

THE COUNCIL OF THE CITY OF NEW YORK

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Report of the Finance Division on the
Fiscal 2021 Preliminary Budget and the
Fiscal 2021 Preliminary Mayor's Management Report for the
Department of Information Technology and Telecommunications

March 3, 2020

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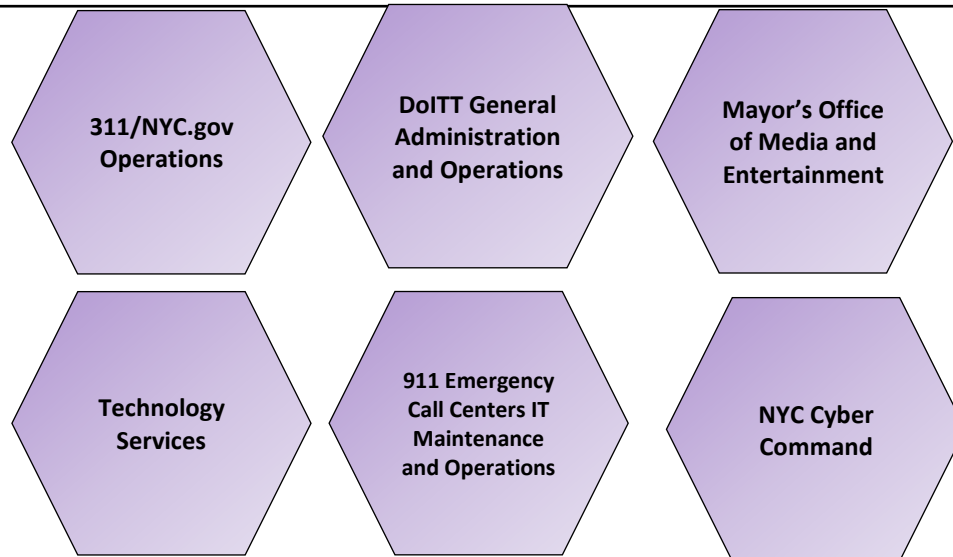
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Department of Information Technology and Telecommunications Overview

The Department of Information Technology and Telecommunications (DOITT) provides coordination across City agencies and technical expertise in the development and use of data, voice and video technologies in city services and operations.

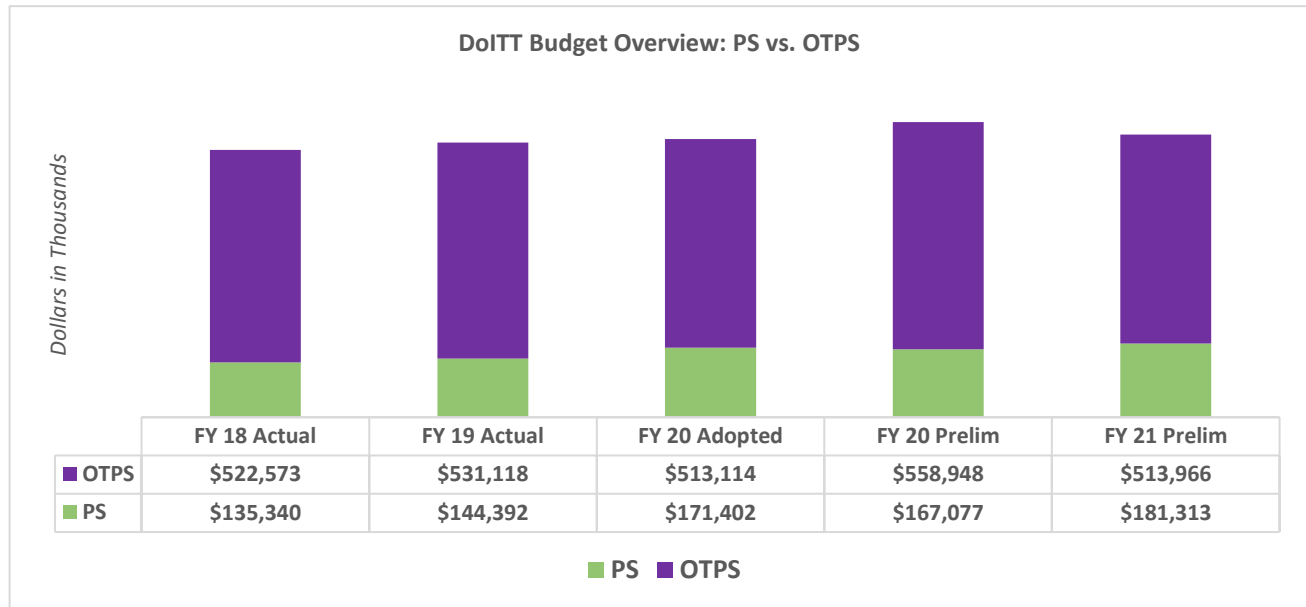


DOITT's actions include:

- Providing infrastructure support for data processing and communications services to city agencies;
- Researching and managing IT projects and administers the City's cable television, public pay telephone, and mobile and high capacity telecommunications franchises;
- Administering the 311 Customer Service Center and the City's broadcast/cable television and radio stations;
- Maintaining NYC.gov, the City's Official website;
- Administering the Open Data Portal, making over 2,710 datasets publicly available for download; and
- Administering the budget of the Mayor's Office of Media and Entertainment (MoME), which promotes NYC as a thriving center of creativity, issuing permits for productions filming on public property and facilitating production throughout the five boroughs.

Fiscal 2021 Preliminary Budget Highlights

The Department of Information Technology and Telecommunications' Fiscal 2021 Preliminary Budget totals \$695.2 million, including \$181.3 million for Personal Services (PS) to support 1,891 full-time employees and \$514 million in Other Than Personal Services (OTPS) funding. Figure 1 illustrates DOITT's actual spending in Fiscal 2018 and 2019, the Fiscal 2020 Adopted Budget, as of the Preliminary Plan for Fiscal 2020–2021.

Figure 1

DoITT's Fiscal 2021 Preliminary Budget schedules a \$10 million increase in PS and \$852,000 decrease in OTPS spending since the Fiscal 2020 Adopted Budget. Several highlights of the Department's budget are listed below.

Highlights

- **New Needs.** Since Adoption of the Fiscal 2020 Budget, DoITT has identified \$120,000 in new needs for Fiscal 2020 and baselines \$240,000 beginning in Fiscal 2021 for additional staffing needs at the Mayor's Office of Media and Entertainment (MoME).
- **Citywide Savings Program.** DoITT will generate budgetary savings of \$9 million in Fiscal 2020, \$6 million in Fiscal 2021, \$2.8 million in Fiscal 2022 and baselined savings of \$2.5 million beginning in Fiscal 2023. The largest savings comes from PS savings and from the decommissioning of systems the agency no longer needs and the introduction of more efficient processes across the agency.
- **Contract Budget.** DoITT's Fiscal 2021 Contract Budget totals \$234.7 million, which represents approximately 45.6 percent of the Department's entire Fiscal 2021 Preliminary Budget. DoITT's Contract Budget provides funding for the maintenance and security of many citywide technology systems.
- **New Units of Appropriation.** In Fiscal 2020 Preliminary Budget, the Council called on the Administration for additional Units of Appropriation (U/A) to bring a greater level of accountability and transparency to the City's spending priorities. Thus, DoITT's November 2019 Plan included six (6) new U/As that are listed below.
 - **911 Technical Operations – U/A 003 (PS) & 004 (OTPS).** Two U/As created (one for PS and one for OTPS). These two U/As will include budgetary information for the operation and maintenance and tech-related personnel costs related to the Emergency Communications Transformation Program (ECTP).

- **311 Services – U/A 007 (PS) & 008 (OTPS).** Two U/As created (one for PS and one for OTPS). These two U/As will include budgetary information for the operation and maintenance and personnel costs related to the 311 Customer Service Center.
 - **Administrative Operations – U/A 011 (PS) & 012 (OTPS).** Two U/As created (one for PS and one for OTPS). These two U/As will include budgetary information for all other sections of DoITT's budget, including facilities costs, human resources, general contracts, and other areas of DoITT's budget.
- **DoITT Capital Program.** DoITT's Fiscal 2020 - 2024 Capital Commitment Plan totals \$523 million for technology equipment and infrastructure, including \$164.9 million for upgrades and equipment for Public Safety Answering Center (PSAC) I and PSAC II.
 - **Miscellaneous Revenue.** The Preliminary Plan projects that DoITT will generate \$190 million in Fiscal 2020, including \$136.5 million from Cable Television Franchises and \$43 million from the generation of advertisement revenue from LinkNYC.
 - **Performance Highlights.** Notable performance metrics reported in the Preliminary Mayor's Management Report (PMMR) related to DoITT include the following.
 - ✓ Projects Completed on time, which looks at how effective the Department is in completing projects on schedule has increased from 88 percent to 92 percent (a 4 percent increase) since Fiscal 2017.
 - ✓ Outages decreased by more than 24 percent and were resolved twice as fast as the previous reporting period. Critical priority incidents were resolved within customer service level agreements 88.8 percent of the time.
 - ✓ DoITT published 2,710 datasets on the Open Data portal as of October 31, 2019, an increase of 23 percent compared to the same date last year.
 - ✓ Average time to resolve all service incidents (days) which analyzes DoITT's effectiveness in addressing reported service incidents.

