
DECREASE STATE AGENCIES' CUSTOMER CALL WAIT TIMES

Texas agencies use a number of contact centers to receive and convey information to the public. A contact center may utilize multiple communication methods, including telephone, fax, email, text messaging, online chat, or other capabilities. No state entity collects data regarding the total number of contact centers. Legislative Budget Board staff collected information from a sample of state agencies and institutions with significant related telecommunications expenditures to evaluate contact center practices and performance.

Based on information provided by agencies, certain contact centers have excessive call wait times. These contact centers also have high rates of call abandonment and employee turnover. Contact center performance can improve either by decreasing call volume or by better equipping agencies to address customers in a timely manner. Methods to improve performance include using other methods to communicate with the public, such as virtual assistants, aligning staff and administrative process improvements at contact centers with industry best practices, and increasing the number of staff available to answer telephones.

FACTS AND FINDINGS

- ◆ Among a sample of eight state agencies, public callers were placed on hold for more than 1.0 million hours, or the equivalent of approximately 132.0 years, during the 2016–17 biennium.
- ◆ Contact center wait times vary by agency and individual program. During the 2016–17 biennium, the shortest average hold time of 10.0 seconds was at the Health and Human Services Commission's Texas Information and Referral Network. The longest average hold time of more than 15.0 minutes was at the Department of Public Safety, Driver License Division.
- ◆ Primary drivers of contact center wait times include high call volumes relative to staffing levels and improperly calibrated technology to guide callers and program staff through the communication process efficiently.

CONCERNS

- ◆ During the 2016–17 biennium, certain contact centers had relatively long average customer wait times of approximately 10.0 minutes or more. Rates of call abandonment of more than 20.0 percent were reported for this period at the Department of Family and Protective Services, Department of Public Safety, and Parks and Wildlife Department. Long call wait times present an inconvenience to callers, demonstrate inefficient use of state resources, and delay the response time to process business requests or to provide vital health and safety services.
- ◆ Agencies lack readily available staff augmentation options to help address large call volumes. Resources successfully used in other states include preapproved, private vendor contracts or incarcerated offenders to provide contact center services.
- ◆ Five of eight agencies indicated that they do not record or monitor data typically used to evaluate contact center performance, such as the number of calls received, hold times and talk times, and post-call administrative completion time.
- ◆ Most of the eight agencies surveyed indicated that they do not use readily available technology to decrease call wait times or call volumes, such as providing estimated wait times, callback options, or live chat and virtual assistant functionality.

OPTIONS

- ◆ **Option 1:** Amend statute to define the phrase contact center and require agencies to collect relevant performance data and report it to the Department of Information Resources. Upon review, the Department of Information Resources would collaborate with agencies that have relatively poor contact center performance to develop a plan to remediate identified issues, culminating in a report to the Legislature detailing accomplishments and additional steps to achieve performance targets.
- ◆ **Option 2:** Include a rider in the 2020–21 General Appropriations Bill to require the Department of Information Resources, with the assistance of

state agencies and institutions of higher education, to determine the need for statewide contracts for relevant contact center technology and consulting and staff augmentation services. If the department determines a sufficient need, it should be authorized to enter into such contracts.

- ◆ **Option 3:** Amend statute to establish a technology innovation fund, which could be funded with a direct appropriation of General Revenue Funds or by dedicating a portion of fee payments from the state website Texas.gov. This fund would be awarded competitively through grants by the Department of Information Resources to agencies with proposals intended to produce the greatest increase to contact center efficiency or other methods that could increase customer service delivery.
- ◆ **Option 4:** Increase General Revenue Funds appropriations in the 2020–21 General Appropriations Bill to provide a salary increase to the Department of Family Protective Services' Statewide Intake program staff.
- ◆ **Option 5:** Include a rider in the 2020–21 General Appropriations Bill directing the Texas Department of Criminal Justice, through its Correctional Industries program, and the Department of Public Safety to pilot the use of inmates to provide contact center assistance and to report jointly to the Legislature regarding program findings and accomplishments.
- ◆ **Option 6:** Increase the number of authorized full-time-equivalent positions in the 2020–21 General Appropriations Bill to decrease call wait times at the Teacher Retirement System of Texas regarding benefits counseling.

DISCUSSION

State agencies communicate with the public every day to provide information and assist in processing administrative requests. Much of this communication is performed on the phone, although other functions can be provided via email or through an agency website. A call center employs full-time, dedicated staff to communicate with the public. This communication includes voice interactions using a switched telephone network or voice over Internet protocol (VoIP) for calls. Similarly, a contact center communicates through voice interactions and other capabilities, such as email, text chat, and web interfaces.

According to a 2014 survey conducted for American Express by the data research company Ebiquity, consumers who call a customer service center are willing to wait, on average, a maximum of 13.0 minutes on hold before hanging up. However, approximately 22.0 percent of customers placed on hold will hang up in less than 5.0 minutes, and an additional 27.0 percent will hang up within 10.0 minutes.

MEASURING CONTACT CENTER PERFORMANCE

Multiple methods are used to measure contact center performance. Calculating the average handle time (AHT), or the average duration of a customer transaction, provides one indicator of contact center effectiveness. AHT is measured from the time a call is initiated through the conclusion of any related tasks that followed the interaction. A primary purpose of calculating AHT is to help make decisions for staffing levels and administrative processes. The standard formula to calculate AHT is:

$$\frac{\text{Talk Time} + \text{Hold Time} + \text{Wrap-up Time}}{\text{Number of Calls Handled}}$$

This calculation can be performed annually or hourly to track call-handling trends throughout the day. Many factors can increase AHT, including high call volume relative to available staff and the complexity of issues or services being addressed. AHT also is influenced by the administrative setup of the contact center, including slow computer systems, lack of a unifying technology platform among databases, and high employee turnover, which requires additional time to train new staff. A long AHT also can signify increased hold time.

Contact center wait times are subject to decisions that consider the efficient and effective use of resources to manage interactions with customers. Best practices for contact center structuring and management are based on measuring multiple performance metrics. The International Finance Corporation, a member of the World Bank Group development bank, published a set of global best practices related to this subject that mirrors many components used by other organizations. **Figure 1** shows contact center performance metrics.

