of Supervisors has authorized \$3.43 billion in Airport Capital Plan bonds. Currently, \$1.14 billion remain unissued, including \$243 million dedicated to the Airport Hotel Project.

The total amount of outstanding bond debt the Airport currently has is \$4.965 billion, which includes the \$2.29 billion of Airport Capital Plan bonds sold since 2008 and airport revenue bonds authorized prior to 2008 under other resolutions.

### Commercial Paper Authorization

The Airport currently uses commercial paper as short term financing for capital projects, allowing the Airport to meet construction cash flow requirements prior to issuing longer-term bonds.<sup>1</sup> The Board of Supervisors authorized the Airport Commission in 1997 to issue up to \$400 million in commercial paper as a source of interim financing for capital projects. The Airport currently has no outstanding commercial paper.

## DETAILS OF PROPOSED LEGISLATION

**File 17-0211:** The proposed resolution would: (1) authorize the sale of \$4,358,694,227 aggregate principal amount of San Francisco International Airport Second Series Revenue Bonds; (2) approve the issuance and re-issuance of up to an additional \$100 million aggregate principal amount of Airport Subordinate Commercial Paper Notes; and (3) ratify, approve and confirm certain resolutions of the Board of Supervisors and Airport Commission related to the bonds.

<sup>1</sup> Commercial paper is short term debt for up to 270 days. Interest payments on commercial paper are lower than on longer term bonds.



**File 17-0200:** The proposed ordinance would appropriate \$4,832,455,418 of General Airport Revenue Bonds for capital improvement projects to the Airport Commission for Fiscal Year 2016-2017. The funds would be placed on Controller's Reserve pending sale of the bonds or commercial paper.

Appropriation of \$4,832,455,418 consists of \$4,358,694,227 in new Airport Capital Plan revenue bond authorization (File 17-0211) and \$473,761,191 in previously authorized Airport Capital Plan bonds.<sup>2</sup>

#### **Basis of Request for Bond Authorization**

In FY 2015-16, the Airport had a record 51.4 million total passengers.<sup>3</sup> The Airport's previous projections did not forecast this number of passengers until FY 2020-21, still five years out. According to Mr. Kevin Kone, the Airport's Managing Director of Finance, the passenger growth has led to an increase in congestion at terminal gates, demand for public parking, and ground transportation congestion. Additional passengers also result in increased security needs at the Airport. Therefore, the Airport is requesting (a) additional revenue bond authorization to implement capital projects to address airport congestion, and (b) additional commercial paper authorization to increase the Airport's capacity to issue short term, lower cost debt pending the sale of the bonds.

On December 12, 2016, the City's Capital-Planning Committee recommended the authorization of up to \$4,358,694,227 in Airport Capital Plan bonds, as well as an increase in the Airport's commercial paper program by \$100,000,000, from \$400,000,000 to \$500,000,000.

#### **The Airport's Capital Plan**

The Airport prepares a Five-Year Capital Improvement Plan on an annual basis to prioritize essential capital projects and requirements. The approved Five-Year Capital Improvement Plan for the period FY 2016-17 through FY 2020-21 was adopted by the Airport Commission on June 1, 2016.

Airport Capital Plan bonds may only be used to fund:

- Construction costs of Capital Plan projects that either do not require environmental review or have already undergone all necessary environmental review, such as California Environmental Quality Act (CEQA) review, and received Commission approval to proceed
- Planning and development costs necessary to prepare other Capital Plan projects for environmental review and the necessary approvals

<sup>2</sup> \$473,761,191 comes from the approximately \$1,140,000,000 in Airport Capital Plan bonds previously authorized by the Board of Supervisors but not sold. If the Board appropriates the \$473,761,191, the Airport will have approximately \$666,000,000 in authorized but unsold bonds, of which approximately \$243,000,000 is allocated to the Airport Hotel Project and approximately \$423,000,000 is allocated to other Capital Improvement Projects.

