Texas
Workforce
Commission

Rapid Process Improvement:

Work Opportunity Tax Credit Program

Efficiency Pilot Program
Senate Bill 563
82nd Regular Session (2011)

Submitted August 1, 2012

Texas Workforce Commission Mission

To promote and support an effective workforce system that offers employers, individuals, and communities the opportunity to achieve and sustain economic prosperity.

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WORKFORCE SOLUTIONS

Texas Workforce Commission

Rapid Process Improvement:

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Executive Summary

Senate Bill (SB) 563, enacted by the 82nd Texas Legislature, Regular Session (2011), requires the Texas Workforce Commission (TWC) to establish a pilot program to improve the efficiency and quality of operations while reducing costs, and to adopt a structured approach for identifying the wasteful use of state resources and improving processes. SB 563 requires a structured and defined methodology, continuous improvement technique, and a measurement system analysis associated with Lean Six Sigma. TWC selected the Work Opportunity Tax Credit (WOTC) program as the pilot program and applied the Integrated Theory of Constraints Lean Six Sigma (ITLS) methodology to initiate, implement, and measure efficiency and quality improvements.

Work Opportunity Tax Credit Program

The Internal Revenue Service (IRS) issues a work opportunity tax credit to employers based on eligibility decisions made by the U.S. Department of Labor (DOL) through state workforce agencies. As the state's workforce agency, TWC determines whether an employer qualifies for the tax credit based on the employer's hiring of eligible workers within specified target groups of individuals typically having barriers to employment. TWC's WOTC program is federally funded and not supplemented by state funds.

The number of applications has increased year-over-year, affecting WOTC's ability to respond timely to employer applications. For Calendar Year 2010 (CY 2010), employers submitted 262,356 applications. Of those, WOTC processed 157,578, or only 60 percent, by the 2011 tax filing deadline.

TWC selected the WOTC program as the pilot program to solve the following problem:

> *The number of applications appeared to exceed WOTC's capacity to make determinations and respond timely to employers. Further, federal funding for administration of the program is shrinking while the number of applications is increasing. As a result, process efficiencies are necessary to increase the program's capacity to respond timely to employer applications within available funding limitations.*

The pilot's goal was:

> *To increase the number of applications processed and reduce the amount of time in days to process employer applications within current and future funding, enabling employers to include tax credit certifications with that year's tax filing.*

Pilot Results

By applying the ITLS methodology, the pilot succeeded in increasing the number of applications processed and in responding to employers regarding eligibility for possible tax credits faster.

Improvements implemented during the pilot eliminated several significant delays in the processing of applications resulting in periodic surges in performance due to the processing of backlogged cases. While performance will stabilize over time, the pilot resulted in the following operational improvements:

- 48 percent decrease in the average number of days, from 194 days to 101 days, and a sustained increase in the number of determinations per month
- 60 percent decrease in the processing backlog, from five months, to less than two months
- 45 percent increase in the percentage of applications processed by the tax filing deadline, from 60 percent for CY 2011, to 87 percent for CY 2012

The increase in the number of determinations, with a decreased average number of days to determination, resulted in a 55 percent increase, or $97 million, in maximum potential tax credit value to employers between October and June comparing Federal Fiscal Year 2011 (FFY 2011) to FYY 2012. The comparative amounts are $175 million (2011) and $272 million (2012).

The increased capacity to issue more determinations with existing resources resulted in a reduced cost per determination. The reduction in cost per determination reflects the program's ability to manage increasing numbers of applications within a shorter time frame and without potential staff and automation costs needed to produce the same results prior to the pilot. Until program operations stabilize, the cost per determination will fluctuate; however, sustained improvements position TWC to operate within budget limitations.

Improvements Generating Results

To achieve pilot results, TWC implemented improvements around three major functions performed by WOTC, and discussed further within the body of the report:

(1) Handling the intake of employer applications faster
(2) Maximizing automated system capacity
(3) Revising staff review procedures

Effectiveness

TWC concludes that the pilot was effective based on the increase in the number of processed determinations, and the decrease in the average number of days to determination, within existing resources. The use of a structured methodology in reviewing project management, maximizing a continuous improvement technique, and conducting measurement system analyses contributed to the pilot's achievements. The pilot benefited significantly from TWC's decision to apply the Theory of Constraints (TOC) methodology as a strategy to focus, prioritize, compel solutions, and solve problems while integrating methods and concepts of Lean and Six Sigma. WOTC identified future initiatives to realize further operational efficiencies using a structured approach beyond the pilot.

1.0 Background

SB 563 requires TWC to establish a pilot program to improve the efficiency and quality of operations while reducing costs, and to adopt a structured approach for identifying the wasteful use of state resources and improving processes. SB 563 requires TWC, in implementing the pilot program, to use a:

(1) *methodology* that includes a "define, measure, analyze, improve, and control" structure for reviewing project management;
(2) *continuous improvement technique* that identifies value and a value stream, creates a flow for activities, allows consumers to pull products or services through the process, and allows the process to be perfected over time; and
(3) *measurement system analysis* to evaluate data.