TECHNOLOGIES TO ASSIST IN CUSTOMER INTERACTIONS

Multiple technologies are available to assist agencies to communicate and conduct business with the public efficiently. These technologies include customer relationship management (CRM) software, telecommuting software and

**FIGURE 1
BENCHMARKS IN MEASURING CONTACT CENTER CALL MANAGEMENT, FISCAL YEAR 2016**

METRIC	DESCRIPTION
Service Level	A percentage of calls received by the center that are answered by an agent within a certain time frame, which represents the amount of time the customer is on hold.
Abandonment Rate	The number of calls that are abandoned while the customer is waiting for an agent, measured as a percentage of all calls received.
Accuracy of Call Forecasting	Properly balancing staff levels to meet call volume demands. If the number of actual calls is greater than predicted, not enough staff will be available to respond. If fewer calls occur than are forecast, staff will be underutilized.
Call Duration	The amount of time spent speaking to customers on the telephone.
Call Wrap-up Time	The time required for an agent after the call has finished to complete the case, which includes administrative tasks such as updating the computer system files and completing forms.
Attrition	A measure of annual staff turnover, expressed as a percentage.

SOURCE: International Finance Corporation.

equipment, virtual queuing (callback feature), live chat, and chatbot virtual assistants.

CUSTOMER RELATIONSHIP MANAGEMENT SOFTWARE

CRM software helps contact center personnel access multiple information sets, including databases related to individual customer information. This software expedites processing and improves accuracy in handling inquiries. Contact center CRM typically is desktop software that is integrated into existing telecommunication, database, and administrative applications. Multiple variables determine the total cost to develop a CRM solution. Monthly prices can range from \$9 to \$300 per customer service representative for standard packages. Developing a customized CRM can involve up-front costs from \$0.1 million to \$0.7 million. CRM can be structured to integrate other technology types.

TELECOMMUTING SOFTWARE AND EQUIPMENT

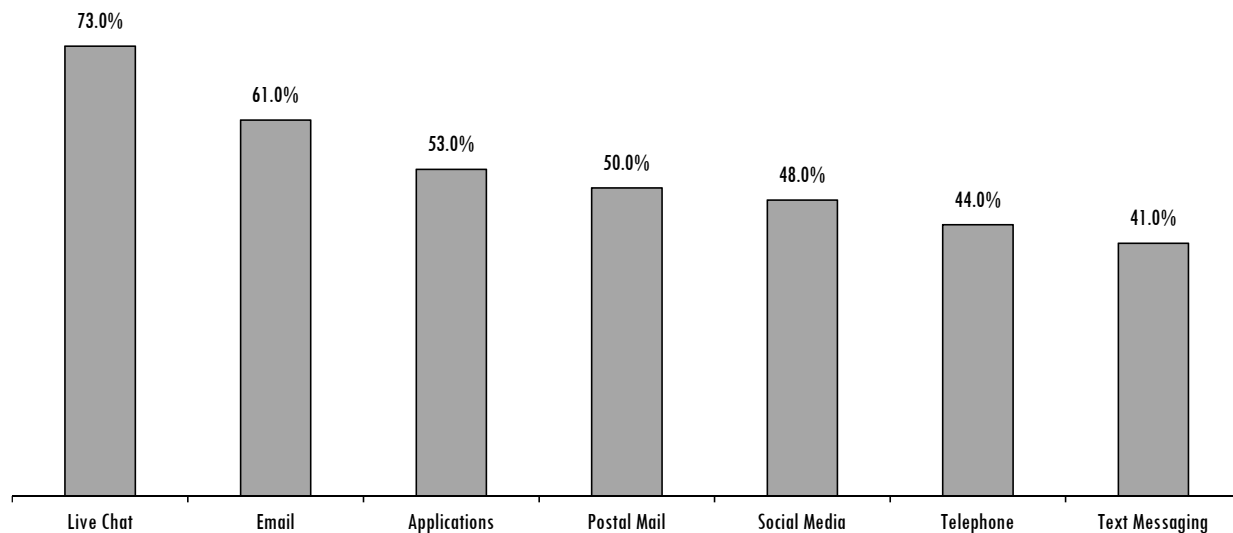
Providing the opportunity for contact center staff to work from home can lead to increased productivity. Telecommuting can provide contact center administrators the ability to expand hours of operation and better align staffing levels to peak demand periods. Staff typically must meet or exceed position performance metrics to be eligible for this benefit. The Department of Public Safety (DPS), Regulatory Services Division, reported that telecommuters are able to produce 30.0 percent or greater volume than their in-office peers. Telecommuters also report relatively greater levels of job satisfaction, which can lead to greater rates of employee retention. Agencies that do not authorize their contact center staff to work from home, such as the Office of the Attorney General, have greater turnover rates for these staff compared

to the agency as a whole. The software and equipment necessary to establish a telecommuting program depends on the technical requirements of the particular contact center. Employees may be able to perform these functions using personal computers, or agencies may need to supply the appropriate hardware and software required for employees to perform job functions and interact with program systems and the public.

VIRTUAL QUEUING AND CALLBACK

This technology offers customers the option of receiving a call back from a customer service representative instead of waiting on hold. Callbacks can be provided at an estimated time or scheduled for a specific time. In addition to its convenience, this feature could decrease costs for telephone service contracts or VoIP data usage that the agency and customers normally would incur by remaining on the line. For example, in calendar year 2008, the Washington State Employment Security Department (ESD) decreased its phone bill by \$0.5 million during the first year of implementing a virtual queuing option. Approximately 75.0 percent of callers chose the option to receive a callback without losing their places in line. According to analysis performed by Virtual Hold Technology, a customer service software company, the ESD's implementation of callback technology also decreased its abandonment rate from 41.0 percent to 21.0 percent. Texas agencies that have implemented callback technology, such as the Department of Motor Vehicles (DMV), also have observed decreased call wait times and have received positive feedback from customers. Depending on system configurations, adding a virtual queuing feature could cost about \$50 per month per user.

FIGURE 2
CUSTOMER SATISFACTION LEVELS BY COMMUNICATION METHOD, CALENDAR YEAR 2013



SOURCE: eDigital Customer Service Benchmark Survey, 2013.

However, some contact center software platforms have callback features built into their products.

LIVE CHAT

Live chat refers to the process of at least two parties communicating through a chat-enabled service on the Internet. Live chat can employ either desktop or mobile applications. Live chat has been shown to decrease contact center costs by decreasing the average cost of interaction with a customer. This service also can increase the efficiency of contact center staff by enabling staff to handle multiple chats simultaneously. According to a 2013 eDigital Customer Service Benchmark survey of 2,000 participants, live chat has the greatest satisfaction levels for any customer service method, as shown in **Figure 2**. Similarly to identified costs for virtual queuing technology, live chat features can be adopted into an existing website for marginal costs of approximately \$50 per user per month or may be integrated in contact center or CRM software packages.

CHATBOTS

A chatbot, also known as a virtual assistant or conversational assistant, is a computer program that communicates with a user through text, mobile, desktop, or voice. The chatbot replies using the same method with which it is contacted to continue the conversation. The goal for the chatbot's functionality determines the level of development needed to make one. A script-based chatbot can provide answers to

simple, frequently asked questions and requires a simple structure. An artificial intelligence (AI) structure is more complex and can include elements of machine learning and natural language processing for speech recognition. This chatbot may be able to work with human staff when it needs help addressing customer inquiries. For example, by asking staff for help or connecting the customer to staff, the chatbot can monitor the interaction and adapt to better answer similar inquiries subsequently. Additionally, chatbots can be developed to provide customer-specific information by accessing personally identifiable account information.