<sup>3</sup> The number of passengers is based on the number of "enplanements" (departing passengers), "deplanements" (arriving passengers) and "in-transit" passengers (passing through).

Projects included in the Capital Plan that have not yet received environmental clearance can use other funding sources such as Small Capital Outlay or Commercial Paper to fund design and planning costs; however, construction costs cannot be funded until environmental clearance is obtained. Once environmental clearance is obtained, the Airport could seek Board of Supervisors approval to fund these projects with Airport revenue bonds.

**Rating Agencies**

The Airport engaged three rating agencies (Moody's, S&P Global and Fitch Ratings) in September 2016 to rate the proposed sale of Airport revenue bonds. All three agencies confirmed and rated the sale of the 2016B, 2016C and 2016D revenue and refunding bonds as strong, as shown in Table 1 below.

**Table 1: Bond Rating Agencies Review of Airport Revenue Bonds**

Rating Agency	Investment Grade	Description	Risks
Moody's	A1	Strong	- Large debt-funded Capital Improvement Plan - One airline, United Airlines, accounts for 21% of operating revenue and 45% of enplanements - Current airline agreement expire in 2021 just as airline costs will peak due to added debt for the CIP
S&P	A+	Strong	- Increased leverage and capital needs financed by bond proceeds - High cost structure - High concentration of one primary carrier - United Airlines
Fitch	A+	Strong	- Large debt-funded Capital Improvement Plan

The rating agencies identified some risks including: (1) a large debt-funded Capital Improvement Plan and (2) one primary airline carrier (United Airlines) which accounts for 21 percent of the Airport's operating revenue.

**FISCAL IMPACT**

**Appropriation of Airport Capital Plan Revenue Bonds (File 17-0200)**

The \$4,832,455,418 in Airport Capital Plan revenue bond proceeds includes the requested appropriation of \$4,358,694,227 in new bond authorization (File 17-0211) and \$473,761,191 in prior Airport Capital Plan bonds authorized by the Board of Supervisors but not issued. The sources and uses of \$4,832,455,418 are shown in Table 2 below.

**Table 2: Sources and Uses of Funds**

Sources	Amount
Proceeds from Proposed Sale of Airport Capital Plan Bonds	\$4,358,694,227
Prior Authorized, Not Currently Appropriated of Airport Capital Plan Bonds	473,761,191
<b>Total Sources</b>	<b>\$4,832,455,418</b>
<b>Uses</b>	
Airfield Improvements	\$8,293,664
Airport Support Improvements	489,265,228
Groundside Improvements	382,773,947
Terminal Improvements	2,829,105,383
Utility Improvements	102,707,228
<b>Subtotal Capital Project</b>	<b>3,812,145,450</b>
CSA Auditor Allocation (0.2% of Capital Project)	7,624,291
Cost of Issuance <sup>4</sup>	14,892,437
Debt Service Reserve <sup>5</sup>	411,608,451
Capitalized Interest <sup>6</sup>	452,540,040
Contingency Account <sup>7</sup>	112,785,385
Underwriter Discount <sup>8</sup>	20,859,364
<b>Subtotal Financing and Other</b>	<b>1,020,309,968</b>
<b>Total Uses</b>	<b>\$4,832,455,418</b>

**Capital Improvement Projects**

The proposed Airport Capital Plan projects to be funded by the subject Airport Capital Plan revenue bond proceeds are focused on meeting current and projected air traffic demand. The Capital Improvement Program Working Group evaluates and ranks new and existing capital projects using an established criteria matrix. The Capital Project Review Committee then reviews and approves the selection of projects, and submits its recommendations to the Airport Director. If the Airport Director approves the Capital Plan, it is submitted to the Airport

<sup>4</sup> Costs of Issuance consist of expenses associated with the sale of a bond, including fees for financial advisors, counsel, the trustee and rating agency fees and other expenses.

<sup>5</sup> Debt Service Reserve is a fund in which an issuer sets aside money in case its regular debt service fund is insufficient to make a future debt service payment as required by the Airport Commission’s master bond indenture.