Financial Plan Summary

Table 1

Department of Information Technology and Telecommunications Financial Summary						
	FY18	FY19	FY20	Preliminary Plan		*Difference
<i>Dollars in Thousands</i>	Actual	Actual	Adopted	FY20	FY21	FY20 - FY21
Spending						
Personal Services (PS)	\$135,340	\$144,392	\$171,402	\$167,077	\$181,313	\$9,911
Other Than Personal Services (OTPS)	\$522,574	\$531,119	\$513,115	\$558,949	\$513,967	\$852
TOTAL	\$657,914	\$675,511	\$684,517	\$726,026	\$695,280	\$10,763
Budget by Program Area						
311/NYC.gov	\$51,980	\$53,100	\$51,695	\$52,061	\$45,242	(\$6,453)
911 Emergency Call Center's IT						
Maintenance & Operations	\$85,594	\$70,766	\$98,490	\$84,727	\$94,899	(\$3,591)
DoITT General Administration and						
Operations	\$77,566	\$73,327	\$76,998	\$87,277	\$63,165	(\$13,833)
NYC Cyber Command	\$22,201	\$59,157	\$95,346	\$100,105	\$135,262	\$39,916
MoME	\$22,181	\$18,440	\$24,264	\$32,536	\$24,135	(\$129)
Tech Services	\$398,391	\$400,721	\$337,722	\$369,319	\$332,576	(\$5,148)
TOTAL	\$657,914	\$675,511	\$684,517	\$726,026	\$695,280	\$10,763
Funding						
City Funds			\$520,423	\$510,903	\$548,509	\$28,085
Other Categorical			\$2,639	\$12,285	\$2,651	\$12
Capital - IFA			\$2,020	\$2,020	\$0	(\$2,020)
State			\$14,841	\$25,655	\$0	(\$14,841)
Federal – Community Development			\$1,677	\$3,207	\$1,690	\$13
Federal - Other			\$950	\$1,632	\$885	(\$65)
Intra City			\$141,967	\$170,324	\$141,545	(\$421)
TOTAL	\$657,914	\$675,511	\$684,517	\$726,026	\$695,280	\$10,763
Budgeted Headcount						
Full-Time Positions	1,493	1,546	1,823	1,826	1,891	68
TOTAL	1,493	1,546	1,823	1,826	1,891	68

*The difference of Fiscal 2020 Adopted Budget compared to Fiscal 2021 Preliminary Budget.

In the Preliminary Plan, DoITT's Fiscal 2021 Budget of \$695.3 million is divided across six program areas of which Technology Services is the largest accounting for 48 percent of the Department's total budget. DoITT's Fiscal 2021 Budget includes \$141.5 million in Intra-City payments from other City agencies for telecommunications, data, and consultant services and support for which DoITT coordinates payments, which constitutes 20.3 percent of the Department's total funding for Fiscal 2021. The Fiscal 2021 Budget will likely increase as year-to-year needs are adjusted and unused funding from ongoing projects is rolled forward.

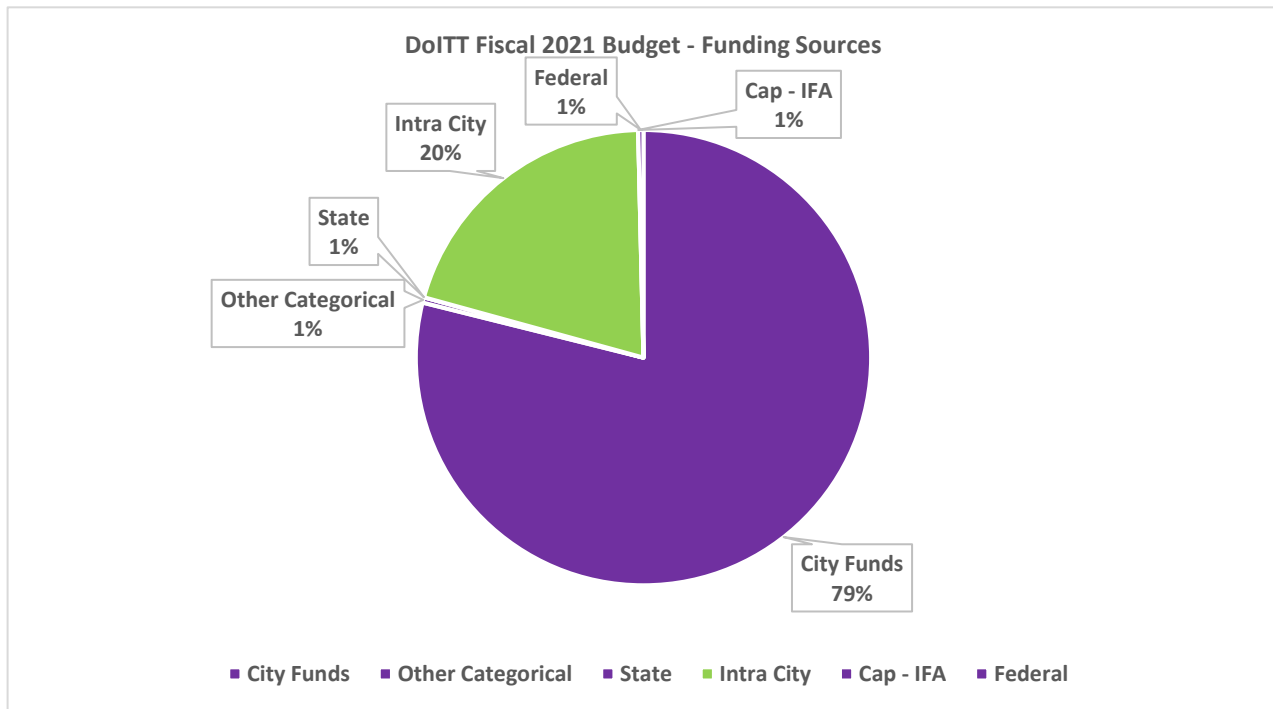
DoITT's Fiscal 2021 Preliminary Budget is \$10.7 million more than the Fiscal 2020 Adopted Budget of \$684.5 million, an increase of 1.5 percent. This increase can be attributed to the planned build-up of the City's cyber defense efforts, working across more than 100 agencies and offices to prevent, detect, respond, and recover from cyber threats.

DoITT's Fiscal 2020 Preliminary Budget has increased by \$41.5 million, or 16.5 percent, since Adoption and is in large part the result of additional intra-city funds primarily for software licenses and telecommunications expenses incurred by other agencies. It is typical for these expenses to be adjusted upward throughout the fiscal year resulting from higher than projected usage.

Figure 2 below highlights that the majority of DoITT's funding for the Fiscal 2021 Preliminary Budget consist of City funds, accounting for 79 percent of the Department's funding. The second largest

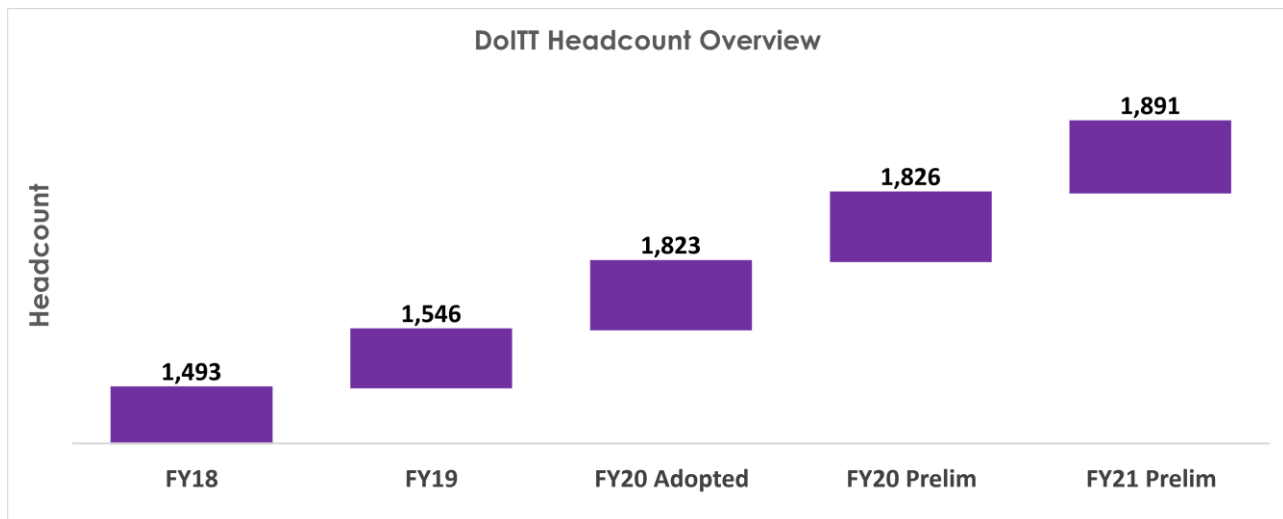
funding source, at 20 percent, is intra-city payments from other city agencies for telecommunications, data, and consulting services and support for which DoITT coordinates payments. The remaining portion of DoITT's budget is represented by Other Categorical funding sources.

Figure 2



Headcount

Figure 3



The Department's Fiscal 2021 PS budget of \$181.3 million provides for 1,891 full-time positions across its multiple program areas. As of November 2019, the Department had a full-time vacancy rate of 12.3 percent, equivalent to 225 vacant positions. The Citywide Technology Services program area has the largest headcount, totaling 775 full-time budgeted positions and comprises 41 percent of the Department's entire staff for Fiscal 2021. The increase in the Department's Fiscal 2021 headcount is mainly attributed to increased staffing needs for New York City Cyber Command, which has 186

budgeted positions in the current fiscal year, and is expected to grow to 267 budgeted positions in Fiscal 2021.

Changes introduced in the November 2019 Plan and the Fiscal 2021 Preliminary Plan have adjusted the Department's headcount and funding. These changes includes four new positions for MoME beginning in Fiscal 2021, which is discussed in the "Program Area" section of this report.