Chatbots have been used in private sector and public sector applications. In 2017, the City of Los Angeles collaborated with Microsoft Corporation to develop a chatbot within three days. The chatbot assists approximately 180 customers per day and has led to a 50.0 percent decrease in emails that require staff attention and response. Other case studies show that more complex chatbots can be developed and implemented within weeks and can address greater call volumes, accounting for up to 99.0 percent of interactions for some applications.

Approximating the potential costs of maintaining chatbot technology varies by vendor and the specifications of how it would be integrated into each contact center's information technology (IT) structure. In April 2018, one private vendor estimated that implementing and managing a comprehensive chatbot system for a contact center with 50.0 full-time-

equivalent (FTE) positions could cost \$50,000 per year. Another company provided an estimate of \$60,000 in onetime development costs for a CRM-compatible chatbot with integrated AI and language functionality. Other examples include an initial development range of \$6,000 to \$12,240, followed by \$100 per month for 50 chatbots and 50,000 messages conveyed. The state of Montana recently implemented chatbots during calendar year 2018 to address commonly asked questions and to assist in processing administrative requests at its Department of Justice, Motor Vehicle Division. Although no Texas agency reports using chatbots, DMV staff stated that the agency is researching and interested in utilizing online chatting and chatbots.

STATE CONTACT CENTER PERFORMANCE

The number of Texas' state agency contact centers is not known, and statute does not define what a contract center is. Some contact center services may be included in the scope of managed services contracts awarded by the Department of Information Resources (DIR). However, DIR is not able to determine to what extent an agency may be using contact center services. Legislative Budget Board (LBB) staff collected information from selected agencies regarding the efficiency of their contact centers. Each of these agencies had relatively large amounts of telecommunications-related expenditures during the 2016–17 biennium. Each of the 16 programs at the eight agencies shown in **Figure 3** has a public-facing contact center that received more than 100,000 calls (approximately 150 calls per day) during the 2016–17 biennium.

The contact centers in **Figure 3** received 57.8 million total phone calls during the 2016–17 biennium, or 55 calls per minute. These calls yielded approximately 1.2 million accumulated hours of hold time by the public and agency personnel, the equivalent of 132.0 years. The information was reported by state agencies and contracted vendors. Some agencies did not have a complete listing of related data for the biennium. Regarding AHT, some agencies did not report all of the variables necessary to complete the calculation.

When comparing state-operated and vendor-contracted contact centers, it is important to consider the varying levels of subject matter complexity across each, and the relative performance of those centers. For example, among state-operated contact centers, the average cost per call was \$9.31, compared to \$14.53 for vendor-contracted centers. However, the average hold time for state-run centers was approximately 4.5 minutes, compared to 24 seconds for vendor-contracted

centers. This difference may result from vendor-contracted centers having a greater number of FTE positions on average, or from state-operated centers engaging with the public on more complex inquiries. According to staff at the Office of the Attorney General, the specificity of subject matter addressed by some of its contact centers might make those services ill suited to contracting for third-party administration.

Although many evaluation methods are available, the AHT calculation is particularly useful in measuring contact center performance. Failure to measure the amount of time that customers are on hold or interacting with customer service representatives or the time for representatives to perform related administrative tasks after calls are concluded may diminish the agency's ability to perform other types of performance calculations. Other such calculations include callers' average time in the hold queue, staff's average after-call work time, or staff's average speed to answer a call. For nine of the 16 programs shown in **Figure 3**, or 56.3 percent, agencies could not provide data typically used to perform the AHT calculation. This lack of information limits the abilities of the agency and the state to measure and track performance and to ensure that resources are utilized effectively. An agency's ability to capture and measure key performance indicators could provide insights regarding staffing levels, employee performance, and other areas where improvement is needed (e.g., excessive call wrap-up time). Optimizing these areas can lead to decreased hold times and greater customer satisfaction.

To improve the information available to agencies to assess contact center performance, Option 1 would amend the Texas Government Code, Chapter 2054, to require DIR to define contact center in rule. In establishing a definition, DIR should consider the ways in which agencies deliver contact center services with staff or with affiliates, minimum call volume, and the use of technological enhancements such as email, virtual queuing, and chatbots. Option 1 also would amend the Texas Government Code, Chapter 2054, to require an agency with a contact center meeting DIR's criteria to report performance information to DIR each biennium. Reported information could include service level, abandonment rate, accuracy of call forecasting, call duration, call wrap-up time, employee attrition, and other criteria.

DIR's mission is to provide technological leadership, solutions, and value to entities of state government, education, and local government to help them fulfill their core missions. Option 1 also would require agencies that report significant hold times or other performance metrics

**FIGURE 3
SUMMARY OF PERFORMANCE METRICS FOR SELECTED STATE AGENCY CONTACT CENTERS, 2016–17 BIENNIUM**

AGENCY AND PROGRAM	ALLOCATION (IN MILLIONS)	FULL-TIME-EQUIVALENT POSITIONS	STAFF ATTRITION RATE	CALLS RECEIVED	COST PER CALL	CALL TIME (IN MINUTES:SECONDS)				ABANDONMENT RATE
						AVERAGE HOLD TIME	AVERAGE CALL DURATION	AVERAGE WRAP-UP TIME	AVERAGE HANDLE TIME	
Office of the Attorney General										
Child Support Division	\$18.7	255.0	24.1%	7,741,952	\$2.42	NC (5)	4:49	0:20	NC	12.1%
Department of Family Protective Services										
Statewide Intake	\$38.5	420.0	15.8%	1,231,181	\$31.24	9:30	14:45	31:03	45:56	26.7%
Health and Human Services Commission (HHSC)										
Access and Eligibility Services Vendor Operations – Eligibility Services (1)	\$94.3	1089.0	NC	15,629,224	\$6.04	00:35	09:12	00:40	10:00	9.0%
Access and Eligibility Services Vendor Operations – Enrollment Broker (1)	\$41.1	423.5	4.9%	1,246,581	\$33.01	00:28	09:58	00:09	10:35	4.4%
Department of Aging and Disability Services Consumer Rights	\$3.2	31.0	NC	173,016	\$18.73	02:18	9:53	04:03	NC	7.9%
HHSC Ombudsman	\$2.1	23.1	8.7%	185,744	\$11.22	02:58 (3)	7:53	00:19	31:23	13.4%
Medical Transportation Program	Vendor contract (4)	18.0	NC	363,093	Vendor contract (4)	0:11	3:07	0:02		6.2%
Texas Information and Referral Network (1)	\$22.8	NC	NC	5,004,072	\$4.55	0:10	2:52	0:30	NC	13.7%