<sup>6</sup> Capitalized Interest is the portion of the proceeds of a bond issue that is set aside to pay interest on the bonds for a specified period of time. Interest is commonly capitalized for the construction period of a revenue-producing project, and sometimes for a period thereafter, so that debt service expense does not begin until the project is expected to be operational and producing revenues.

<sup>7</sup> The Contingency Account holds Airport funds that may be used for operating or capital purposes, but are also used each year to help the Airport meet its bond covenant requirement to have the sum of annual net operating revenues plus the balance in the Contingency Account equal at least 125% of annual debt service, as required by the Airport Commission’s master bond indenture.

<sup>8</sup> The Underwriters Discount is the difference between the price paid by the underwriter to the issuer for the new bond issue and the prices at which the securities are initially offered to the investing public. This difference provides the underwriter with compensation for the transaction, as well as reimbursement for expenses.

Commission and then to the Board of Supervisors through the City's Capital Plan approval process. Additionally, all capital projects above \$704,000 must be approved by the airlines, per the Airport's Lease and Use Agreement.

According to Ms. Kaitlyn Connors, Airport Budget Director, capital improvement project budgets are developed by project managers within the Airport divisions proposing the projects. Airport Finance staff reviews the projects and evaluates available funding sources. The project manager is responsible for developing an individual project's schedule.

The major projects to be funded by the subject bond proceeds are described below. Appendix I provides budget details.

Airfield Improvements: \$8,293,664

The two major projects for the Airfield are (1) the Advanced Visual Docking Guidance System, project and (2) the construction of a new materials testing lab. The Airport plans on installing an Advanced Visual Docking Guidance System that will provide pilots with increased safety information, such as equipment and foreign object debris location or stopping distance to the gate. The project is currently underway and is expected to be completed in FY 2018-19. The New Materials Testing Lab will replace and relocate the existing materials testing lab trailer. Existing trailer units have been in service for over 15 years and test equipment is aged, worn, and deficient. A new lab will help address the anticipated work load increase expected in the upcoming years. The project is anticipated to be completed in FY 2018-19.

Airport Support Improvements: \$489,265,228

The Airport is currently implementing a wide range of security and technology, including improvements to Airport security data and video systems including the expansion and upgrading of closed circuit television (CCTV) cameras and infrastructure to increase monitoring capability and the conversion of existing CCTV cameras to digital internet protocol (IP). Other security measures include replacement of rolling gates at the Coast Guard facility, and infrastructure improvements for the Airport Communications Center. Also included in this category is a new project to install a Perimeter Intrusion Detection System (PIDS) along the entire water perimeter and fence line of the Airfield Operations Area. This project is estimated to be completed in FY 2019-20.

Groundside Improvements : \$382,773,947

Groundside improvements include improvements to the AirTrain system, including upgrading its existing control system, extending the current system and adding a new station at the long term parking garages, and completion of the construction of a second multi-level long-term parking structure for approximately 3,000 spaces. These projects are expected to be completed in FY2019-20 and FY 2018-19, respectively.

Terminals Improvements: \$2,829,105,383

The Terminal 1 Redevelopment Program will modernize Terminal 1 and Boarding Areas B and C. The program is currently being implemented in phases and is estimated to be completed by FY 2022-23, and contains the following program elements:

- Demolition of the existing Boarding Area B, replacing it with a new boarding area configured to accommodate modern aircraft requirements, larger hold rooms, and improved concessions. The new Boarding Area B will be expanded to include 24 gates. The program will renovate Terminal 1, including a complete replacement of the architectural building envelope, upgrades of all mechanical systems and special systems replacements, interior architectural renovations, facility upgrades such as a new consolidated passenger screening checkpoint, new airline ticket counters, and new concessions program, all consistent with the Terminal 2 standard.
- A new consolidated baggage handling system (BHS) and checked baggage inspection screening (CBIS) system.
- Renovation of Boarding Area C to current Airport standards.
- Various Airport, airline and governmental agency relocations and improvements.