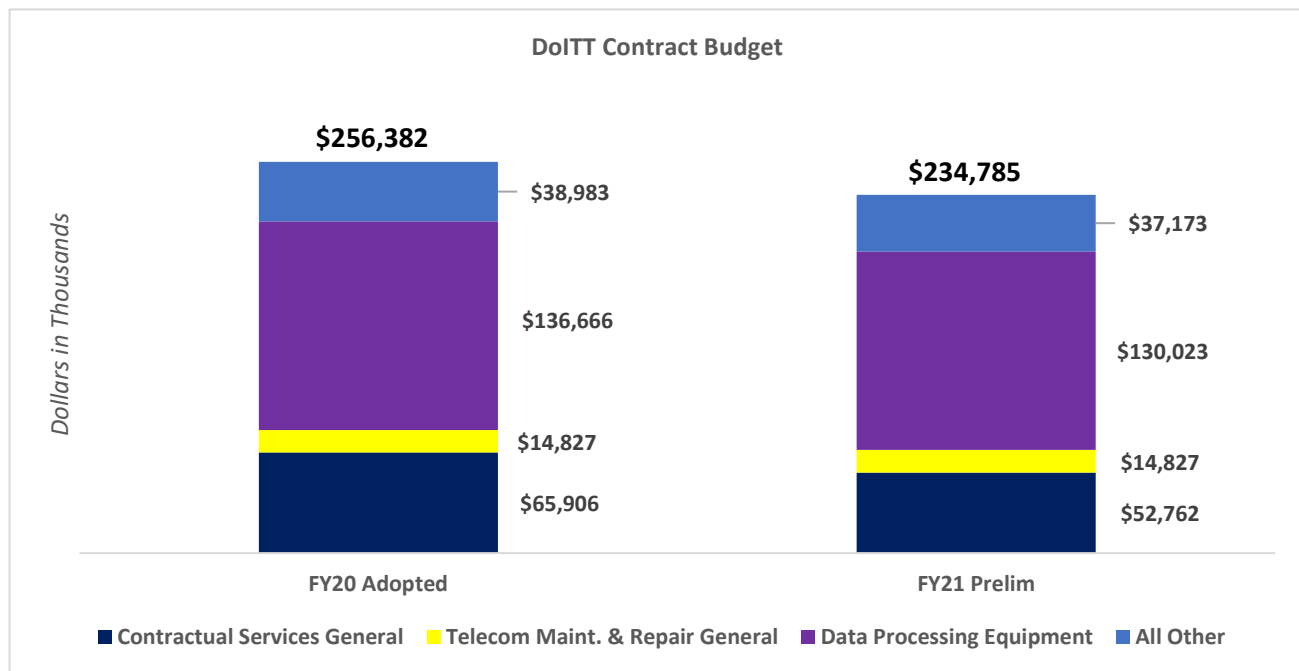
Financial Plan Actions

- **Personal Services Savings.** In the November 2019 Plan, DoITT registered an expected one-time saving of \$4.4 million in Fiscal 2020 through PS accruals generated by vacant positions across the agency.

Contract Budget

The New York City Charter mandates the preparation of a Contract Budget to identify expenditures for contractual services, which are defined as any technical, consultant or personnel service provided to the City by means of a contract. The Contract Budget is actually a subset of the OTPS portion of the City's Expense Budget. The Administration prepares a Contract Budget twice each fiscal year. In January, it is prepared with the Departmental Estimates, and in late April it is submitted to the Council with the Executive Budget. The Fiscal 2021 Preliminary Contract Budget totals \$16.9 billion for procurement across all agencies.

Figure 4

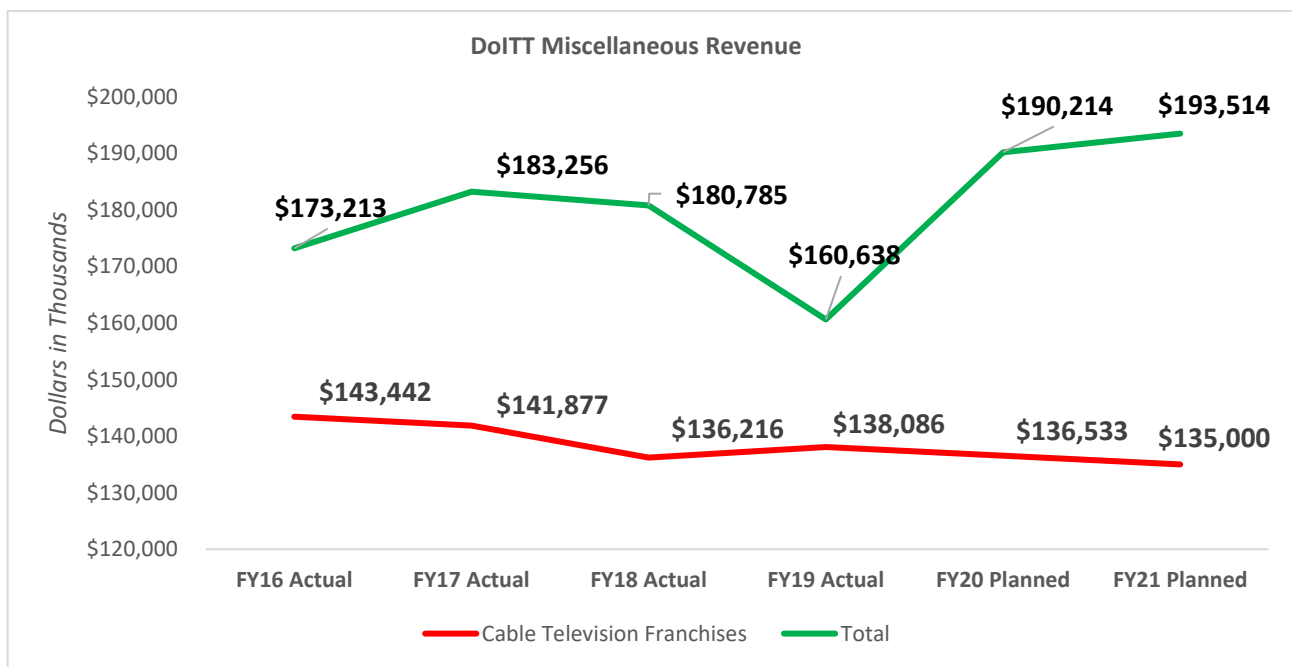


The Department's Fiscal 2021 Contract Budget totals \$234.7 million for 136 contracts, accounting for 45.6 percent of the Department's Fiscal 2021 OTPS Budget. Contracts for Data Processing Equipment and General Contractual Services comprise a substantial portion, accounting for 55.3 percent and 22.5 percent respectively, of the Department's total Fiscal 2021 contract budget. DoITT's Contract Budget includes funding for the technical maintenance of several of the city's major technology systems including the 311 Customer Service Center, the 911 Public Safety Answering Centers (PSAC) I and II and the New York City Wireless Network (NYCWiN). Additionally DoITT provides computing

services to City agencies in meeting their information processing needs and implements a single data communications network among City agencies through the City Net system, which is later charged back to those agencies through an inter-city billing process. Some of DoITT's expense contracts are reviewed and adjusted on a year-to-year basis. For additional information regarding DoITT's Contract Budget, please refer to Appendix B.

Miscellaneous Revenue

Figure 5



DoITT generates revenue from a wide variety of sources that include Cable Television Franchises, and advertising revenue from LinkNYC kiosks, amongst others. Figure 5 shows the Department's major miscellaneous revenue sources. Miscellaneous revenue generated by the Department contributes to the City's General Fund, and is not a dedicated funding source for the Department. The Preliminary Budget projects that the Department will generate Miscellaneous Revenue totaling \$193.5 million in Fiscal 2021. DoITT's miscellaneous revenue collections decreased to \$160.6 million in Fiscal 2019. This decrease was brought about in part by City Bridge, the entity responsible for the management of the LinkNYC kiosks, paying \$2.6 million of its shared revenue to the Department for Fiscal 2019. According to its contract, the minimum annual guaranteed was \$27.5 million. According to the Department, it is currently working with City Bridge to recoup funding that it has not paid to the City in advertisement revenue for Fiscal 2019. For additional information regarding DoITT's miscellaneous revenue streams, please refer to Appendix C.

Program Areas

Figure 6

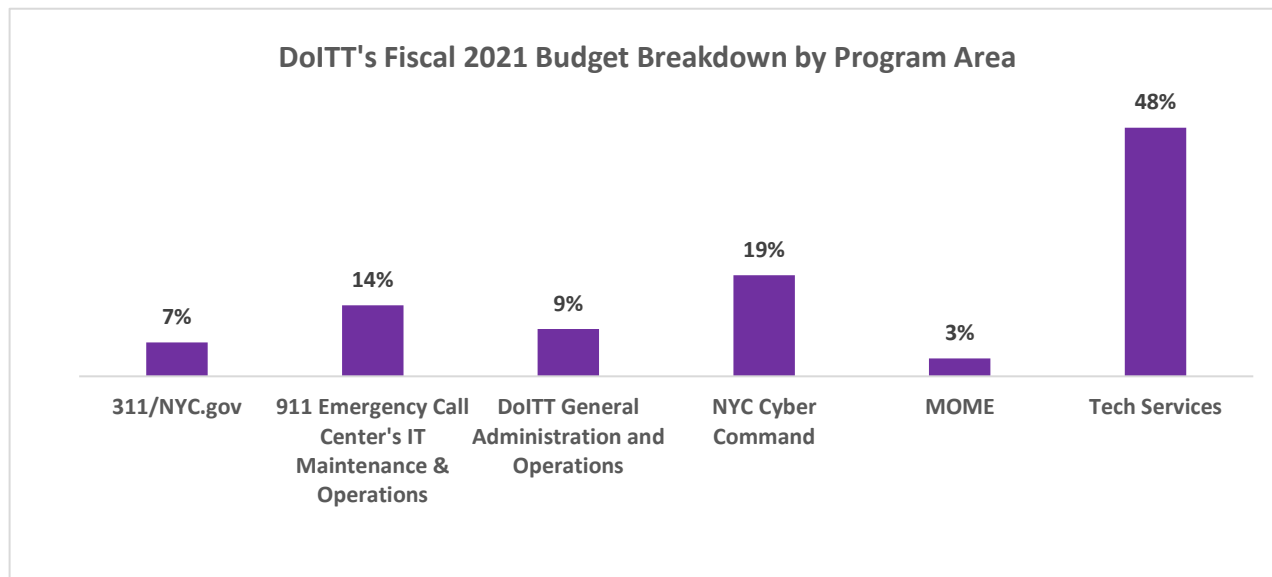
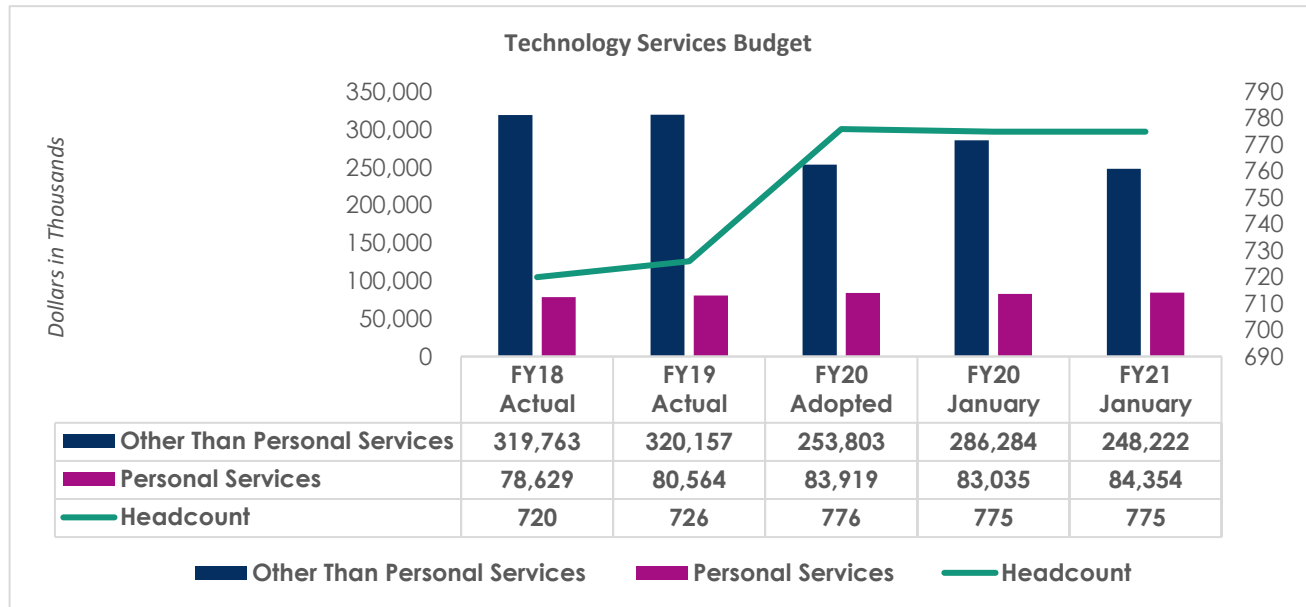