**FIGURE 3 (CONTINUED)
SUMMARY OF PERFORMANCE METRICS FOR SELECTED STATE AGENCY CONTACT CENTERS, 2016–17 BIENNIUM**

AGENCY AND PROGRAM	ALLOCATION (IN MILLIONS)	FULL-TIME-EQUIVALENT POSITIONS	STAFF ATTRITION RATE	CALLS RECEIVED	COST PER CALL	CALL TIME (IN MINUTES:SECONDS)					ABANDONMENT RATE	
						AVERAGE HOLD TIME	AVERAGE CALL DURATION	AVERAGE WRAP-UP TIME	AVERAGE HANDLE TIME			
HHSC (continued)												
Women, Infants, and Children Program	\$1.3	21.0	11.9%	414,012	\$3.03	1:11	2:01	1:09	42:50			17.2%
Department of Public Safety												
Driver License Division	\$15.3	124.0	35.4%	12,947,269	\$1.18	15:34	6:34	NC	NC			21.7%
Regulatory Services Division	\$2.2	27.0	4.0%	1,641,897	\$1.35	11:26	3:02	NC	NC			13.8%
Texas Parks and Wildlife Department												
State Parks Call Center	\$2.2	18.0	NC	720,103	\$3.06	NC	04:16	NC	NC			32.5% (2)
Department of Motor Vehicles												
Motor Carrier Division	\$9.9	145.0	15.4%	510,566	\$19.44	1:42	6:03	NC	NC			6.8%
Consumer Relations Division	\$9.9	93.0	24.1%	1,321,417	\$7.51	6:11	5:26	NC	NC			18.6%
Texas Department of Transportation												
Toll-related customer service and collections (1)	Vendor contract (4)	134.0	17.0%	2,691,351	U (5)	NC	NC	NC	NC			0.9%
Texas Workforce Commission												
Unemployment Insurance Program	\$18.7	316.1	28.6%	5,761,985	\$3.23	0:28	9:18	0:17	16:05			17.3%

NOTES:
 (1) Contracted service.
 (2) Texas Parks and Wildlife Department abandonment rate based on fiscal year 2016 data; data was not collected for fiscal year 2017.
 (3) Average hold time for Health and Human Services Commission Ombudsman based on fiscal year 2017 data; applicable data was not collected for fiscal year 2016.
 (4) Component of a larger vendor contract.
 (5) U=unknown data; NC=not collected.
 SOURCE: Legislative Budget Board, Agency Survey Submissions.

during their most recent reporting periods to collaborate with DIR and any approved vendors who provide services for contact centers to establish remediation plans to improve contact center performance. DIR would set specific thresholds in rule, such as having an average hold time greater than 5.0 minutes, which would activate the remediation plan process. The plan would be based on best practices for contact center organization and management, solutions to address inefficiencies in either staff or technology usage, and an estimated timeline to remediate the concerns identified. Agencies that operate contact centers, as defined in rule, that do not track hold times or other important performance metrics properly also would be required to participate in this process. DIR would prescribe how often this process must be repeated for agencies with habitually poor performance, such as every four years. Each contact center serves a different function and may interact with different segments of the population. Agency contact center staff, collaborating with DIR and relevant vendors, should establish goals for service levels that are informed by properly captured performance data. For example, analysis could determine when hold times significantly affect abandonment rates.

None of the agencies providing information about state-run contact center operations indicated that they use online live chat, chatbots, or other innovative forms of technology to communicate with the public. Most contact centers do not offer callback options. These methods can help decrease call wait times and improve customer service. Depending on a program's IT configuration, these methods also can provide long-term cost avoidance by decreasing telephone or VoIP data charges and the need for additional staff. Option 2 would include a rider in the 2020–21 General Appropriations Bill to require DIR, with the assistance of state agencies and institutions of higher education, to determine the need for statewide contracts for relevant contact center technology improvements and, if necessary, to enter into such contracts. The availability of additional service contracts for technology improvements, either through DIR's delivery based IT services or cooperative contracts models, would provide agencies with an accessible list of vendors registered through DIR. It also could decrease prices for services by utilizing economies of scale, compared to general market rates. To provide additional technical and planning assistance to agencies in addressing the requirements of Option 1, Option 2 also would require DIR to consider, within the scope of its request for proposal (RFP) activities, vendors that specialize in contact center consulting services. This inclusion would

provide an outside perspective to analyze and verify whether contact centers are using best practices for staff management and technology usage. Information provided by state agencies and private vendors indicates that consulting contracts can range from less than \$10,000 to \$100,000 or greater, depending on the scope of work.

STATEWIDE STAFF SOLUTIONS CONTRACT

The Employees Retirement System of Texas (ERS) has two contact centers. One is a state-operated facility that handles inquiries related to retirement, eligibility, insurance benefits, and retirement application topics. The other center has operated since 2011 through a contract with a private vendor. Its purpose is to provide additional capacity to assist with regular customer service questions and to address increased call volumes during seasonal enrollment periods. The vendor-operated center handles basic customer service questions and simple administrative activities, such as resetting a password or updating a customer's beneficiary designation. According to ERS staff, this structure is more cost-effective than seasonally or permanently increasing the number of FTE positions at the agency. Training new staff would require two weeks of initial training, followed by one week of supervised onsite training and performance testing. Other agencies, such as the Texas Department of Insurance (TDI), have explored using a contracted center to address shortfalls in customer assistance that occur during peak times or emergency events, such as the effects on state services that resulted from Hurricane Harvey. TDI ultimately chose to pursue various workforce and technological improvements instead of contracting with a third party.

DIR offers IT staffing services contracts that provide for temporary IT staffing augmentation through services performed by contractors who are paid hourly. Services are bid competitively through DIR's cooperative contract model for IT staffing services. According to DIR staff, however, the agency does not offer cooperative contracts for agencies to procure additional contact center staffing services to assist during peak or unexpected demand periods. The expansion of the cooperative contracts model into other workforce categories could improve contact center responsiveness to increases in demand. As part of Option 2, DIR would be required to establish preferred vendor contracts for contact center staff augmentation services. This preferred designation would expedite agency procurement of such services when unexpected demands on contact centers require staff augmentation to help ensure adequate customer response times.