The Terminal 3 West Improvement project will begin in FY 2017-18, with an estimated completion date of FY 2022-23. The project will reconfigure the western side of the Terminal 3 to extend the building's useful life with upgrades to infrastructure, improvements in building and technology systems, compliance with the latest building fire and life safety code requirements, reconfiguration of security checkpoints, and added concessions space. The redesigned layout will improve passenger flow and improve customer service. The Terminal 3 West project includes improvements to the Boarding Area F plaza.

Utility Improvements: \$102,707,228

The major utility upgrades are currently underway and include (a) power and lighting improvements and (b) waste water system improvements. Power and lighting improvements will ensure a reliable power supply for Airport facilities and increase the capacity to meet current and future projected demand. Specific projects include upgrades to Substation TV and Station BP, replacement of the 400 hertz system in Boarding Area A in the International Terminal, and infrastructure to support electric vehicle charging stations within parking garages and other Airport facilities. The power and lighting improvements are expected to be completed in FY 2019-20. The Airport will also upgrade and replace the Airport sewage and industrial waste systems. The Airport will continue construction on the new Industrial Waste Treatment Plant, undertake a major water conservation effort to design and construct infrastructure to expand the use of reclaimed water, construct a new sewer outfall to South San Francisco, and upgrade and replace aging pipelines. The wastewater system improvements are expected to be completed in FY 2020-21.

**Airport Revenue Bonds Debt Service (File 17-0211)**

The Airport proposes to sell the \$4,832,455,418 Airport Capital Plan bonds, including \$4,358,694,227 in new revenue bond authorization and \$473,761,191 in prior revenue bond authorization, through several competitive sales with a 30-year term at an estimated 6.5 percent fixed interest rate. The actual interest rate will not be known until the time of bond sale. According to Ms. Connors, the Airport expects to issue bonds twice per year through FY 2020-21, but the timing and sizing of each issue would be determined based on an assessment of capital plan cash flow requirements and market conditions. The bonds are expected to be fully repaid in 2050 from Airport revenues.

The Airport estimates total debt service over 30 years of \$10.8 billion, including \$4.83 billion in principal and approximately \$5.97 billion in interest. Average annual debt service is \$327.3 million.

Debt service on the Airport's Capital Plan bonds is paid from Airport revenues. Under the Lease and Use Agreement between the Airport and the airlines, the Airport has the authority to increase the landing and terminal fees charged to the airlines to meet its operating expenses, including annual debt service on outstanding Airport revenue bonds. According to Ms. Connors, each year, the Airport updates the terminal and landing fees. To do so, the Airport forecasts the total annual expenses and the total non-airline revenues. The difference between the annual expenses and non-airline revenues must be paid from airline landing and terminal fees, which are adjusted by the Airport to fill the gap.

The additional debt service costs have been factored in the Airport's financial plans, including the Airport's FY 2016-17 and FY 2017-18 operating budgets, approved by the Board of Supervisors in July 2016, the Airport's 5-Year Capital Improvement Plan (June 2016), the Airport's Bond Series 2016BCD financial forecast for the Airport (September 2016), and the Airport's FY 2016-17 rates and charges (May 2016).

**Increase in Commercial Paper Authorization**

Under most market conditions, commercial paper interest rates, which are short-term rates, are significantly lower than the interest rates on long-term bonds. As of today, the short-term rate on commercial paper notes is about one percent, compared to a long-term bond rate of four percent. According to Ms. Connors, the Airport's financial advisors estimated that the additional \$100 million increase in commercial paper authorization could reduce the Airport's debt service expenses by up to \$20 million over the next five years due to lower borrowing costs as compared to traditional fixed rate bonds. Ms. Connors estimates that the next commercial paper issuance is slated for April 2017.

**RECOMMENDATION**

Approve the proposed resolution (File 17-0211) and ordinance (File 17-0200).