SB 563 also requires the submission of a report on the effectiveness of the pilot by August 1, 2012.

1.1 Pilot Program Selection

To satisfy SB 563's pilot requirement, TWC selected the WOTC program. The IRS issues a work opportunity tax credit to employers based on eligibility decisions made by the DOL through state workforce agencies. As the state's workforce agency, TWC determines whether an employer's application qualifies for the tax credit based on an employer's hiring of eligible workers within specified target groups of individuals typically having barriers to employment. **APPENDIX A-1** lists eligible target groups and maximum potential tax credit values.

Historically, administration of the WOTC program has entailed intensive, paper-driven processes. Identifying efficiencies is critical because the number of applications exceeded the existing operational capacity to make determinations and respond timely to employers. Further, federal funding for program administration decreased as the number of applications increased. The goal of the pilot was to increase the number of applications processed and to reduce the average number of days to determination, within current and future funding, enabling employers to include tax credit certifications with that year's tax filing.

In implementing the pilot, and from resources available for such purposes, TWC procured contracted services for ITLS training and operational consultation with a company that provides performance management, continuous process improvement, and project management services consistent with SB 563's requirements.

1.2 Pilot Program: Work Opportunity Tax Credit

Federal funding entirely supports the state's WOTC program. DOL allocates funding to states by each state's relative share of WOTC certifications, civilian labor force, and adult Temporary Assistance for Needy Families (TANF) recipients, based on averages of the prior federal fiscal year's 12-month period.

Federal funding decreased for TWC's program since FFY 2010 from $1.35 million (2010), to $1.28 million (2011), to $1.25 million (2012), a two-year reduction of $100,675, or 7.4 percent. However, the number of applications increased during the same period, from 239,012 (2010), to 336,355 (2011), to a projected 347,620 (2012)[1], a two-year increase of 108,608 applications, or 45 percent. That increase was at least partially due to the addition of target groups for employer tax credits in 2009 through 2011.

Until FFY 2011, WOTC manually processed all applications, to include data entering paper applications into the mainframe system, and conducting a staff review process to verify whether each application contained sufficient information to certify the hire as eligible for an employer tax credit. In FFY 2011, WOTC implemented initiatives to provide for electronic receipt of applications, and the automation of a portion of certifications and denials.

2.0 Methodology and Pilot Application

TWC's pilot included Lean and Six Sigma methodologies within a TOC framework—referred to as ITLS—to achieve enhanced benefits over-and-above the results that organizations could generate by using each methodology individually.

[1] Except those relating to veterans, all WOTC target groups, as listed in **APPENDIX A-1** expired December 31, 2011. DOL advised states to continue receiving and processing applications but not to issue determinations, other than for veteran-related target groups, pending possible reauthorization.

Exhibit 2-1 compares the general purpose, focus, and application of each of the three methodologies.

EXH 2-1. ITLS METHODOLOGY MATRIX

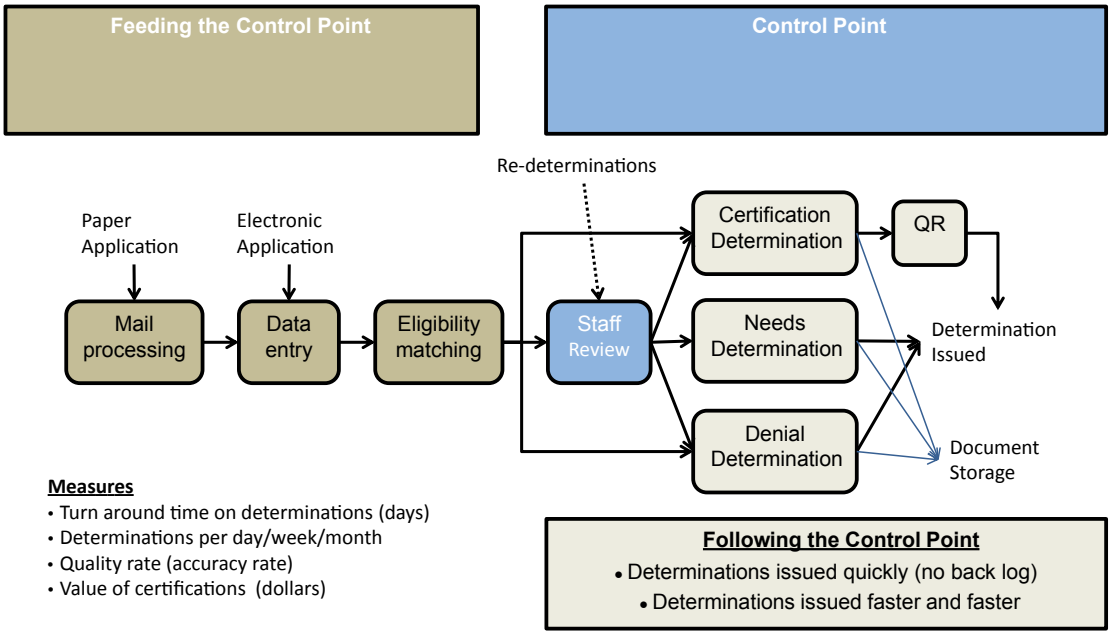
	Theory of Constraints	Lean	Six Sigma
Purpose	Identifies and manages constraint (control point)	Identifies and removes waste	Identifies and reduces variation
Focus	System Constraint (increasing system output through the constraint)	Flow (creating smooth process flow)	Problem (decreasing rework and reducing variation)
Application Guidelines	Throughput Operating Strategy (TOS) 1. Identify constraint 2. Optimize constraint 3. Subordinate processes to the constraint 4. Elevate constraint 5. Repeat	Value Steps 1. Specify value 2. Identify value stream 3. Improve Flow 4. Increase Pull 5. Achieve Perfection 6. Replicate	DMAIC 1. Define 2. Measure 3. Analyze 4. Improve 5. Control