ESTABLISH AN INNOVATIVE TECHNOLOGY GRANT PROGRAM

Agencies that provide information regarding contact center operations indicate that funding can be a primary constraint to implement technologies that improve service delivery. Option 3 would amend statute and the 2020–21 General Appropriations Bill to establish a technology innovation fund through which state agencies could receive grants to improve public communication and service delivery. The Legislature could appropriate General Revenue Funds for the 2020–21 biennium to fund this program. Alternatively, to provide a stable, long-term funding source, the Legislature could amend statute to redirect a portion of excess payments made to the state website Texas.gov that are transferred to the General Revenue Fund. Texas.gov provides portal and payment services for Texas state agencies and eligible local governmental organizations, enabling them to conduct business with their customers online. State agencies voluntarily participate in this program.

According to DIR's 2020–21 Legislative Appropriations Request, the agency anticipates receiving approximately \$62.0 million in Texas.gov collections during the 2020–21 biennium that would be transferred to the General Revenue Fund. Establishing a 5.0 percent set-aside, for example, would provide approximately \$3.1 million in grant funding for the 2020–21 biennium. It is assumed that DIR would require an additional 1.0 FTE position to administer this program, paid from a portion of revenue deposited to a newly established technology innovation fund. Utilizing a portion of the Texas.gov transfer also could incentivize agencies to route more revenue-generating services through the state website. This utilization would consolidate public access to government services within a single location and increase Texas.gov revenue generation, which could generate more money for the new grant program.

DIR would establish, by rule, specific program criteria and should consider multiple aspects when establishing this program. It should be structured to prioritize grant awards for projects that would have an immediate, quantifiable benefit to public service delivery. Service delivery could be measured by the extent to which a project decreases the time for a customer to communicate with the state, streamlines and decreases administrative layers to process requests, or results in cost savings to the public. The grant program also should contain a cost-share component to help ensure that it supports projects that agencies are committed to fully developing and implementing. In a contingency rider

implementing Option 3, the Department of Family and Protective Services (DFPS), DPS, the Texas Parks and Wildlife Department (TPWD), and Teacher Retirement System of Texas (TRS) would have priority to receive funding for the 2020–21 biennium. This opportunity to receive additional funding to address recommended remediation activities would help ensure that contact centers identified in this review as having the greatest performance concerns are addressed during the 2020–21 biennium.

AGENCY-SPECIFIC CONTACT CENTERS WITH EXCESSIVE OR UNKNOWN HOLD TIMES

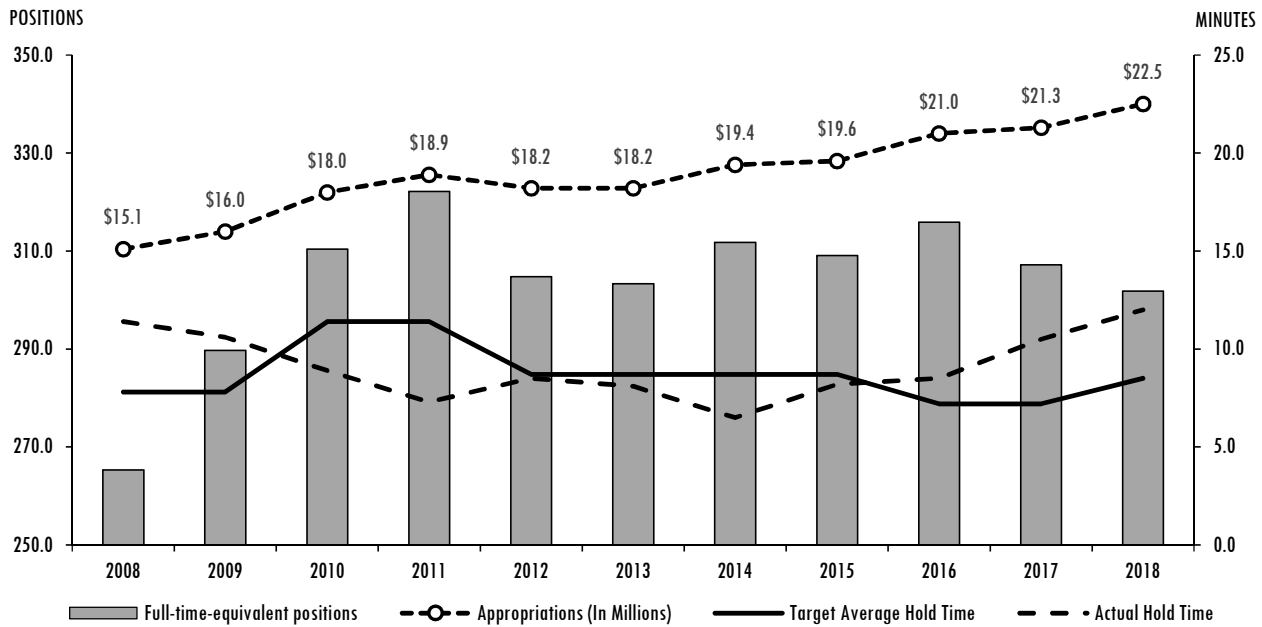
Agencies with the longest average hold times or incomplete performance data include DFPS, DPS, and TPWD. These agencies and TRS, which has experienced a significant increase in call volume and associated wait times during fiscal year 2018, are discussed in the following sections. The continued growth of the state's population can affect contact center performance negatively if an agency is not equipped to properly handle the increased call volume. According to agency survey responses and reports on the subject, common reasons for poor contact center performance typically are related to one or more of the following: insufficient staffing; inefficient contact center technology; or a lack of alternative methods to communicate with the public that decrease the number of calls received (e.g., providing online information or web-based applications to address customer needs).

DEPARTMENT OF FAMILY AND PROTECTIVE SERVICES, STATEWIDE INTAKE SERVICES

DFPS' Statewide Intake (SWI) program includes the operation of the statewide, centralized intake center located in Austin. The center receives, assesses, prioritizes, and routes reports of abuse, neglect, and exploitation of children, elderly adults, and persons with disabilities. SWI also provides 24-hour expedited background checks for Child Protective Services (CPS) caseworkers and information and referral services. SWI appropriations for the 2018–19 biennium total \$45.1 million in All Funds.

SWI had the longest administrative call wrap-up time (more than 31.0 minutes) and AHT (more than 45.0 minutes) of any contact center identified by LBB staff. The overall average wait time during fiscal year 2017 was 9.2 minutes, and DFPS staff anticipate this average to increase to 16.5 minutes by fiscal year 2021. Excluding calls from entities such as law enforcement, the average hold time for calls handled by intake specialists for the main abuse hotline in English was 12.0 minutes during fiscal year 2017. A separate hotline

FIGURE 4
DEPARTMENT OF FAMILY AND PROTECTIVE SERVICES APPROPRIATIONS FOR STATEWIDE INTAKE, COMPARED TO NUMBER OF AUTHORIZED INTAKE SPECIALISTS AND AVERAGE HOLD TIME FOR CALLS, FISCAL YEARS 2008 TO 2018



SOURCES: Department of Family and Protective Services, Data Book; General Appropriations Acts, 2008–09 to 2018–19 Biennia.

exists for law enforcement to call SWI. This line had an average hold time of 1.4 minutes during fiscal year 2017. However, law enforcement officers have reported waiting more than 20.0 minutes before their calls were answered. The total abandonment rate for all SWI queues during fiscal year 2017 was 27.5 percent. The abandonment rate for the same period for the main abuse hotline was 31.5 percent and, for the Spanish-language line it was 44.7 percent. **Figure 4** shows a correlation between the number of SWI staff and the length of call hold times, in which an increase in the former tracks a decrease in the latter. **Figure 4** also shows the consistent level of appropriations increases to DFPS for SWI.