Projects Funded by Appropriation

Airport Program	Project Name	Supplemental Project Total
Miscellaneous Airfield Improvements	10507 Advanced Visual Docking Guidance System (A-VDGS)	\$3,993,664
Miscellaneous Airfield Improvements	11117 Materials Testing Lab	2,600,000
Capital Equipment	11234 Airfield Buses	1,200,000
Capital Equipment	11221 Airfield Striper Equipment	500,000
<b>Airfield Total</b>		<b>8,293,664</b>
Security Improvements	10511 Security Infrastructure Program	184,252,358
Air Traffic Control Tower Program	9034 Design Build for Demo of T2 ATCT and Terminal Improvements	43,702,000
Superbay Renovation Program	11160 Superbay Hangar Renovation Project	29,850,000
Support Facility Improvements	11174 Renovation of Cargo Buildings 606 and 730	25,000,000
Wayfinding Program	11001 Wayfinding Program	22,706,250
Cargo and Hangar Improvements	9322 Renovation of Cargo Buildings 900 and 944	12,701,000
Technology Improvement Projects	11139 Dense Wavelength Division Multiplexing Transport	11,600,000
Airport Support Miscellaneous Improvements	11047 Airport Solid Waste Management Program	11,000,000
Shuttle Bus Replacement	9281 CNG Shuttle Bus Vehicle Replacement Phase 2	9,000,000
South Field Redevelopment Program	10051 South Field Tenant Relocations	8,966,911
Airport Support Miscellaneous Improvements	11150 Computer Aided Dispatch (CAD) Replacement	8,000,000
Airport Support Miscellaneous Improvements	11104 Virtual Design & Construction Implementation Program	7,400,000
Support Facility Improvements	10574 Police Training Support Facility	7,200,000
Technology Improvement Projects	11155 Mobile Application Development and Delivery	5,100,000
Technology Improvement Projects	10674 Information Technology Enterprise Information Architecture Initiative (IT-EIAI)	5,050,000
Technology Improvement Projects	11130 Multi-Use Flight Information Display Upgrade	5,000,000
Superbay Renovation Program	8877B Superbay Hangar Door Retrofit Phase B	4,770,000
Technology Improvement Projects	9120 Metro Ethernet (Metro-E)	4,700,000
Airport Support Miscellaneous Improvements	8717 Modify and Refurbish ITC Check In Counters and Gate Podiums	4,650,000
Superbay Renovation Program	11189 Superbay 6th Floor Asbestos Abatement	4,330,000
Noise Insulation Program	8846D Noise Insulation Improvements	4,160,000
Support Facility Improvements	9238 ITB Conference Center	3,800,000
Technology Improvement Projects	11149 Access Layer Refresh 10 Gbps	3,700,000
Support Facility Improvements	9321 Emergency Response Facilities Improvements	3,600,000
Security Improvements	11159 Replacement of Badging Identity Management System	3,500,000
Support Facility Improvements	10610 ITT and Accounting Work Area Renovations	3,421,600
Technology Improvement Projects	9170 Network Improvements	3,150,000