A description of each methodology is included in **APPENDIX A-2**.

Pilot planning and baseline data analyses initiated in December 2011. WOTC analyzed the program's current state and began identifying non-value added uses of state resources through value stream mapping. Subsequently, WOTC identified the problem as "the number of applications appeared to exceed WOTC's capacity to make determinations and respond timely to employers."

In February 2012, the pilot team developed the WOTC throughput operating strategy (TOS) as displayed in **Exhibit 2-2**. A TOS strategically maps the major functions of process flow. WOTC used the TOS as a guide for the desired state of the operation.

EXH 2-2. WOTC THROUGHPUT OPERATING STRATEGY



Steps in development of the TOS:

(1) Identified *major functions*: input (mail processing and data entry), automated eligibility matching, staff review, determinations, and quality review.

(2) Identified *performance measures* to manage business decisions, to monitor and motivate performance, and to evaluate results for effectiveness and efficiency. Primary measures included the average number of days to determination; the number of determinations per day/week/month; quality rate; and value of certifications.

(3) Selected the *control point* by determining which part of the process was the most resource intensive and takes the most expertise. WOTC identified the control point as the staff review function—where the automated eligibility matching system could not generate a determination —with the objective that analysts spend productive work hours processing applications and increasing the number of timely processed determinations.

(4) Identified functions where *interferences* kept the control point from operating at full capacity, such as unnecessary call taking, printing and retaining duplicate documentation, or duplicating activities provided by other TWC programs.

(5) Reviewed and identified *post-control point* activities to ensure determinations flow at maximum speed and capacity following the staff review function. These functions include quality review and any other activities preventing the issuance of determinations. The goals for post-control point activities were to remove backlogs and to issue determinations faster.

(6) Reviewed and identified *pre-control point* activities to ensure the control point received an uninterrupted flow of applications and operated at maximum capacity. WOTC identified pre-control point activities as always having applications ready for review and entering the correct data into the system.

After developing the TOS, the pilot team focused on each function to maximize the flow of applications to reach a more efficient processing environment. The team analyzed each function in the following order:

- Quality review (QR)
- Input (mail processing and data entry)
- System review (eligibility matching)
- Staff review

Within the TOC framework, WOTC used a variety of ITLS tools to achieve results. Some of the tools and concepts used through the improvement process included:

Levers. Major initiatives applied to gain the greatest leverage on performance. The number of levers was intentionally limited and prioritized to focus on sharp improvements, as opposed to scattering efforts across too many initiatives, which would delay immediate and mid-term results. WOTC validated lever activities and progress through data results and logical analyses to confirm that, in fact, activities did have significant improvements for WOTC.

Interference charts. Interference charts identified activities that slowed or hindered throughput. WOTC used interference charts to streamline daily work activities of critical functions (staff review and input).

Value stream mapping. Complementary to the TOS, WOTC mapped activities to identify non-valued added activities in staff review and input functions, and began eliminating as many non-value added activities as possible.

Throughput rounds. WOTC conducted weekly throughput rounds with front-line staff to generate feedback on improvement initiatives and identify new improvements. These meetings were essential to creating a culture of continuous improvement that will continue after completion of the formal pilot. Using the TOS as the guide, WOTC management engaged staff on a weekly basis to compare the current operations with the TOS to identify additional changes that staff could enact immediately.

Process teams. WOTC created process teams to focus on levers and to affect change within each area being mindful of the TOS as the model for the desired state of the operation. The teams worked to close performance gaps. The teams focused on major functions of the TOS as well as support functions from other TWC divisions.