The Texas Association for the Protection of Children issued a comprehensive analysis of CPS workforce and services during calendar year 2017. The report notes that DFPS has changed SWI since 1999 to improve services. For example, to address turnover the agency established a retention steering committee and implemented a telecommuting program. According to DFPS staff, 176.0 FTE positions, or 41.9 percent of the SWI staff, participated in telecommuting during the 2016–17 biennium. Additionally, SWI implemented a worker support programming initiative to address secondary traumatic stress disorder, a condition in

which workers experience trauma from the abuse they have witnessed. The initiative includes therapy dog visits with intake specialists. Additionally, DFPS began an initiative during fiscal year 2018 to evaluate SWI policies and processes to improve efficiencies. As a result of this initiative, DFPS requested fewer additional FTE positions than the agency initially anticipated in its 2020–21 Legislative Appropriations Request. SWI employee turnover decreased from 24.7 percent during fiscal year 2009 to 19.1 percent during fiscal year 2015. SWI appropriations increased by 23.0 percent during this period, from \$16.0 million for fiscal year 2009 to \$19.6 million for fiscal year 2015. As shown in **Figure 3**, SWI employee turnover has continued to decrease to an average annual rate of 15.8 percent for the 2016–17 biennium. According to DFPS staff, however, the turnover rate for an entry-level Intake Specialist I was 66.7 percent during the 2016–17 biennium. The Legislature increased appropriations to DFPS for SWI by 8.6 percent for the 2016–17 biennium from 2014–15 biennial funding.

However, based on recent average hold time and call abandonment rates, further improvements to program delivery are needed. As part of Option 1, DFPS should utilize DIR resources to continue to evaluate process

improvements to SWI. The following areas should be evaluated for change:

- SWI was the only system among agencies providing information regarding contact center operations that is operating an interactive voice response (IVR) system that did not enable callers to select an option before all options were presented. This requirement can delay the time it takes for callers to make selections to proceed through the queue;
- callers are not provided an estimated wait time. According to a 2011 study performed by the Schulich School of Medicine, this feature could enable customers to choose an option with a relatively shorter wait time, such as completing an online form;
- callers that are proceeding through the call routing system and waiting on hold wait more than 3.0 minutes from the start of the call until they are notified about an online reporting option. Moving this notification to the beginning of the phone call could decrease call volumes by redirecting more customers to the online form;
- approximately half, or 55.0 percent, of SWI contacts meet the criteria to justify intake processing. According to DFPS staff, a significant portion of the other 45.0 percent of calls are related to callers seeking referral or other information, which could be handled via other platforms such as mobile text or online chat. Other organizations, such as the U.S. Department of Defense, Oakland County in California, and the SAFE Alliance in Austin, also use these communication methods for crisis intervention services and emotional support for topics related to child abuse, sexual assault and domestic violence; and
- SWI does not utilize a callback option, which could decrease the time callers are on hold and provide a more convenient option for callers to communicate with SWI. This feature would be optional and utilized only by callers that agree to receive a call back for lower-priority or nonimmediate requests for assistance. For callers who are concerned that others might know they are contacting the agency, the system could be set up to de-identify the caller. During fiscal year 2017, 50.6 percent of callers to SWI were medical personnel, school staff, law enforcement, or

community agencies. Providing a callback option also would enable these staff to maintain productivity, instead of waiting on hold.

In addition to improvements that could result from these strategies, the number of active, experienced intake specialists answering calls can have a direct effect on further decreasing wait times. The number of DFPS-authorized FTE positions for the entire SWI program decreased from fiscal years 2017 to 2018 by 26.0 positions, or 7.4 percent. DFPS adjusted the number of positions allocated to the SWI program, due to the agency's ongoing difficulty in hiring and retaining as many positions as previously appropriated. According to DFPS staff, the primary impediment to hiring and retaining sufficient staff is salaries that are not competitive with similar positions elsewhere in the market. In December 2016, the LBB approved a package of funding for DFPS that included targeted pay raises for certain child and family protective service employees. During fiscal year 2016, the voluntary separation rate of employees for the targeted positions was 8.0 percentage points higher than for nontargeted positions. During fiscal year 2017, the voluntary separation rate for the targeted positions was 0.4 percentage points higher than for the nontargeted positions. This indicates that this action was effective at decreasing voluntary separation for the targeted positions.

Option 4 would increase appropriations in the 2020–21 General Appropriations Bill to DFPS to provide a salary increase for SWI program staff and to improve their performance through decreased employee turnover and improved retention. Decreased turnover would enable current staff and management responsible for training new staff to reallocate some training time to answering phones, which could assist in decreasing overall hold times. According to DFPS, increasing salaries of intake specialists, supervisors, and program administrators by \$500 per month each would cost \$4.3 million for the 2020–21 biennium. The average starting salary for an entry-level intake specialist is approximately \$2,684 per month. In this case, an additional \$500 per month equates to a salary increase of 18.6 percent. According to DFPS, this pay increase would approach a more equitable salary position for SWI staff compared to staff performing similar jobs in Texas and in other states. The increase is expected to improve retention, which would enhance tenure of staff and improve overall SWI program performance.

**DEPARTMENT OF PUBLIC SAFETY,
DRIVER LICENSE DIVISION**

The largest regulatory programs at DPS are driver license services, driving and motor vehicle safety, and safety education programs, which are administered by the agency's Driver License Division (DLD). Since fiscal year 2012, as part of an ongoing effort to support DPS in realizing more efficient processes and shorter waiting periods for driver license applicants, the Legislature has appropriated \$443.1 million to the Driver License Improvement Program (DLIP). A related but separate component to the physical service centers is the DLD contact center. Due to system technology constraints, the contact center can accept a maximum of 150 calls at once, which has resulted in approximately 20.0 percent of phone calls being answered. The DLD contact center had both the greatest employee turnover rate (35.4 percent) and average call hold time (15.5 minutes) of any agency surveyed.