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Airport Program	Project Name	Supplemental Project Total
Energy and Efficiency Improvements	9188 Airport Wide Lighting Retrofit	3,000,000
Technology Improvement Projects	11156 Comprehensive Support Plan	2,850,000
Airport Support Miscellaneous Improvements	11161 Building Information Technology Upgrade	2,780,000
Support Facility Improvements	10578 Building 710 Chiller and Cooling Tower Replacement	2,480,000
Airport Support Miscellaneous Improvements	11073 Ramp Lighting Glare Reduction	2,400,000
South Field Redevelopment Program	10052 South Field Abatement, Demolition, and Hazmat	2,379,222
Technology Improvement Projects	10678 Avaya Communication Manager Upgrade 7.0	2,250,000
Consolidated Administration Campus	8872 CAC Planning & Program Management	1,750,000
Fire Equipment Program	9302 Replace ARFF Rescue 88	1,750,000
Airport Support Miscellaneous Improvements	10630 Airport Facilities Fall Protection System (formerly 8206B)	1,570,000
Airport Support Computer System Improvements	10535 Capital Planning System (CPS) Phase III	1,555,200
Airport Support Miscellaneous Improvements	11136 Ground Transportation Management System (GTMS) Phase II	1,500,000
Technology Improvement Projects	11157 Single Sign On Implementation	1,500,000
Technology Improvement Projects	11154 ITIL/ISO Certification	1,450,000
Security Improvements	11151 Water Perimeter Intrusions Detection System	1,300,000
Airport Support Computer System Improvements	11216 ISO27001 Information Security Management System	1,300,000
Technology Improvement Projects	11158 Data Analytics Compute Processing	1,293,000
Security Improvements	10538 Physical Security Information Management (PSIM)	1,000,000
Security Improvements	10541 License Plate Recognition (LPR) System	1,000,000
Support Facility Improvements	9329 IT Museum Aviation Annex	870,000
Technology Improvement Projects	11132 Digital Signage Software System Enhancement	800,000
Capital Equipment	10565 Portable Generators	753,000
Capital Equipment	9293 Grinder	750,000
Airport Support Computer System Improvements	8399A Property Management & Billing System (PMBS) Phase 2	708,884
Technology Improvement Projects	11153 Internet Hardware Upgrade	700,000
Airport Support Computer System Improvements	9044 Document Management System (DMS)	670,000
Superbay Renovation Program	11172 Superbay Hangar Infrared Heating System Replacement	660,000
Technology Improvement Projects	8411A SharePoint ERP Phase 1, Integrated Time and Labor Accounting (ITA) Program	640,000
Capital Equipment	11097 Boom and Scissor Lifts II	600,000
Fire Equipment Program	10545 Haz Mat Emergency Response Trailer	600,000
Airport Support Computer System Improvements	10501 Contract Management Compliance System (CMCS) (previously 9225)	540,000
South Field Redevelopment Program	11044 BICE Office Relocation	517,000
Security Improvements	11095 Video Wall Refresh Program	500,000



Airport Program	Project Name	Supplemental Project Total
Technology Improvement Projects	11217 Managed Security Upgrade	500,000
Technology Improvement Projects	9134A IT Security Mitigation	450,000
Airport Support Computer System Improvements	9051 Operating Budget System (OBS)	450,000
Capital Equipment	9164 Semi Truck	440,000
Consolidated Administration Campus	8872A Phase 1 - Administration Building 1 (D&C, Museum, ITT & Planning)	438,372
Capital Equipment	9163 Grandall Excavator	425,000
Noise Insulation Program	8846C Noise Insulation Improvements	420,000
Technology Improvement Projects	11222 SFO Data Storage System	420,000
Capital Equipment	11110 CNG High Speed Sweeper	420,000
Technology Improvement Projects	9171 Network Monitoring & Management	400,000
Capital Equipment	11094 Mower	360,000
Capital Equipment	9145B Mower	325,000
Capital Equipment	9162 CNG Emulsion Truck	260,000
Security Improvements	11099 CTX Remote Start-Stop System	250,000
Capital Equipment	11162 Motorized Aircraft Passenger Air Stairs	195,000
Support Facility Improvements	9330 IT Museum Public Video Screening	150,000
Technology Improvement Projects	8868 Business Continuity of Operations	110,000
Capital Equipment	9153 Asphalt Drum Roller	85,000
Technology Improvement Projects	8968 Network Security	67,000
Capital Equipment	11092 Flatbed (2)	(5,000)
Capital Equipment	9155 CNG High Speed Air Sweeper	(20,000)
Capital Equipment	11098 Gradall Material Handler	(110,000)
South Field Redevelopment Program	10050 Fire House No. 3 (FH3) and South Field Checkpoint Relocation	(1,491,569)
<b>Airport Support Total</b>		<b>489,265,228</b>
Airtrain Extension	10504 AirTrain Extension	172,075,000
Additional Long Term Parking Garage	9273 Second Long Term Parking Garage	101,613,947
Roadway Improvements	10670 Intersection Improvements	26,800,000
Parking & Garage Improvements	10561 Central Garage Elevators, Escalators, and Moving Walks	19,000,000
AirTrain Improvements	10509 AirTrain Control Systems Upgrade	8,000,000
Roadway Improvements	9049 Variable Message Signs Replacement	7,900,000
Viaduct Improvements	4106 Terminal Upper Level Viaduct Improvements, Phase II	6,350,000
Viaduct Improvements	4105 Terminal Upper Level Viaduct Improvements, Phase I	6,120,000
Parking & Garage Improvements	10576 New Emergency Generator for Central Garage	4,000,000
Roadway Improvements	10566 North Link Road Traffic Signal Improvements	3,800,000