Management reports. TWC developed management reports to monitor performance results against the baseline and maintain continuous process improvement. Management reports and analyses were critical in developing more efficient business processes, monitoring the effect of initiatives on throughput, and redirecting resources by eliminating non-value added activities.

Exhibit 2-3 displays WOTC's integration of complementary ITLS tools.

EXH 2-3. COMPLEMENTARY ITLS TOOLS USED IN PILOT

Theory of Constraints	Lean and Six Sigma
Throughput Operating Strategy	Value Stream Analysis (pre-development and during development); and Quick Hits Six Sigma's SIPOC, to identify process, metrics, suppliers, customers, and VOC (voice of the customer) measures
Interference Charts	The "analyze" component of DMAIC, Lean's Process Value Stream Analysis, and Six Sigma's Root Cause Analysis
Throughput Rounds	Incorporated Lean's Rapid Improvement Workshop
Process Teams	Incorporated Lean's Rapid Improvement Workshop, 5S, and Visual Display, with Six Sigma's Root Cause Analysis

3.0 Pilot Initiatives

Prior to initiating the formal pilot associated with SB 563, WOTC focused on operational efficiencies, and the pilot team acknowledged recent initiatives resulting in major automated system improvements that positively affected throughput:

- October 2010: Ability to receive electronic applications from agents representing employers
- April 2011: Ability to have the mainframe system generate system certifications
- June 2011: Ability to have the mainframe system generate system denials

The team initiated pilot data collection in December 2011 as well as an analysis of process flow and value. In February 2012, the team developed the TOS (see section 2.0) and established January 2012 as a comparative baseline while also recognizing the benefit of comparing progress-to-date to prior federal fiscal years and other time frames.

Pilot initiatives focused on three major components of the process as discussed in the following subsections:

- Initial Processing of Employer Applications
- Mainframe System Capacity to Make Determinations
- Staff Capacity to Make Determinations and Conduct Quality Assurance

3.1 Initial Processing of Employer Applications

Employers must hire from specific target groups to be eligible for the tax credit. Federal law establishes target group qualifications and maximum potential tax credit values (**Appendix A-1**). To qualify for the tax credit, employers first submit the application to TWC to determine whether a new hire is an eligible member of a targeted group.

Employers submit applications through two primary methods:

- Electronic (secure file transfer protocol of application data elements)
- Mail (hard copy of application)

Electronic submission started in October 2010. Based on limited technical assistance resources, TWC targeted employer agents submitting the highest number of applications for transition to electronic submission. Currently, four agents submit electronically and another is in test mode. TWC's mainframe system captures data from all electronic applications and WOTC staff data enter all mailed applications into the mainframe system.

Once WOTC receives applications (whether electronic or mailed), procedural activities occur related to managing the paperwork and preparing the application and attached documentation for staff review.

During the pilot, WOTC identified the following major challenges, determined solutions, and measured results:

3.1.1 – Limited data entry resources

WOTC data enters information included on mail-submitted applications.

Challenge: Even with WOTC receiving about one-half of applications electronically, the number of applications requiring data entry exceeded existing staff capacity assigned data entry activities. WOTC dedicated one staff person to data entry activities and often redirected or added temporary staff resources to data enter applications on an ad hoc basis. Despite these efforts, a seven-month data entry backlog existed at the beginning of the pilot (January 2012), resulting in a delay to issue system determinations.

Solution: Beginning in March 2012, WOTC redirected staff—those performing both input and staff review functions—to data enter applications, while maintaining minimum capacity for staff review.

Throughput effect: WOTC data entered more applications sooner and reduced the data entry backlog, positioning more applications to process through the mainframe system if information is available to determine eligibility. The backlog reduced to two weeks, and coupled with a change in system determinations discussed in Section 3.2, WOTC created an environment where electronic applications could technically process in as few as 15 days (by the pilot's end, electronic applications had processed within 18 days).

3.1.2 – Duplicate applications required

Based on federal requirements to verify original signatures and the employer's use of the appropriate form, TWC required employer agents submitting electronic applications also to submit duplicate hard copies of applications. WOTC managed all hard copy applications by merging applications according to the mainframe-assigned number.

Challenge: WOTC retained paper applications in addition to the hard copy duplicate of the electronic application, and staff merged all hard copy applications (mail and duplicate) by the mainframe-assigned number. This duplicative process required staff time that could otherwise be spent performing data entry or making determinations. Retaining such volume affected both on-site and off-site retention capacities.

Solution: TWC concluded that sufficient time had elapsed to ensure that its electronic submission process was procedurally reliable and, following consultation with the IRS and the DOL, TWC discontinued this duplicative filing requirement in February 2012. TWC subsequently notified both agencies that TWC would no longer accept and maintain hard copies of electronic applications. Further, TWC notified these agencies and employer agents that agents would be responsible for complying with the required provisions relating to form versions, signatures, and retention.