In addition to the agency's driver license functions, the regulatory services program area includes the regulatory service compliance and regulatory service issuance programs. These services, including the private security program, handgun licensing, the vehicle inspection program, and the Texas metals program, are administered by the Regulatory Services Division (RSD). Although RSD reported significant call wait times during the 2016–17 biennium, DPS implemented changes at the program level that have decreased wait times from approximately 11.5 minutes to 3.5 minutes during fiscal year 2018. These changes include extending operating hours from 7:00 AM to 7:00 PM and expanding telecommuting opportunities for customer service staff. Additional modifications included implementing a virtual queuing and callback function and changes to the RSD website that have, according to the agency, have improved the user experience. According to DPS staff, extending operating hours resulted in \$7,104 in additional annual salary costs. Four Customer Service Representative III staff were promoted to team lead positions (Customer Service Representative V) to provide oversight in the contact center. No additional FTE positions were hired to expand contact center hours. This expansion was accommodated through more flexible scheduling from increased telecommuting practices. In program structure, RSD has a greater percentage of staff that telecommute (70.0 percent for RSD, compared to 48.4 percent for DLD), is open for an additional 1.0 hour per day, and provides customers a callback feature.

The DLD contact center IVR is complex compared to other agency systems and requires entering a greater number of selections before reaching the queue to speak to customer service staff. If the caller makes a selection that is not recognized by the IVR, the call is disconnected. According to DPS, the driver license system lacks integration with the IVR. Industry sources suggest a maximum of three levels to five levels of call routing should be used to maintain convenience for the caller. These issues could be contributing to the DLD division's call abandonment rate of 21.7 percent, which is among the greatest rates of the contact centers surveyed. Due in part to the cumbersome functionality of interacting with the DLD call system, approximately 19.9 percent of the 12.9 million calls received during the 2016–17 biennium were from repeat callers. As part of Option 1, DPS should further analyze DLD for process improvements that could decrease wait times. Possible improvements include expanding the DLD telecommuter program, increasing the hours of operation to match RSD's hours, integrating virtual queuing callback technology as feasible, evaluating the IVR system for improvements to simplify calls for customers, and integrating a live chat and chatbot platform.

According to state agency staff and contact center reports, one way to improve performance issues is to hire more staff to answer calls. According to DPS' 2017 Strategic Plan, the DLD contact center's performance measure target is to connect 5.0 percent of calls with customer service staff within 5.0 minutes. According to DPS, to have 80.0 percent of calls answered within 5.0 minutes, the agency would need an additional 580.0 FTE positions based on current technology and administrative practices, which DPS estimates would cost \$107.7 million in additional appropriations.

ALTERNATIVE STAFF AUGMENTATION STRATEGIES

The Texas Department of Criminal Justice (TDCJ) administers the Texas Correctional Industries program, which is intended to provide participants with marketable job skills and to help decrease recidivism through job skills training and documented work history. Program participants are inmates, defendants, or supervised parolees that are confined or housed in a facility operated by or contracted with TDCJ. TDCJ is statutorily authorized to establish and operate a prison industries program at each correctional facility that it considers suitable. Statute prohibits participants from having access to personally identifiable information of individuals not in confinement. The federal prison system and other states, such as Arizona and New York, have

implemented programs using inmates to support contact center operations by performing services that do not require customers' personally identifiable information.

In Arizona, inmates assist the Department of Transportation by answering calls made to the state's Motor Carrier Services Division. The Arizona Correctional Industries program prohibits offenders convicted of a telephone-related crime or credit card or computer fraud from participating. According to staff, inmates have a high level of participation in the program, and the program does not experience workforce shortages.

The New York State Department of Motor Vehicles (NYS DMV) operates two contact centers within correctional facilities. These centers answer approximately 1.0 million calls per year, saving taxpayers \$3.5 million annually by avoiding hiring additional state government staff. According to New York Department of Corrections and Community Supervision (DOCCS) materials, the program provides offenders with knowledge of vehicle and traffic law, permits, renewals, commercial driver licenses, and fee structure. Offenders learn proficiency intended to provide them with marketable skills upon release from prison, including customer service, communication, and problem solving. Contact center operations are housed within a medium-security facility, and calls are monitored at random. Offenders must complete an initial 490.0-hour training program supervised by NYS DMV staff. The training sessions consist of classroom time and telephone time. NYS DMV may hire offenders after they are recommended by DOCCS, and NYS DMV staff regularly evaluate their performance.

Option 5 would include a rider in the 2020–21 General Appropriations Bill requiring TDCJ and DPS to implement a pilot program through which TDCJ offenders would provide contact center assistance for DPS. Offenders would provide general information and answer questions that do not involve customers' personally identifiable information through either telephone or computer interaction. According to DPS staff, some of the commonly asked questions for the DLD include how to obtain, renew, or replace a license. Correctional industries offenders could answer general inquiries of this kind. The DPS DLD contact center and a TDCJ facility are located in Austin. Therefore, the pilot program could take place in central Texas, which would facilitate the placement of DPS supervisory staff to supervise and monitor the program in the TDCJ facility. The infrastructure used to operate the contact center would come from available TDCJ facility space, combined with telephone

or computer hardware provided by DPS. At the conclusion of the pilot program, TDCJ and DPS would submit a joint report of their findings and accomplishments to the Legislature. The report should include recommendations about continuing the program and how it might be replicated at other agencies.

TEXAS PARKS AND WILDLIFE DEPARTMENT STATE PARKS CONTACT CENTER

Among responding state-operated contact centers, TPWD State Parks contact center, which includes three call center locations, provided the least amount of performance detail. TPWD's contact center experienced a 32.5 percent call abandonment rate during fiscal year 2016, which was the greatest rate of any contact center providing information. TPWD did not capture information to calculate this rate for fiscal year 2017. Additionally, LBB staff called the State Parks Reservation Hotline several times at random, and the estimated wait times ranged from 23.0 minutes to 3.0 hours, including one occasion when the contact center was closed due to a staff meeting. A positive attribute of the contact center, however, is that it enables callers to opt for a call back from TPWD staff.

An advantage of utilizing a website application to make park reservations is that it presents an alternate and more convenient option to the public, in lieu of making a phone call. However, TPWD's website has certain limitations that require individuals to use the hotline. For example, canceling a reservation made 180 days or more ahead of time, including reservations made online, requires calling the contact center. Minor adjustments to the website's functionality could decrease the number of phone calls the agency needs to manage. For instance, increasing the public's ability to make reservations for campsites could increase park revenue collections. System improvements, such as providing an online wait list and notification feature, would help parks fill vacancies due to sudden cancellations. As part of Option 1, TPWD would be required to use DIR resources to evaluate its contact center services during the 2020–21 biennium, and to consider implementing other improvements presented in this report.