Airport Program	Project Name	Supplemental Project Total
Parking & Garage Improvements	8602 Domestic Garage Improvements	3,100,000
Parking & Garage Improvements	11145 Central Garage 5th Level ADA Doors	2,900,000
Parking & Garage Improvements	10648 Long Term Parking Guidance and Security System	2,750,000
Parking & Garage Improvements	10643 Tear Drop Lot Redevelopment in South McDonnell Road	2,740,000
Roadway Improvements	11137 Roadway Lighting Upgrades (TBDP002)	2,650,000
Parking & Garage Improvements	10516 West Field Garage Top Level Repairs and Coating	2,300,000
Parking & Garage Improvements	10513 Building 710 Parking Improvements	2,300,000
Security Improvements	9054 Coast Guard Rolling Gates 105 and 106 Replacement	2,200,000
Parking & Garage Improvements	8879B Central Garage CO Monitoring System Replacement	1,825,000
Parking & Garage Improvements	11144 Central Garage Tunnel Doors	1,650,000
Parking & Garage Improvements	10512 Lot D Improvements and PARCS Automation	1,100,000
Support Facility Improvements	8852 RAC First Floor Remodel	850,000
Parking & Garage Improvements	11207 Restripe of Lots C, D and DD	750,000
<b>Groundside Total</b>		<b>382,773,947</b>
Terminal 3 Redevelopment Program	10071 Terminal 3 West Improvements	752,000,000
Terminal 1 Program	10011 T1 - Central Area	638,478,848
Terminal 1 Program	10010 T1 - Boarding Area B Redevelopment	617,734,743
Terminal 1 Program	10012 T1 - Baggage Handling System	156,726,204
Net Zero Energy Program	11168 Net Zero Energy Program Support	100,000,000
International Terminal Refresh Program	11118 ITB Arrivals Level System Improvements	92,775,157
International Terminal Baggage Handling System	11002 ITB CBIS and BHS Modernization	91,950,000
Gate Capacity Enhancements	9302 Replace ARFF Rescue 88	91,217,500
CIP Program Support	10401 CIP Programmatic Support	47,300,000
Revenue Enhancement and Customer Hospitality (REACH) Program	9350 REACH Phase I	42,619,616
Terminal 3 Redevelopment Program	10076 Terminal 3 B/A F Passenger Boarding Bridges & Capacity Improvements	35,340,000
Revenue Enhancement and Customer Hospitality (REACH) Program	11123 Concession Improvements (REACH)	27,838,600
Terminal 1 Program	10005 T1 - Taxilanes H&M Relocation	24,286,707
Technology Improvement Projects	11211 Terminal Management System Upgrade	17,800,000
Technology Improvement Projects	9304 Public WiFi - Terminals	9,490,000
Terminal 1 Program	10003 T1 - Interim Boarding Area B & SSCP	8,389,276
International Terminal Improvements	10553 IT Fire Alarm System Upgrade	6,200,000
Miscellaneous Terminal Improvements	11071 Airport Terminals Public Address System Upgrades	5,920,000