Throughput effect: WOTC data entered more applications sooner because staff no longer managed duplicate applications associated with electronic submission.

3.1.3 – Postmark documentation more than necessary

Workforce agencies must certify that employers submitted applications within 28 days of hire based on postmark. To document the postmark date of the application, WOTC made a copy of the envelope for each application—even if WOTC received multiple applications in one mailing—and stapled either the envelope or a copy of the envelope to each application. Staff also date stamped each application with the receipt date in case the postmark date was separated from the application.

Challenge: Making copies of envelopes to document postmark dates and date stamping applications with receipt dates was an inefficient method of documentation.

Solution: In mid-April 2012, WOTC stopped copying envelopes for each application, and started documenting the postmark date using a date stamp on the application.

Throughput effect: By modifying the procedure for documenting the postmark date, WOTC was able to redirect staff capacity to reducing the data entry backlog (see Section 3.1.1).

3.1.4 – Data entry screen not consistent with form and capacity not fully utilized

During the data entry function, staff enters information from the mail-submitted application but not additional documentation attached to or included in the application (such as verifying the signature, or whether the employer used the correct form version). Subsequently, during staff review, staff validated and documented attached information in the data entry screen.

Challenge: In data entering mail-submitted applications, staff identified and entered elements from different parts of the submitted application. Further, during data entry, staff did not data enter certain application information needed during the staff review process which required staff analysts to have hard copy files and to document information which could be done during the data entry process. With the increasing number of applications, WOTC needed to recognize operational efficiencies to process applications faster.

Solution: In May 2012, WOTC reformatted the data entry screen to match the flow of the form and to add additional data elements that will allow review staff to make a determination based solely on the information data entered into the mainframe system record. This will eliminate the need for staff analysts to have paper applications to review an application and make a determination.

Throughput effect: Aligning the data entry screen with the form saved time, which created an opportunity for WOTC to initiate a process where data entry staff could document the receipt of additional application information instead of sending the hard copy information to staff analysts for review and documentation resulting in the ability of staff analysts to conduct paperless staff reviews in the future. This improvement will reduce the time required for staff to make a determination and ultimately lead to a further decrease in the average number of days to determination.

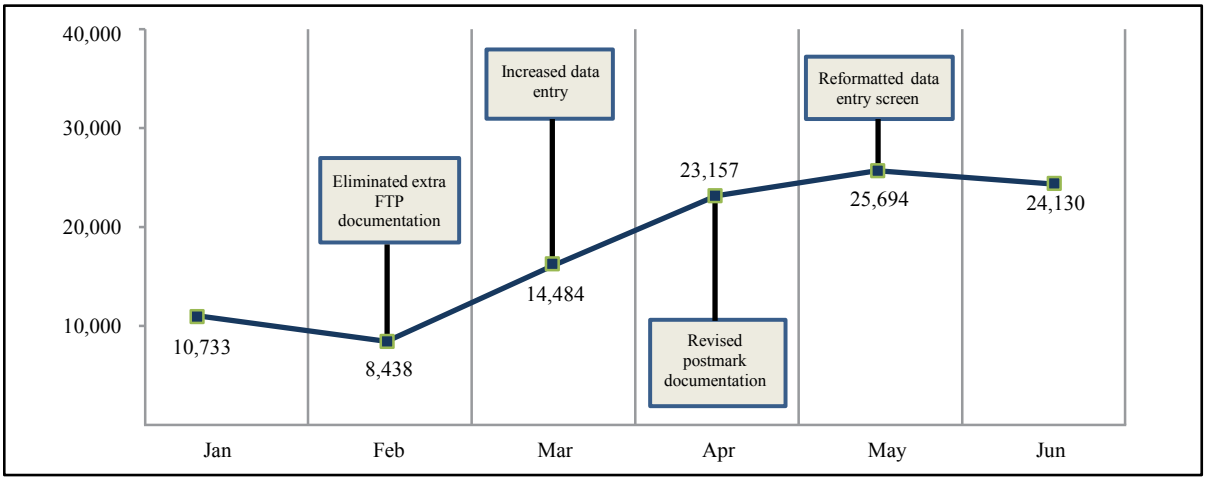
Summary

WOTC's improvements to the initial processing of applications functions are:

3.1.1 Increased data entry capacity to reduce data entry backlog and increased system review throughput (March/April 2012).
3.1.2 Eliminated unnecessary duplicates of electronic submissions to increase data entry capacity (February 2012).
3.1.3 Streamlined documentation of postmark date to increase data entry capacity (April 2012).
3.1.4 Revised data entry screen and began recording additional data elements during data entry to increase staff review throughput (May 2012).