Figure 6 shows how DoITT's budget is distributed across functional areas. DoITT's Tech Services, which encompasses all technological aspects of the budget, encompasses the largest program area in its budget, accounting for \$332.5 million, or 48 percent of its total budget in Fiscal 2021. This program area is responsible for operating and maintaining the City wireless network that DoITT provides. In the November 2019 Financial Plan, DoITT created six new U/As in an effort to make their budget more transparent, and includes two new U/As for 911 Technical Operations, two for 311 Services, and two for DoITT General Administration and Operations.

Citywide Technology Services

The Citywide Technology Services program area is responsible for operating and maintaining the City's wireless network, also known as NYCWiN, which was created to support public safety and other essential City operations. It is a highly-secure and redundant wireless network that provides agencies with real-time access to high-speed voice, video, and data communications throughout the five boroughs. Additionally, this program area contains the costs for general IT security of all of the City's databases.

During the Fiscal 2020 Preliminary Budget hearing held last year, DoITT stated that it expects a full shutdown of NYCWiN in June 2020, followed by an 18-24 month period to decommission the physical aspects of NYCWiN. However, DoITT has yet to register savings associated with the shutdown of NYCWiN.

Figure 7

The proposed Fiscal 2021 budget for the Citywide Tech Support Services program area totals \$332.5 million, and includes \$84.3 million in PS funding to support 775 full-time positions. This program area includes \$124.7 million in intracity funding in Fiscal 2021 accounting for 37.5 percent of the Technology Services Budget. The majority of the intracity funding is allocated for data processing equipment and telecommunication maintenance for all City agencies.

Financial Plan Actions

- IT Decommissioning & Efficiency Savings.** Since Adoption, DoITT expects to generate savings of \$3.1 million in Fiscal 2020 and another \$4.4 million in Fiscal 2021 from decommissioning systems the agency no longer needs and the introduction of more efficient processes. DoITT plans to achieve savings targets by decommissioning and discontinuing software licenses, subscriptions, and support services, such as SAS products, decommissioning of HP servers, NetApp support cost reductions, and through better pricing negotiations with vendors.

Preliminary Mayor's Management Report (PMMR) Performance Measures

Table 1

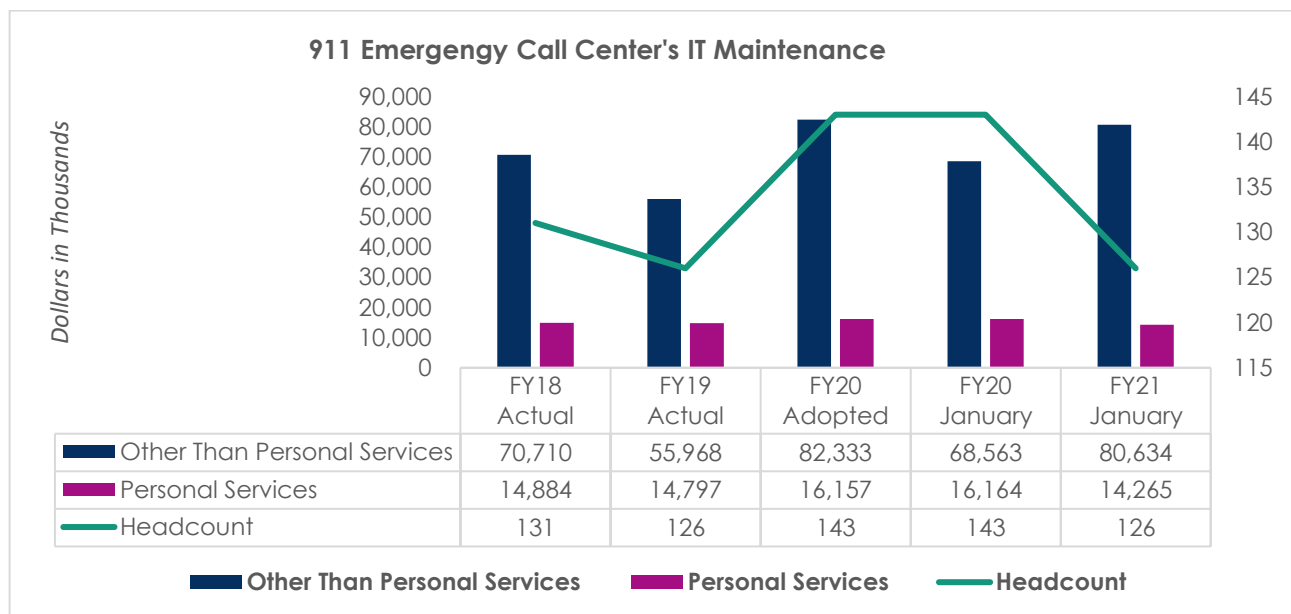
DoITT Critical Performance Indicators	Actual			Target		4-Month Actual	
	FY17	FY18	FY19	FY20	FY21	FY19	FY20
Ave. uptime of key systems (%)	99.36%	99.59%	99.66%	99.99%	99.99%	99.89%	99.92%
Ave. time to resolve all service incidents (days)	1.3	1.6	1.5	3.0	3.0	1.7	1.8
Service Incidents	260,045	260,060	281,475	*	*	99,118	98,304
Ave. time to resolve service incidents - Critical (days)	1.3	0.4	0.4	0.1	0.1	0.6	0.1
Ave. time to resolve telecomm incidents (days)	4.6	8.0	6.4	*	*	9.9	5.5
↑↓ Directional Target * None							

During the first four months of Fiscal 2020, DoITT maintained an average uptime of its key systems of 99.92 percent, which is a slight increase over the same period in Fiscal 2019. DoITT continues to make upgrades to systems and network infrastructure, such as upgrading the CityNet network, and working with city agencies to ensure their applications are resilient and redundant for business continuity. DoITT also saw a slight increase in average time to resolve incidents in the first few months of Fiscal 2020 compared to the same period in Fiscal 2019. DoITT also improved its average time to solve critical incidents. This is due in part by the refinement of monitoring processes, 24/7 infrastructure coverage in key areas and the continual fine-tuning and leveraging of monitoring appliances. Additionally, DoITT improved the average time to resolve telecommunications incidents by 44 percent, compared to last year, which is due to new training programs and administrative support for technical staff.

911 Emergency Call Center's IT Maintenance & Operations

The City continues to work on Stage 2 of planned upgrades and enhancements to its 911 Emergency System. The objective of the program is to modernize and consolidate the City's 911 emergency communications system. The operations include expense and capital funding for the following: Public Safety Answering Center I (PSAC); PSAC II; the computer automated dispatch system; radio; telephone and wireless equipment; and FDNY, NYPD and EMS facilities and equipment. Since 2004, the City has committed (contracted out) more than \$1.9 billion in capital funds for the Emergency Communications Transformation program (ECTP), now known as the 911 Emergency Call Centers.