TEACHER RETIREMENT SYSTEM, BENEFIT COUNSELING SERVICES

TRS' mission is to improve Texas educators' retirement security by investing and managing trust assets and delivering member benefits. TRS was not selected initially to provide information regarding contact center operations. The agency

alerted LBB staff about significant call wait times that had arisen at its benefits counseling contact center, which addresses inquiries related to pension benefits and TRS-Care, the healthcare program for public school retirees.

Due to benefits changes and increased membership that have resulted in increased call volumes, TRS has experienced an increase in costs during fiscal year 2018 of approximately \$3.8 million from Fund No. 960, Teacher Retirement System Trust Account, including \$1.8 million in outsourced contact center support services and \$0.4 million in long-distance charges. According to TRS, benefit counseling's AHT has increased from 10.0 minutes to 30.0 minutes from fiscal years 2017 to 2018. Average hold times have increased from approximately 3.0 minutes to more than 23.0 minutes during the same period. These factors decrease the agency's ability to assist all customer calls and to meet the target service level of answering 80.0 percent of calls within 3.0 minutes. As of April 2018, the agency answers 15.3 percent of calls within the first 3.0 minutes.

An independent consulting firm hired to analyze services and provide recommendations to TRS concluded that multiple staff, process, and technology improvements were needed to adapt to call center volumes. These improvements included investing in updated technologies, such as automatic call distribution and IVR systems, and improving quality monitoring and data analytics. According to TRS staff, the agency is scheduled to implement IT improvements at the end of fiscal year 2019 that could decrease call hold times. However, these changes might not address all of the consultant's recommended technologies. These IT improvements would be implemented as part of the TRS Enterprise Application Modernization (TEAM) program, a seven-year, \$130.0 million project to replace all of TRS' major IT systems. These systems include member records, annuity payroll, employer reporting, and website functionality. It is anticipated that call volumes will decrease as more members adopt a self-service approach to certain actions, such as changing beneficiary designations online.

Additionally, the consultant's report concluded that the TRS contact center is not staffed adequately to meet service-level objectives. The TRS Board of Trustees approved adding 43.0 FTE positions during the 2018–19 biennium, but TRS staff does not anticipate requesting additional staff for the 2020–21 biennium. As part of Option 1, TRS should examine additional process and technology improvements to address contact center wait times. The agency should consider expanding telecommuting and contact center hours of

availability to further absorb increased call volumes, a strategy that proved successful for DPS' Regulatory Services Division. Option 6 would increase the number of authorized FTE positions in the 2020–21 General Appropriations Bill to TRS to decrease benefits counseling call wait times. Any additional associated costs would be paid from the Teacher Retirement System Trust Account as part of administrative expenses determined and incurred by the agency.

FISCAL IMPACT OF THE OPTIONS

Option 1 would amend statute to define the phrase contact center, require agencies to report relevant performance information to DIR, and, if warranted, to collaborate with DIR to develop a remediation plan to address the identified issues. Agencies that would be subject to this provision include, but are not limited to, DFPS, DPS, TPWD, and TRS. Depending on the issues identified and DIR's technical level of expertise, an agency may contract out for consulting services. Vendors contacted as part of the review provided consulting cost estimates that ranged from \$0 to \$100,000, depending on the scope of service. As such, it is assumed that contracting activities could be accomplished within existing resources with no significant fiscal impact to participating agencies. Expenditures also may be compensated through the technology innovation fund, as suggested through Option 3. State agencies also may achieve an indeterminate amount of cost savings from decreasing contact center wait times through avoided phone toll charges or VoIP data usage, although these savings are not anticipated to be significant. Option 2 would include a rider in the 2020–21 General Appropriations Bill to require DIR to solicit additional vendors to provide contact center-specific technology and consulting services, and to establish preferred vendor contracts for staff augmentation services at contact centers. No significant fiscal impact is anticipated.

Option 3 would establish a technology innovation fund at DIR to award grant funding to agencies to pursue technology projects that would improve customer service performance. From excess Texas.gov payments, estimated at \$62.0 million for the 2020–21 biennium, 5.0 percent could be redirected into the newly established fund, as shown in **Figure 5**. This amount, or a direct appropriation of General Revenue Funds, would result in a cost to General Revenue Funds of \$3.1 million for the 2020–21 biennium. It is assumed that DIR would require an additional 1.0 FTE position to administer the program, the salary for which would be paid out of money deposited to the newly established technology innovation fund.

**FIGURE 5
FIVE-YEAR FISCAL IMPACT OF OPTION 3, FISCAL YEARS 2020 TO 2024**

YEAR	PROBABLE SAVINGS/(COST) IN GENERAL REVENUE FUNDS	PROBABLE REVENUE GAIN/ (LOSS) TO NEW TECHNOLOGY INNOVATION FUND	PROBABLE SAVINGS/(COST) TO NEW TECHNOLOGY INNOVATION FUND	PROBABLE ADDITION/ (REDUCTION) OF FULL-TIME- EQUIVALENT POSITIONS
2020	(\$1,550,000)	\$1,550,000	(\$1,550,000)	1.0
2021	(\$1,550,000)	\$1,550,000	(\$1,550,000)	1.0
2022	(\$1,550,000)	\$1,550,000	(\$1,550,000)	1.0
2023	(\$1,550,000)	\$1,550,000	(\$1,550,000)	1.0
2024	(\$1,550,000)	\$1,550,000	(\$1,550,000)	1.0

SOURCES: Legislative Budget Board; Texas Department of Information Resources.

Option 4 would increase General Revenue appropriations to provide a salary increase to SWI program staff. As shown in **Figure 6**, this increase would cost an estimated \$4.3 million in General Revenue Funds for the 2020–21 biennium.

Option 5 would include a rider in the 2020–21 General Appropriations Bill directing TDCJ to conduct a pilot program for offenders to provide contact center assistance to DPS. It is assumed that a small-scale, initial pilot can be conducted within the existing resources of both agencies, and no significant fiscal impact is anticipated.

Option 6 would increase the number of authorized FTE positions in the 2020–21 General Appropriations Bill to TRS to decrease benefits counseling call wait times. TRS has adjusted the assignments for FTE positions through the Teacher Retirement System Trust Account during the 2018–19 biennium. As such, no significant fiscal impact is anticipated for the 2020–21 biennium.

The introduced 2020–21 General Appropriations Bill includes adjustments to implement Option 6.

**FIGURE 6
FIVE-YEAR FISCAL IMPACT OF OPTION 4
FISCAL YEARS 2020 TO 2024**

YEAR	PROBABLE SAVINGS/(COST) IN GENERAL REVENUE FUNDS
2020	(\$2,164,996)
2021	(\$2,164,996)
2022	(\$2,164,996)
2023	(\$2,164,996)
2024	(\$2,164,996)

SOURCES: Legislative Budget Board; Department of Family and Protective Services.