Exhibit 3-1 displays the number of applications data entered with major process changes. During the pilot, data entry capacity increased by 125 percent, from 10,733 in January 2012, to 24,130 in June 2012. With the significant reduction in the data entry backlog, as displayed in **Exhibit 3-2**, WOTC may redirect staff resources to other functions, such as staff review.

EXH 3-1. CY 2012 YTD – NUMBER OF APPLICATIONS DATA ENTERED AND MAJOR PROCESS CHANGES



Focused data entry efforts also reduced the backlog from 6.9 months in January 2012 to less than one month in June 2012, as displayed in **Exhibit 3-2**.

EXH 3-2. CY 2012 YTD - NUMBER OF MONTHS DATA ENTRY BACKLOG

Jan	Feb	Mar	Apr	May	Jun
6.9	6.3	4.5	2.5	0.9	0.5

Future improvements

TWC will consider requiring, by rule, electronic submission of applications by employers and their agents submitting large numbers of applications to reduce further the number of applications requiring data entry.

3.2 Determinations – Mainframe System Capacity

Once an employer submits an application, and information is entered electronically or manually into the mainframe system, the system initially matches the new hire's information with the following information available to TWC or through data-sharing agreements:

- TWC's Unemployment Insurance wages and benefits information to identify any wages on file between the new hire and the employer and any payment of unemployment insurance benefits.
- The Texas Health and Human Services Commission's Texas Integrated Eligibility Redesign System (TIERS), for information on TANF and SNAP benefits related to a new hire's eligibility within those target groups.
- Texas Department of Criminal Justice's information on recent releases from the state's prison system, to validate a new hire's eligibility within the ex-felon target group.
- Texas Veterans Commission's military discharge information on DD214's, to validate the military status of veterans related to a new hire's eligibility within the veteran target groups.

TWC's mainframe system capability to initially determine eligibility and issue system certifications began in April 2011. System denials began in June 2011. For applications associated with employer hires in CY 2011, the mainframe system identified 51 percent of determinations.

If the mainframe system is not able to approve or deny an application based on the new hire information, the system identifies all information available for staff analysts to evaluate the application for possible certification (see Section 3.3).

During the pilot, WOTC identified the following challenge, determined a solution, and measured the result:

3.2.1 – System determinations delayed pending processing of prior quarter applications

The mainframe system did not identify and issue determinations until WOTC first completed all applications for a prior quarter. Once all applications for a prior quarter were near completion, WOTC requested automated processing for system determinations for the next quarter. After the system determinations occurred, WOTC conducted quality reviews and printed supporting documentation for all certifications before releasing determinations to employers.

Challenge: Although the mainframe system included information for a system determination shortly after WOTC received an electronic application or WOTC data entered an application, WOTC did not process system determinations until staff analysts were prepared to evaluate *all* applications received for that quarter. For system certifications, the application required quality review and printing of documentation in support of the certification. In January 2012, the average number of days for system determination was 193 days.

Solution: In April 2012, WOTC implemented a processing procedure to allow the mainframe system to issue a system determination (certifications and denials) for all pending applications (regardless of quarter) on the 1st and 15th of each month. Further, WOTC stopped requiring quality review of system certifications and printing documentation in support of certifications (see Section 3.3).

Throughput effect: The mainframe system issued more determinations faster because issuance was not contingent on completing prior quarters to trigger system issuance. The average number of days decreased to 70 days, with some determinations processing in as few as 18 days (June 2012).

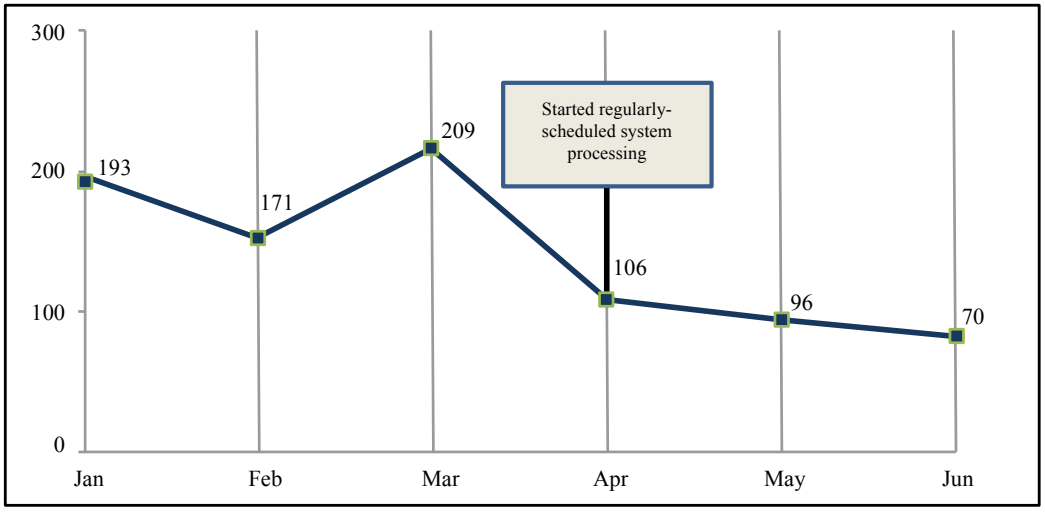
Summary

WOTC improvement to the mainframe's capacity was:

3.2.1 Scheduled the release of system determinations (certifications and denials) and eliminated quality review and documentation printing to increase throughput and reduce the average number of days to determination to, technically, as few as 15 days from entry into the mainframe system depending on when the application was entered into the mainframe system (April 2012).