Figure 8



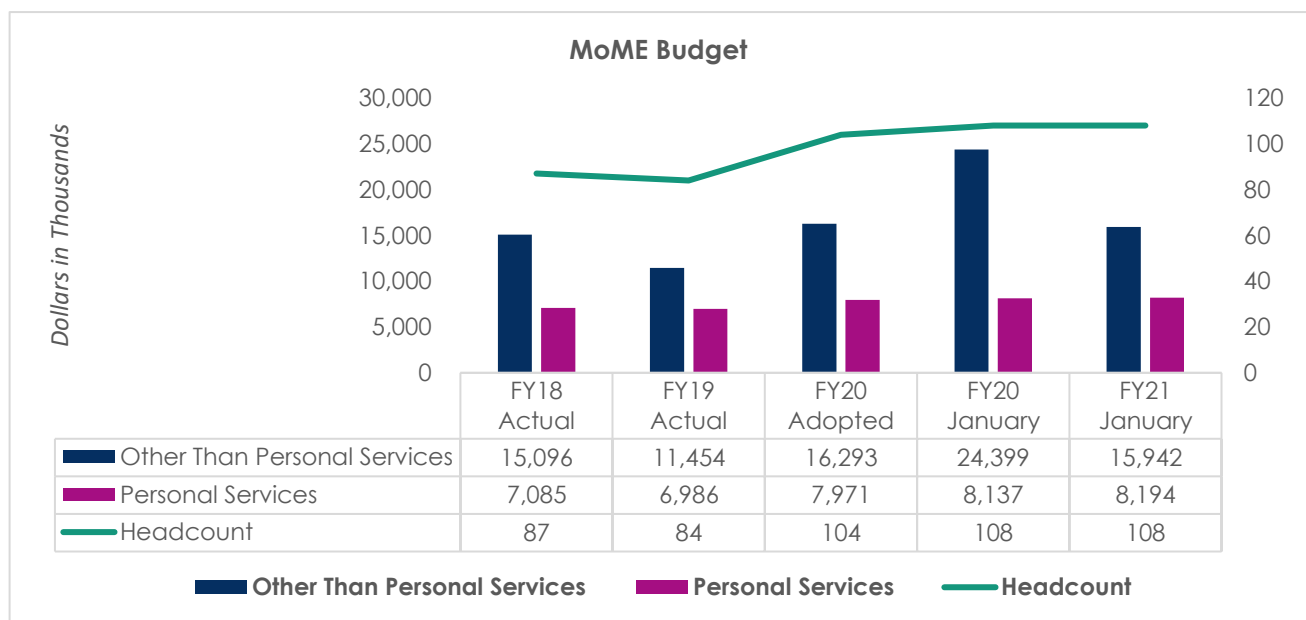
The 911 Emergency Call Center's IT Maintenance & Operations program area's proposed budget for Fiscal 2021 totals \$94.9 million, and includes \$14.2 million in PS funding to support 126 full-time positions. The program area's Fiscal 2020 Budget includes \$2 million in capital inter-fund agreement (IFA) funding, which supports 17 positions associated with specific capital projects. These positions have yet to be recognized in Fiscal 2021. Because IFA positions are evaluated on a year-to-year basis, it is anticipated that headcount associated with IFA's will be adjusted in the upcoming financial plan. According to the Department, part of the reason why OTPS funding increased in the Fiscal 2020 Budget is due to the timing of receiving intra-city funding transfers from other agencies to pay their

portions of the Enterprise License Agreement (ELA) costs. DoITT has temporarily reallocated funding from the Fiscal 2020 Preliminary Budget to pay ELA related invoices. Additional funding for ECTP-related costs, including 911 call takers, is included in the budgets of the NYPD and FDNY.

Mayor's Office of Media and Entertainment (MoME)

The Mayor's Office of Media and Entertainment includes the Mayor's Office of Film, Theater and Broadcasting, which encompasses film, television, radio, theater, music, advertising, and others as it relates to creative industries, and NYCTV, the official broadcast network and media production group of the City of New York. The program area also includes the Film Incentive Program, which incentivizes film and television production companies to film in the five boroughs. Production companies are offered incentives and discounts, along with expanded customer services for production, which includes: NYC's marketing credit; cultural benefit; vendor discounts; logo; concierge services; expanded facilities and labor enhancements.

Figure 9



MoME's proposed budget for Fiscal 2021 totals \$24.1 million, and includes roughly \$8.1 million in PS funding to support 108 full-time positions. The budget for the Film Incentive Program for Fiscal 2021 totals \$13.5 million, which has replaced the City's film tax credit program. This program area includes approximately \$1.6 million in PS funding for the Mayor's Office of Film, Theater and Broadcasting with 24 positions, \$1.9 million in PS funding to manage the Film Incentive Program with 21 positions, \$459,128 to manage the Mayor's Office of Nightlife with six positions, and \$4.1 million to manage NYC TV, with 57 positions.

The increase in the Preliminary Budget for Fiscal 2020 is attributable to \$8.2 million in Government Education Access Grants that have not yet been recognized in the Fiscal 2021 Budget.

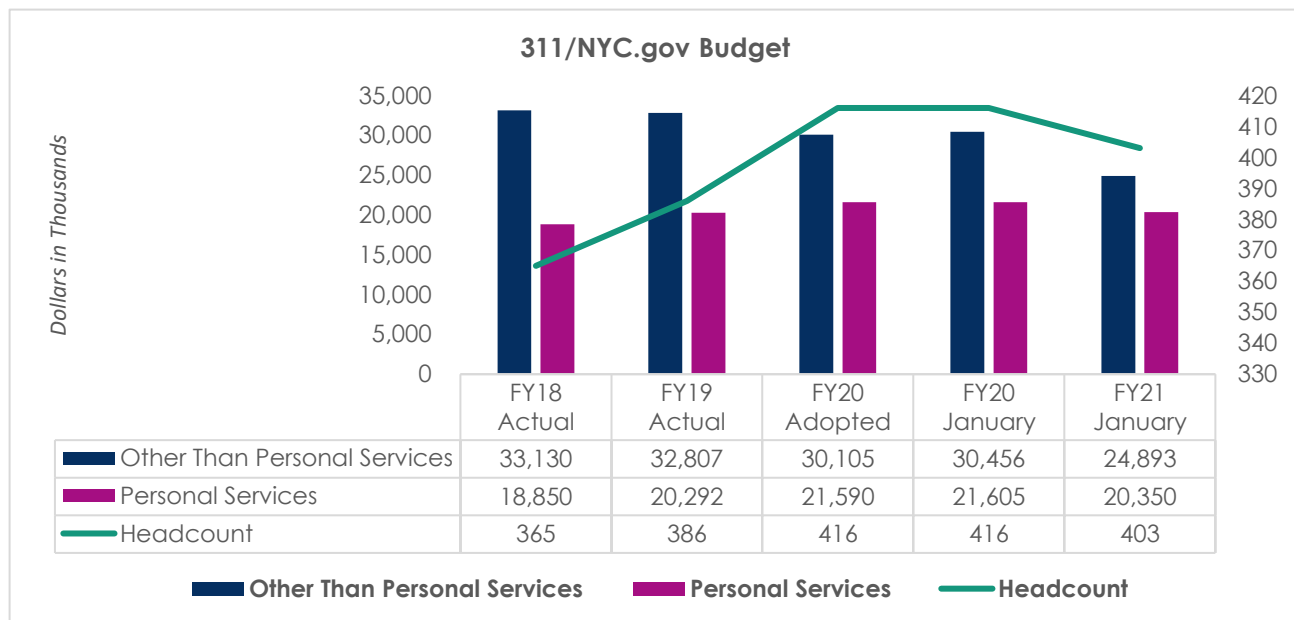
Financial Plan Actions

- **Mayor's Office of Nightlife.** In the Fiscal 2021 Preliminary Plan DoITT added two new positions and baselined a total amount of \$120,000 for Fiscal 2021 – 2024. The Office will oversee nightclubs and cabarets in New York City. It will help nightclubs navigate the approval process for licenses and permits, review neighborhood complaints, make policy recommendations and advise the Administration on trends affecting the industry.
- **Mayor's Office of Film, Theater and Broadcasting.** In the Fiscal 2021 Preliminary Plan DoITT added another two positions and baselined a total of \$120,000 for Fiscal 2021– 2024.
- **MoME – Incentive Fund Savings.** In the Preliminary Plan the Mayor's Office of Media and Entertainment expects to generate savings of \$328,000 in Fiscal 2020 and 2021 through the delayed implementation of initiatives that support the local media industry.

311/NYC.gov Operations

The 311/NYC.gov program area is broken up into four different budget codes, and is responsible for operating and maintaining the 311 Customer Service Center and NYC.gov, the City's official website. 311's mission is to provide the public with quick, easy access to all New York City government services and information while maintaining the highest possible level of customer service.

Figure 10



The 311/NYC.gov operations proposed budget for Fiscal 2021 totals \$45.2 million, and includes \$20.3 million in PS funding to support 403 full-time positions. The funding will allow the 311 Call Center to work with City stakeholders to deliver a more customer-centric, cost-effective system and help modernize the Customer Relationship Management (CRM) software. Headcount decreases in Fiscal 2021 as positions are transferred to the General Administration and Operations program area as part of the budget realignment.

311 PMMR Performance Measures**Table 2**

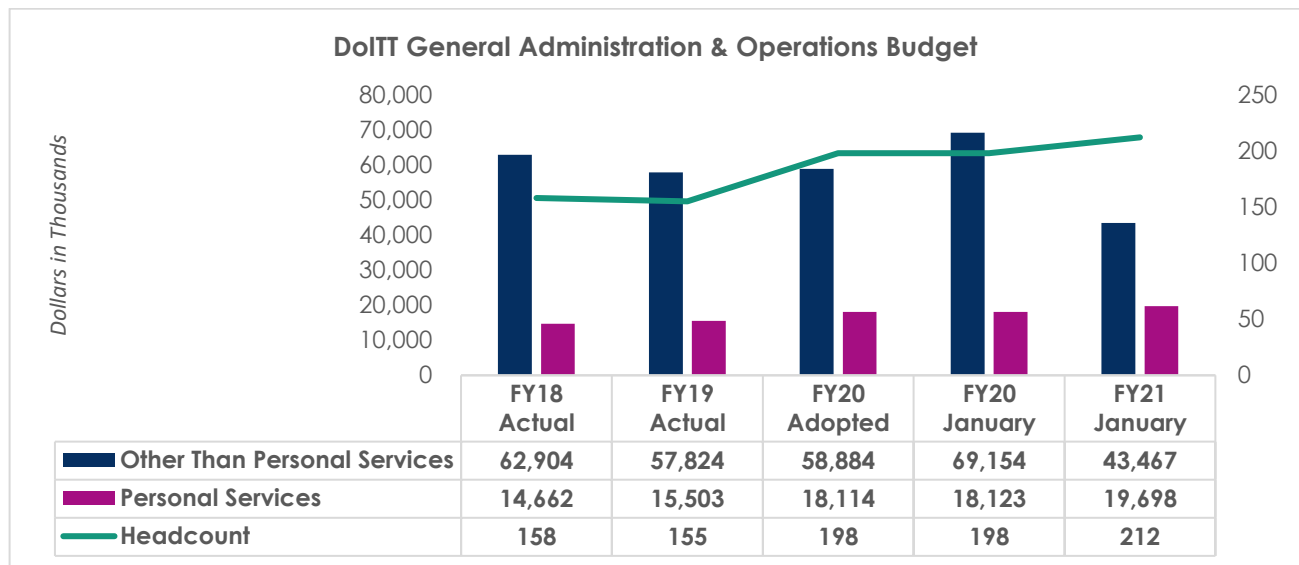
311 Critical Performance Indicators	Actuals			Target		4-Month Actual	
	FY17	FY18	FY19	FY20	FY21	FY19	FY20
311 Calls (000)	20,540	20,618	19,541	*	*	5,968	5,929
311 Online Site Visits (000)	17,246	19,345	20,185	↑	↑	6,517	3,131
311 mobile app contacts (000)	1,365	1,829	2,234	*	*	657	623
311-NYC (text) contacts (000)	144	254	253	*	*	76	78
Average wait time (tier 1 calls) (minutes:seconds)	0:18	0:28	0:26	0:30	0:30	0:23	0:22
Calls Answered in 30 seconds (%)	85%	81%	82%	80%	80%	82%	86%
NYC.gov unique visitors (average monthly) (000)	4,559	4,358	4,373	↑	↑	4,258	4,208
↑↓ Directional Target * None							