<b>Airport Program</b>	<b>Project Name</b>	<b>Supplemental Project Total</b>
Terminal 1 Program	9185 T1 - Program Management Support	5,701,131
Miscellaneous Terminal Improvements	11054 New Boarding Area C Restrooms	5,600,000
International Terminal Improvements	10577 Upgrade ITB PC Air System	5,000,000
International Terminal Improvements	8519B B/A G A380 Improvements, Phase B	4,880,000
Revenue Enhancement and Customer Hospitality (REACH) Program	11124 Service Animal Relief Areas (REACH)	4,520,000
Miscellaneous Terminal Improvements	11200 All-Terminals Meet & Greet Improvements	4,520,000
International Terminal Improvements	10667 IT Boarding Areas A & G Holdroom Furniture	4,500,000
Revenue Enhancement and Customer Hospitality (REACH) Program	9301 International Terminal Mini Parks (REACH)	4,050,000
Security Improvements	10568 Airport Domestic Terminals Fire Alarm System Upgrade	3,900,000
Miscellaneous Terminal Improvements	10666 Terminal 3 Boarding Area F Holdroom Furniture	3,300,000
Revenue Enhancement and Customer Hospitality (REACH) Program	10671 Boarding Area A Corridor Improvements	3,220,000
Miscellaneous Terminal Improvements	11009 Garage Lobby Tunnel Renovation Phase III (8579A)	3,200,000
Security Improvements	10559 Communication Center Infrastructure Improvements	3,100,000
Miscellaneous Terminal Improvements	11148 Installation of Airport Magnetic Stanchions	1,500,000
Miscellaneous Terminal Improvements	11107 HVAC Automation/Optimization Study	1,500,000
Technology Improvement Projects	10563 Common Use Self Service (CUSS) Ticketing Kiosks	1,380,000
International Terminal Improvements	10546 Automated Passenger Wait Time Technology	1,200,000
Technology Improvement Projects	11128 Common Use Self Service (CUSS) Check-in Kiosk Expansion	1,100,000
International Terminal Improvements	11165 IT Media Room	460,000
International Terminal Improvements	11170 B/A "A" Security Checkpoint Expansion	250,000
International Terminal Improvements	11208 Global Entry Office Expansion	151,601
Technology Improvement Projects	10622 Operational WiFi Improvements	31,000
International Terminal Improvements	11173 ITB Passenger Boarding Bridge Carpet Replacement (9159 addl scope)	(25,000)
<b>Terminals Total</b>		<b>2,829,105,383</b>
Net Zero Energy Program	11068 Energy Management & Control System (EMCS) Program	67,980,000
Power & Lighting Improvements	11214 Boarding Area 'A' 400 Hertz System Upgrade	8,000,000
Power & Lighting Improvements	11215 Utility Infrastructure Improvement Program	5,900,000
Power & Lighting Improvements	11198 Airport wide UPS Replacement and Upgrade	3,720,000
Central Plant Improvements	10523 Central Plant Renovation	3,344,228
Energy and Efficiency Improvements	11101 Airport Wide Power Distribution System Study	3,000,000
Energy and Efficiency Improvements	9165 Electric Vehicle Chargers Infrastructure at Cell Phone Lot	3,000,000

<b>Airport Program</b>	<b>Project Name</b>	<b>Supplemental Project Total</b>
Energy and Efficiency Improvements	11163 Energy Bench Marking and Building Integration Program	2,170,000
Storm Drain Improvements	8587B Storm Drain Pump Stations 1B and 1C Imp	2,143,000
West of Bayshore Improvements	8620 West of Bayshore Drainage Improvements	1,600,000
Water System Improvements	8704 West of Bayshore Water Mains Imp	1,250,000
Power & Lighting Improvements	11127 Solar Power Generation Feasibility Study	600,000
<b>Utilities Total</b>		<b>102,707,228</b>
<b>Grand Total</b>		<b>\$3,812,145,450</b>

Note: Negative project budgets for five projects are based on the difference between the original and revised budgets to ensure the appropriation amount tied back to the previously approved Capital Improvement Plan.