Scheduling the release of system determinations contributed significantly to increasing throughput and reducing the average number of days to issue determinations. The average number of days to issue system determinations decreased during the pilot as displayed in **Exhibit 3-3**.

EXH 3-3. CY 2012 YTD – AVERAGE NUMBER OF DAYS FOR SYSTEM DETERMINATIONS



Future improvements

TWC plans to enhance existing, and establish new, data sharing agreements with other state and federal agencies to automate determinations on more applications.

3.3 Determinations – Staff Capacity

The system refers about 50 percent of all applications to staff analysts for determination (certification, denial, or request for more information).

The staff review process requires analytical review and decision-making. For each target group, staff analysts review information captured through the automated process described in Section 3.2 and access other automated systems or information submitted with the application to make a determination.

Once the staff review process completes, staff analysts conduct quality assurance functions.

Staff analysts conducting staff review and quality assurance functions also provide direct customer service assistance to employers and their agents.

During the pilot, WOTC identified the following challenges, determined solutions, and measured results:

3.3.1 – Reassigning applications for quality review delayed issuance

After a WOTC staff analyst completed staff review and prior to issuance, a second staff analyst quality reviewed 100 percent of system and staff certifications.

Challenge: To conduct the quality review function, WOTC required staff analysts to return all determinations to WOTC headquarters for reassignment. Returning and reassigning determinations caused a delay in performing the quality review function. Further, a limited number of staff analysts conducted quality review.

Solution: In March 2012, WOTC started conducting quality review based on a new weekly report identifying all certifications ready for a second, or quality, review. Staff analysts now use information and documentation recorded in the mainframe system rather than waiting for the paper applications' return and reassignment for quality review. With the change in procedure, WOTC evaluates all certifications requiring quality review and issues a determination to the employer the following week.

Throughput effect: Revising the procedure for quality review resulted in a quicker release of certifications.

3.3.2 – Assignment and processing procedures not completely aligned with age of applications

In managing the assignment of applications for review, staff assigned boxes of applications (about 500 applications per box) for staff review. Staff analysts were assigned applications in monthly or weekly increments, depending on the analyst's schedule, while staff analysts conducting reviews at headquarters worked the next available box of applications. Further, because of the previous data entry backlog, all electronic applications were assigned numbers and worked prior to mail-submitted applications.

Challenge: Because of the staggered pattern of assigned work (monthly, weekly, daily), and processing of all electronic applications before working applications submitted in paper, the number of days to issue a determination varied widely.

Solution: In May 2012, WOTC developed a report identifying applications with the oldest postmark dates and made assignments to ensure staff worked the oldest applications first. WOTC cleared its backlog of oldest applications in early June 2012, and revised assignment procedures for working applications considering the age of applications.

Throughput effect: While temporarily increasing the average number of days to determination in May 2012, the average number of days to determination will stabilize going forward because WOTC will consider age of applications in making assignments.

3.3.3 – Quality assurance processes more comprehensive than necessary

DOL's instructions, as found in the *ETA (Employment and Training Administration) Handbook No. 408*, issued in November 2002, with an addendum issued in 2005, require states to:

- *Quality review* applicant's record at certain "points" in the eligibility process, checking all forms for completeness, accuracy, and consistency; and a "different individual than the one performing the initial screening must conduct this review."
- *Audit* a 10 percent sample of all certifications issued during a quarter; audit will establish the credibility and reliability of the eligibility determination and certification process; and if the first sample resulted in 5 percent or more error rate, states must audit a second sample. If the second sample results in 5 percent or more error, states must implement a corrective action plan.

To ensure quality and based on WOTC's interpretation of DOL's instruction, WOTC conducted a quality review of 100 percent of certifications after staff review and prior to issuance. This second review allowed for the correction of errors prior to issuance of the determination to the employer.

At an average of five minutes per review or audit, the commitment of staff resources to the quality review process was extensive. WOTC analyzed DOL quality assurance instructions and discussed the application of those instructions with other states to draw the following conclusions:

- Many states consider the data entry function of received applications as a first review for completeness, accuracy, and consistency.
- When DOL quality review and audit instructions are read together, the acceptable level of error was anything less than five percent.
- States' use of automated systems for handling applications had increased in recent years while DOL issued instructions when the entire process was more dependent on review of paper submitted by the employer.