During the first four months of Fiscal 2020, 311 received nearly 9.8 million inquiries via phone, 311 Online, Mobile app and text, which represents a decrease of 1.2 percent compared to the first four months of Fiscal 2019, according to the PMMR. The 311 Customer Satisfaction Survey, which was conducted and published by the CFI Group, evaluated the experiences of 765 callers. According to the PMMR, the initial Fiscal 2020 total composite survey score above 85 percent is well above the federal government and private sector averages for call centers, which shows a seven-point improvement from the 2008 baseline measure.

Additionally, during the same reporting period, the average wait time was 22 seconds, which is a decrease of one second. 311 answered 86 percent of calls within 30 seconds during the first four months of Fiscal 2020. Furthermore, regarding NYC.gov, it is anticipated that the amount of visitors will increase in the coming months, however, this performance indicator still does not have any specific targets set.

DoITT General Administration and Operations

This program area is responsible for operating and maintaining all other services that DoITT provides, including but not limited to, the maintenance of CityNet, the Citywide Service Desk and telecommunications systems; administering telecommunications franchise contracts providing fiber; cable television; and paying the cost for telephones and mobile telecommunication equipment installed on city property and streets. The agency also manages other large inter-agency technology projects. Its computer service center is designed to enhance the productivity and cost-effectiveness of over 25 city agencies to meet their information processing needs through 24-hour continuous online operations.

Figure 11

The proposed budget for this program area for Fiscal 2021 totals \$63.1 million, and includes \$19.6 million in PS funding to support 212 full-time positions. This includes \$8.4 million in intra-city funding in the Fiscal 2021 Preliminary Plan, accounting for 13.3 percent of the budget for Fiscal 2021.

DoITT PMMR Performance Measures

Table 4

DoITT Critical Performance Indicators	Actual			Target		4-Month Actual	
	FY17	FY18	FY19	FY20	FY21	FY19	FY20
Projects completed on time (%)	NA	NA	69%	75%	75%	75%	100%
Uptime of telecommunications network (Voice over Internet Protocol) (%)	99.93%	100.00%	100.00%	99.99%	99.99%	100.00%	100.00%
Data sets available for download on NYC.gov/OpenData	1,700	2,103	2,619	↑	↑	2,206	2,710
↑↓ Directional Target * None							

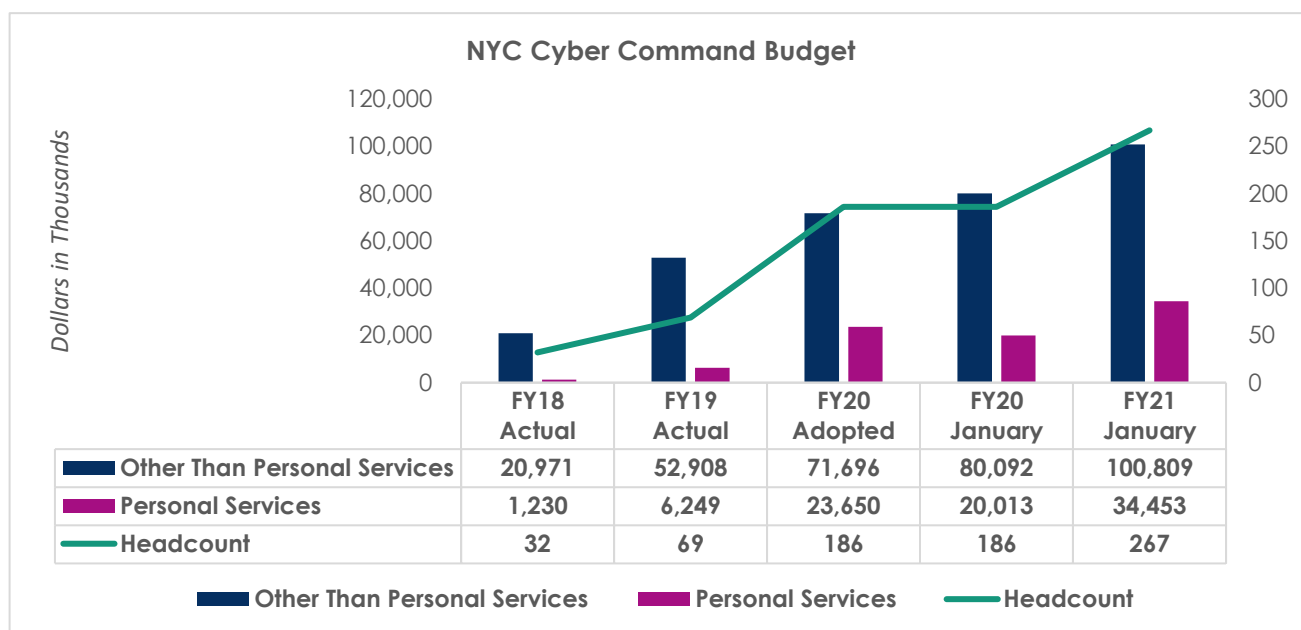
The percentage of DoITT-led citywide projects completed on time increased during the first four months of Fiscal 2020, when compared to the same 4-month period in Fiscal 2019. DoITT is evaluating project management and implementing best practices in an effort to return to earlier performance levels. Additionally, DoITT published 2,710 datasets on the Open Data Portal as of October 31, 2019, representing an increase of 23 percent when compared to the same date last year. DoITT continues to work closely with City agencies to ensure that data is continually updated to increase the frequency of available data in a consistent and user-friendly format on the Open Data website.

New York City Cyber Command

Since its creation in July 2017 by Mayoral Executive Order 28, the New York City Cyber Command (NYC3) has led the City's cyber defense efforts by directing citywide cyber defense and incident response, mitigating cyber threats, and providing guidance to the Mayor and other City agencies.

Using the latest technologies and leveraging public-private partnerships, NYC3 will work to protect, detect, respond, and recover from threats while setting citywide information security policies and standards. NYC Cyber Command has also assisted in protecting the digital lives of all New Yorkers. In March, 2018, the Administration announced a pioneering cybersecurity initiative called “NYC Secure”, a free mobile application aimed at protecting New Yorkers online, that has seen over 56,000 downloads. Cyber Command operates through an ‘umbrella perspective’, as numerous City agencies are integrated via Cyber Command’s threat management function in their standing incident response policy. This policy encompasses a tiered approach to different agencies based on their daily operations and composite of their own cyber security mission. Most notably, Cyber Command works in conjunction with other cyber security divisions in other agencies to resolve cyber security breaches, and/or works in a consultative capacity to provide aid to other divisions, which encompasses a technical review of their cyber security defenses, among other cyber security assessments.

Figure 12



New York City Cyber Command’s proposed budget for Fiscal 2021 totals \$135.2 million, with \$34.4 million in PS funding to support 267 full-time positions. One of the reasons why the Fiscal 2021 Budget is larger than the Fiscal 2020 Budget is a \$14.4 million increase in PS funding, as Cyber Command is expected to reach 267 full-time positions by Fiscal 2022. When compared to its current year budget, there is an increase of \$20.7 million in OTPS funding in its Fiscal 2021 budget, primarily driven by the purchase of cyber defense tools, the majority of which come in the form of software licenses to perform its operations.

Cyber Command operates through an ‘umbrella perspective’, as numerous City agencies are integrated via Cyber Command’s threat management function in their standing incident response policy. This policy encompasses a tiered approach to different agencies based on their daily operations and composite of their own cyber security mission. Most notably, Cyber Command works in conjunction with other cyber security divisions in other agencies to resolve cyber security breaches, and/or works in a consultative capacity to provide aid to other divisions, which encompasses a technical review of their cyber security defenses, among other cyber security assessments.

Capital Program Overview

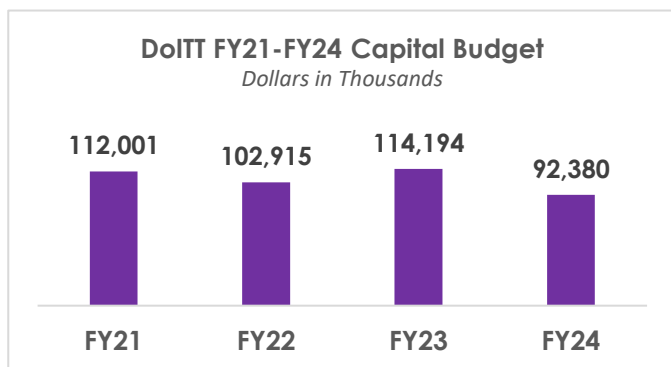
On January 16, 2020, Mayor Bill de Blasio released the Preliminary Capital Commitment Plan for Fiscal 2020-2024 (the Commitment Plan) and the Fiscal 2021-2024 Preliminary Capital Budget (the Capital Budget).

The following section will provide an overview of the Preliminary Commitment Plan and Capital Budget for DoITT. Each one of these documents should support and be well integrated with one another to properly execute the City's capital projects as well as meet its infrastructure goals. Below we will examine to what extent this is occurring, where improvements need to be made, and the overall feasibility of DoITT's capital program.

Preliminary Capital Budget for Fiscal 2021 - 2024

The Capital Budget provides the required appropriations for Fiscal 2021 and planned appropriations for the subsequent three-year program. Appropriations represent the legal authority to spend capital dollars and are what the Council votes on at the budget adoption. The Commitment Plan, which is a five-year spending plan, is the plan to spend those appropriations. The Capital Budget is significantly less than the Capital Commitment Plan because it does not include the current appropriations for Fiscal 2020 or the amount of funding that may be re-appropriated or rolled into Fiscal 2021 in the Executive and Adopted Budgets. The following provides an overview of the Capital Budget and Commitment Plan for DoITT.

Figure 12

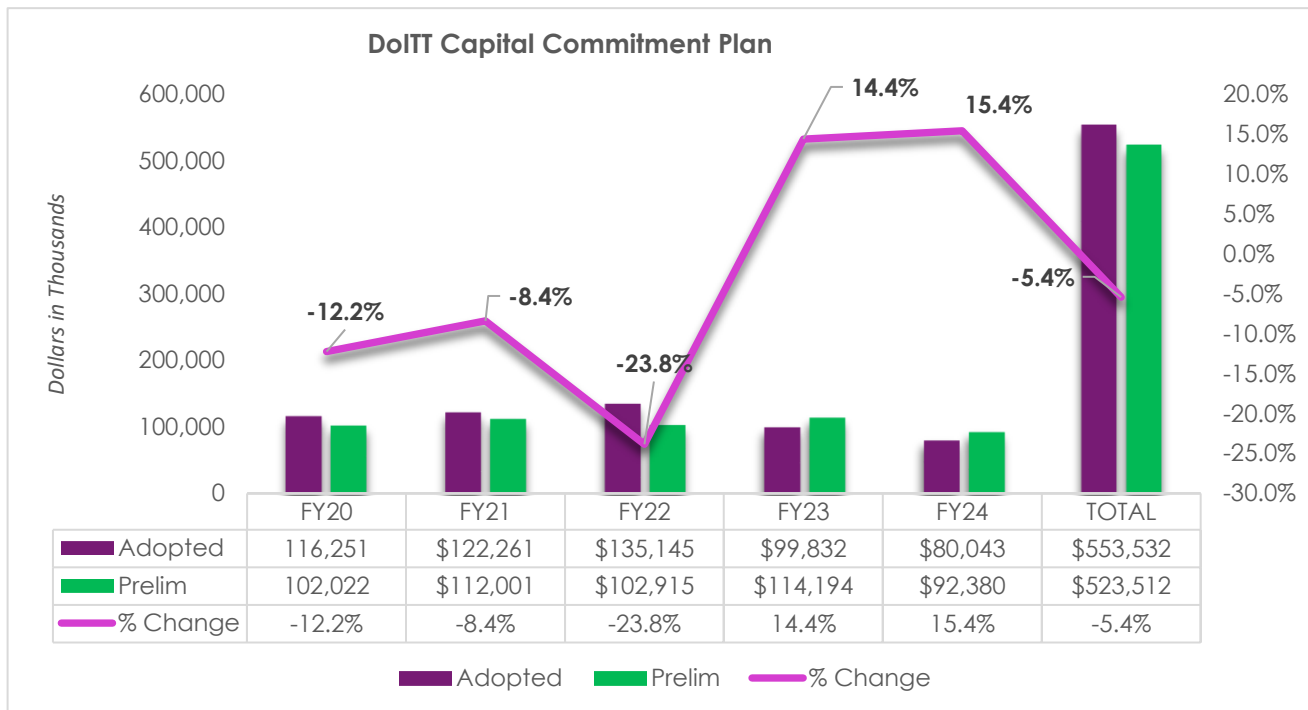


As shown in the chart at left, DoITT's Fiscal 2021 Preliminary Capital Budget includes \$421.5 million in Fiscal 2021-2024. This represents approximately one percent of the City's total \$53.9 billion Capital Budget for 2021-2024.

Preliminary Capital Commitment Plan for Fiscal 2020-2024

The City's Capital Commitment Plan details the Administration's plan to spend the appropriations voted on by the City Council at Adoption. The Commitment Plan provides project-level funding detail as well as an estimate of expenditure dates. It is through this document that we gain insight into a project's estimated cost, start date and time to completion.

The Department of Information Technology and Telecommunication's Preliminary Commitment Plan includes \$523.5 million in Fiscal 2020-2024. This represents approximately one percent of the City's total \$85.5 billion Preliminary Commitment Plan. The Capital Commitment Plan is significantly higher than the Capital Budget, because it includes the current year appropriations for Fiscal 2020. The amount of uncommitted appropriations from Fiscal 2020 will be re-appropriated or rolled into Fiscal 2021 in the Executive and Adopted Budgets.

Figure 13

The Preliminary Capital Plan for the Department for Fiscal 2020-2024 has decreased by \$30 million to a total of \$523.5 million, demonstrating 5.4 percent reduction when compared to the Department's Adopted Commitment Plan of \$553.5 million. This decrease can be attributed to the fact that the Department has redistributed capital funding from the Fiscal 2020-2024 timeframe into Fiscal 2025-2029 as a part of a citywide initiative to re-align the capital commitment plan.

Total appropriations for DoITT in Fiscal 2020 are \$198.6 million, against planned commitments of \$102 million.¹ This excess balance of approximately \$96 million in appropriations gives the Administration considerable flexibility within the capital plan. However, as the commitment of appropriations are legally bound to their budget line descriptions, this flexibility is more limited than it appears from this variance alone.

Historically, the Commitment Plan has frontloaded planned commitments for capital projects in the first year or two of the plan, and included unrealistically high planned commitments. At the Council's continued urging, this practice has largely ceased. Beginning with the Fiscal 2020 Executive Commitment Plan, agencies' Commitment Plans are now more accurate, reflecting a more evenly distributed planned spending across all years of the plan.

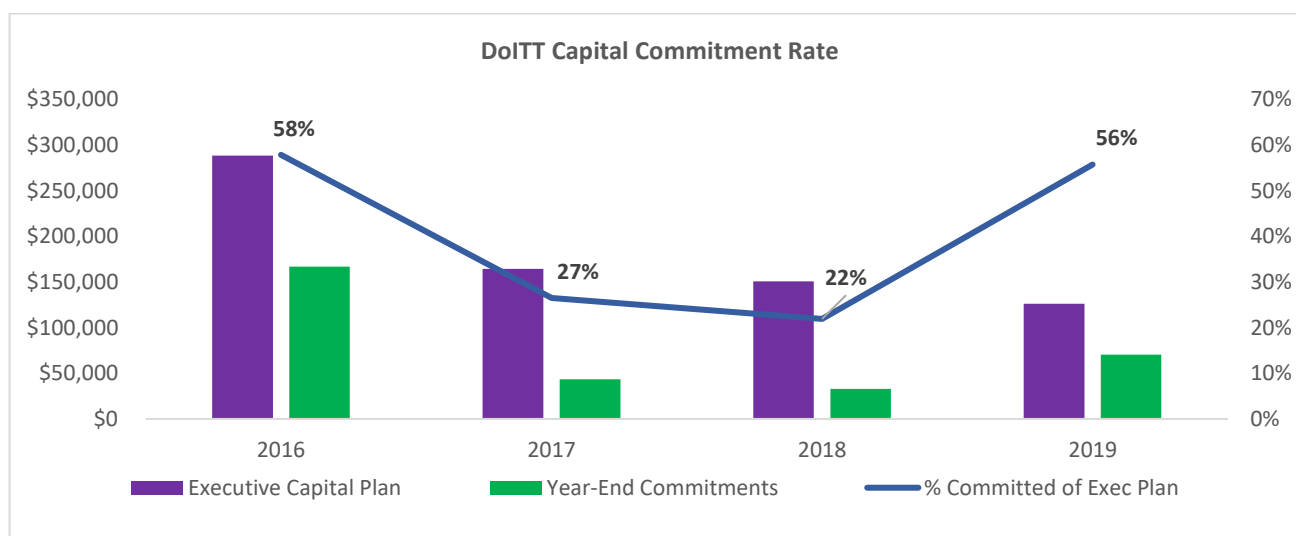
A natural result of more realistic timelines is capital projects extending beyond the Commitment Plan's five-year time frame. To address this, the Administration has added Section VII, titled *"Redistribution of the City's Capital Plan"* to the Commitment Plan. What this section does is increase the transparency of the Commitment Plan by showing the distribution of funding beyond the required

¹ Appropriations for Fiscal 2020 are calculated by summing the available appropriations listed in the commitment plan with actual commitments to-date. Because commitments to-date excludes inter-fund agreements (IFA) this figure may be slightly lower than the total appropriations for Fiscal 2020. In addition, a very small portion of the difference between appropriations and planned commitments are necessary to fund IFA, which are excluded from this planned commitments figure.

five years to ten years (Fiscal 2020 – 2029). This extension allows the Council and the public to better differentiate between movement beyond the years of the Commitment Plan and a simple elimination of funding. DoITT's ten-year total is \$895.9 million, which is \$372.4 million greater than the Department's five-year plan. Given the nature of the ever-changing and fast-paced world of technology, it is difficult to accurately budget tech-related projects in the outyears, as other tech-related needs may be identified as fiscal years progress. This increase is primarily associated with the Department's intent to budget tech-related projects as accurately as it can in its five-year plan.

DoITT had actual commitments of \$70.3 million in Fiscal 2019, which is equivalent to a commitment rate of 56 percent. The Department's history of commitments is shown in the chart below. Given this performance history, it is likely that DoITT will end this year with some unmet commitment targets and uncommitted appropriations available to roll into Fiscal 2021 and in the outyears.

The chart below displays the Department's capital commitment plan as of the Fiscal 2016 – 2019 Executive Budget and the actual commitments in the corresponding fiscal year. The chart below shows the capital commitment rate, which is the percentage of the capital plan committed per fiscal year.²



The reason why DoITT's Capital Commitment rate is volatile is that total commitments often increase significantly as projects near completion. In this instance, the increase in capital commitments for Fiscal 2019 was driven by changes in commitments for projects related to CityNet bandwidth upgrades, the re-architecture of the 311 Customer Service Management System (CSMS), upgrades to its server farm, among other projects.

Capital Budget Structure

DoITT's Capital Plan contains two budget lines, one for all general information technology (IT) services and cybersecurity related projects, and the second contains Emergency Communications Transformation Program (ECTP) related projects. Under the general IT services budget line, there are 34 projects, ranging from \$448,000 for final upgrades to the 311 Customer Service Management

² Note planned commitments are higher than the agency's "target commitments". Target commitments are a management tool used by OMB. They are "the actual aggregate levels that the managing agencies are expected to commit and against which their performance will be measured at the end of the fiscal year", and are not broken out between City and non-City funds.

System, to \$20 million to upgrade the citywide data center network. Additionally, this budget line contains a lump sum project line titled “DoITT’s EDP Projects – Current Year and Out-Year Planning”, with \$270.9 million in capital funds between Fiscal 2020 – 2024, where funding is allocated to ongoing electronic data processing (EDP) projects, and shifted to other projects as needs are identified. Lump-sum budget lines are not a transparent planning tool, and it is something that the Council has been addressing with the Administration.

Under the ECTP budget line, there are 31 projects, ranging from \$138,000 for final upgrades to the construction of the Joint Operations Center (JOC) for the Fire Department at PSAC1 to \$14.2 million for the reconstruction of PSAC1. The ECTP budget line also contains a lump-sum project line titled “Emergency Communications Systems & Facilities,” with \$136.5 million in capital funds between Fiscal 2020 – 2024, where funding is allocated to ongoing ECTP-related projects, and moved to other projects as needs are identified. In total, DoITT’s Fiscal 2020 – 2024 Capital Commitment Plan includes 65 projects.

The following tables show a breakdown of planned commitments from Fiscal 2020 – 2024 for both budget lines under DoITT’s Capital Plan, which are DP-0001 (general IT services) and DP-0002 (ECTP-related projects).

DoITT 2020-2024 Capital Commitment Plan (Budget Line DP-0001)						
<i>Dollars in Thousands</i>						
	2020	2021	2022	2023	2024	Total
Preliminary Plan	\$68,304	\$80,001	\$69,128	\$80,043	\$59,818	\$358,659
Adopted Plan	\$72,435	\$68,797	\$81,681	\$85,723	\$80,043	\$388,679
Change	(\$4,131)	\$11,204	(\$12,553)	(\$5,315)	(20,225)	(\$30,020)

Source: OMB Fiscal 2021 Preliminary Capital Commitment Plan

For budget line DP-0001 (all general IT service projects), in Fiscal 2020, the Department committed \$72 million, which resulted in a funding roll of \$30 million into Fiscal 2020 – 2024.

DoITT 2020-2024 Capital Commitment Plan (Budget Line DP-0002)						
<i>Dollars in Thousands</i>						
	2020	2021	2022	2023	2024	Total
Preliminary Plan	\$33,718	\$31,000	\$33,787	\$33,786	\$32,562	\$164,853
Adopted Plan	\$43,816	\$53,464	\$53,464	\$14,109	\$0	\$164,853
Change	(\$10,098)	(\$22,464)	(\$19,677)	\$19,677	\$32,562	\$0

Source: OMB Fiscal 2021 Preliminary Capital Commitment Plan

For budget line DP-0002 (ECTP-related projects), totals \$164.8 million between Fiscal 2020 – 2024, and no funding has been moved from this budget line, as the Department aims to spend all of its capital expenditures by Fiscal 2024. However, given its history in commitments, it is estimated that funding for this budget line will extend beyond Fiscal 2024.

2021 Preliminary Capital Budget Highlights

Major capital projects included in DoITT’s Preliminary Capital Plan for Fiscal 2020 – 2024 include the following.

- **Citywide VMWare ELA.** The Fiscal 2021 Capital Commitment Plan includes \$20 million to provide the necessary VMware licensing needs for a new 5-year ELA renewal for all City agencies, as the current Enterprise Licensing Agreement (ELA) has expired in December 2018.
- **PSAC II Room 305 Buildout.** The Fiscal 2021 Capital Commitment Plan includes \$2.3 million to expand the room of call taking operations at PSAC II in the Bronx, in order to have sufficient office space for these critical operations.
- **DoITT Privileged Access Management (PAM) Deployment.** The Fiscal 2021 Capital Commitment Plan includes \$20.4 million for the installation of PAM systems, which is a priority cybersecurity control. The PAM system efficiently limits administrative access/elevated privileges strictly to those who have an authorized business need for those credentials and provides a full audit of all actions taken using those credentials.
- **DoITT IP Network Infrastructure Upgrade.** The Fiscal 2021 Capital Commitment Plan includes \$11.4 million to replace the end-of-life (EOL) CityNet networking equipment supporting the local area network (LAN) and Wi-Fi access points, core distribution nodes, among others.

Other DoITT Managed Capital Projects

A portion of the capital funding for DoITT projects is housed in other areas of the Fiscal 2021 Capital Commitment Plan. These include approximately \$6 million for the implementation of the Citywide Voice over Internet Protocol (VoIP) Phase II in the Citywide Equipment Budget (PU) and \$13.2 million in Fiscal 2022 for an alternate data center for the Financial Information Services Agency (FISA). A large portion of the funds (\$20 million) is held in one lump-sum project line, titled *“Infrastructure Equipment Upgrades”*, which is for the improvement of long-term leased facilities for all boroughs.

Conclusion

To a certain extent, DoITT’s Capital Commitment Plan accurately reflects the new capital projects the Department has added in its Capital Budget. Given the nature of the ever-changing and fast-paced world of technology, it is difficult to accurately budget tech-related projects in the outyears, as other tech-related needs may be identified as fiscal years progress. However, the Department should take into account its history in actual commitments as a benchmark for future capital expenditures, in order to accurately budget for its projects in the outyears. The Department should also curtail its use of lump sum budgeting and move to a more transparent budgeting practice.

Appendices

Appendix A: Budget Actions in the November and Preliminary Plan

<i>Dollars in Thousands</i>	Fiscal 2020			Fiscal 2021		
	City	Non-City	Total	City	Non-City	Total
DoITT Budget as of the Fiscal 2020 Adopted Budget	\$520,423	\$164,094	\$684,517	\$554,172	\$147,374	\$701,546
New Needs						
MoME – OFTB Staff	\$60	-	\$60	\$120	-	\$120
MoME – ONL Staff	60	-	60	120	-	120
Subtotal New Needs	\$120	-	\$120	\$240	-	\$240
Cost Savings						
IT Decommissioning and Efficiency Savings	(\$3,115)	-	(\$3,115)	(\$4,473)	-	(\$4,473)
MOME - Incentive Fund Savings	(329)	-	(329)	(328)	-	(328)
Telecommunication Savings	(1,100)	-	(1,100)	(1,100)	-	(1,100)
PS Savings	(4,396)	-	(4,396)	-	-	-
Subtotal Cost Savings	(\$8,940)	-	(\$8,940)	(\$5,901)	-	(\$5,901)
Other Adjustments						
City Adjustments	(\$703)	-	(\$703)	(\$3)	-	(\$3)
State Adjustments	-	10,814	10,814		-	
CDBG	-	1,530	1,530	-	-	-
IFA Adjustments	-	-	0	-	-	
Other Federal Adjustments	-	682	682	-	-	-
Other Categorical Adjustments	-	9,645	9,645	-	-	-
Intra-City Adjustments	-	28,356	28,356	-	(603)	(\$603)
Subtotal Other Adjustments	(\$703)	\$51,027	\$50,324	(\$3)	(\$603)	(\$606)
Total All Changes	(\$9,583)	\$51,027	\$41,444	(\$5,784)	(\$603)	(\$6,387)
DoITT Budget as of the Fiscal 2021 Preliminary Plan	\$510,903	\$215,123	\$726,026	\$548,509	\$146,771	\$695,280

Appendix B: DoITT Contract Budget

DoITT Fiscal 2020 Preliminary Contract Budget				
<i>Dollars in Thousands</i>				
Category	Fiscal 2020 Adopted	Number of Contracts	Fiscal 2021 Prelim	Number of Contracts
Contractual Services General	\$83,862	23	\$52,762	25
Telecommunications Maintenance	14,827	7	14,827	7
Maintenance & Repair General	20,296	7	20,296	8
Office Equipment Maintenance	434	2	434	3
Data Processing Equipment	136,666	69	130,023	72
Printing Contracts	107	2	108	3
Security Services	175	1	175	1
Temporary Services	1,139	2	1,139	3
Cleaning Services	17	2	17	2
Training Program for City Employees	730	3	730	5
Professional Services: Legal	102	1	102	1
Professional Services: Computer Services	2,411	1	600	1
Professional Services: Other	13,569	4	13,569	5
Total	\$256,382	124	\$234,785	136

Appendix C: DoITT Miscellaneous Revenue (Fiscal 2016 Actuals – Fiscal 2021 Preliminary)

DoITT Revenue Sources (Dollars in Thousands)	Actual				Planned	
	2016	2017	2018	2019	2020	2021
Film Application Process Fees	\$1,111	\$1,047	\$1,042	\$1,015	\$1,020	\$1,020
Premier Fees	343	633	278	302	274	274
Cable Television Franchises	143,442	141,877	\$ 136,216	138,086	136,533	135,000
Mobile Telecom Franchises	5,728	9,496	12,566	15,565	3,840	3,840
WiFi Revenue	18,395	26,018	27,372	2,628	43,667	48,500
Film Permits for City Property	294	394	336	355	300	300
NYC Revenue	854	600	758	750	750	750
Lease-Time TV	1,869	1,854	1,706	1,656	1,700	1,700
Procurement Spend Card Rebates	1,177	1,337	511	281	2,130	2,130
TOTAL	\$173,213	\$183,256	\$180,785	\$160,638	\$ 190,214	\$193,514