Based on those conclusions, WOTC identified the following challenges, determined solutions, and measured results:

3.3.3.a System Certifications – Quality Review

Challenge: The commitment of staff resources to quality review 100 percent of system certifications limited the amount of time available for staff analysts to conduct staff reviews.

Solution: WOTC analyzed reversal (error) rates of system certifications subject to quality review for the period October 1, 2011, through February 29, 2012, and identified 11,964 system certifications subject to quality review. After quality review of those certifications by staff analysts, WOTC reversed 14 certifications resulting in a 0.12 percent error rate.

With a 0.12 percent error rate significantly less than DOL's acceptable five percent error rate and in consideration of the amount of time required for the quality review of a significant proportion of certifications, WOTC stopped quality reviewing system certifications in March 2012.

Throughput Effect: WOTC eliminated the quality review process for system certifications, which reduced the amount of time to issue certifications and increased staff review capacity to review more applications for determination.

3.3.3.b Staff Certifications – Quality Review

Challenge: The commitment of staff resources to quality review 100 percent of staff certifications limited the amount of time available for staff to conduct staff reviews.

Solution: After redirecting staff resources from quality reviews of system certifications, WOTC reviewed the accuracy of staff certifications for the period October 1, 2011, through February 29, 2012, and identified 36,607 staff certifications subject to quality review. After quality review of those certifications by staff analysts, WOTC reversed 310 certifications resulting in a 0.85 percent error rate.

Given the low number of quality reviews resulting in a change to the certification, compared to the amount of time required to conduct quality reviews, and concluding that the error rate was acceptable, WOTC revised the quality review procedure in late May 2012, to focus on individual staff performance. Management now reviews certification quality rates on a monthly basis and determines whether staff analysts are subject to quality review or audit.

Throughput effect: WOTC optimized the quality review process for staff certifications, reducing the number of quality reviews needed and increased staff review capacity to issue determinations..

3.3.3.c Denials and Requests for Additional Information – Audit

Staff analysts conducted quality assurance audits of 10 percent of denials and requests for additional information. If staff analysts found an error resulting from an audit, WOTC re-issued the correct determination to the employer.

Challenge: WOTC was performing more quality assurance functions than necessary since there is no federal requirement to audit denials or requests for additional information, and TWC offers a redetermination process to employers for denials and requests for additional information.

Solution: WOTC transitioned the audit function to a monthly, random sample of system certifications, and a random sample of staff certifications based on staff performance.

Throughput effect: While not eliminating the amount of audit processing, revised audit procedures allowed strategic application of a quality assurance function.

3.3.4 – Staff review capacity reduced by time-consuming or interfering activities

Through discussions regarding activities that staff analysts are called on to perform daily, WOTC management and staff identified interferences that delayed staff analysts from processing and reviewing applications and issuing timely and accurate determinations to employers.

3.3.4.a Unnecessarily documenting target group eligibility

Challenge: WOTC printed and retained eligibility documentation in hard copy for all certifications. As a result:

- Staff analysts spent available time formatting documentation for printing and waiting for print jobs.
- The number of boxes for storing applications and associated documentation was twice the amount required for applications alone.
- WOTC incurred costs for supplies, maintenance of printers needed to print documentation, and records retention.

Solution: After evaluating federal documentation requirements and verifying retention requirements for information available in automated systems and used to determine eligibility, WOTC stopped printing most documentation in May 2012.

Throughput effect: WOTC completed more staff reviews because staff analysts spent less time printing and retaining documentation.

3.3.4.b Providing customer service to employers

In addition to processing applications, WOTC serves employers and employer agents by responding to inquiries, notifying employer agents of determination status, and mailing certification requests.

Challenge: Responding to inquiries from employers and employer agents—regarding application status and guidance—is important, but WOTC needed a more strategic approach to assisting employers.

Solutions: In March 2012, WOTC put in place several business support functions to minimize staff analyst interruptions:

- Directed employers to a simplified TWC web site containing pertinent information for employers and their agents interested in the program.
- Provided additional options to direct calls via the 1-800 number, scheduling daily phone coverage to one staff, and forwarding calls that are more complex to the program manager.
- Provided voice mail to staff and established a procedure for using a daily window of time for responding to messages.
- Revised non-TWC forms referencing WOTC contact information.

In May 2012, WOTC expanded procedures previously used only for agents to major employers (any employer with more than 500 applications submitted per year) by:

- Sending a quarterly application status report and a report on all denials.
- Mailing certifications and requests for additional information in bundled mailings instead of mailing each response individually.

Throughput effect: WOTC enhanced customer service, reduced postage, and completed more staff reviews by removing interferences.

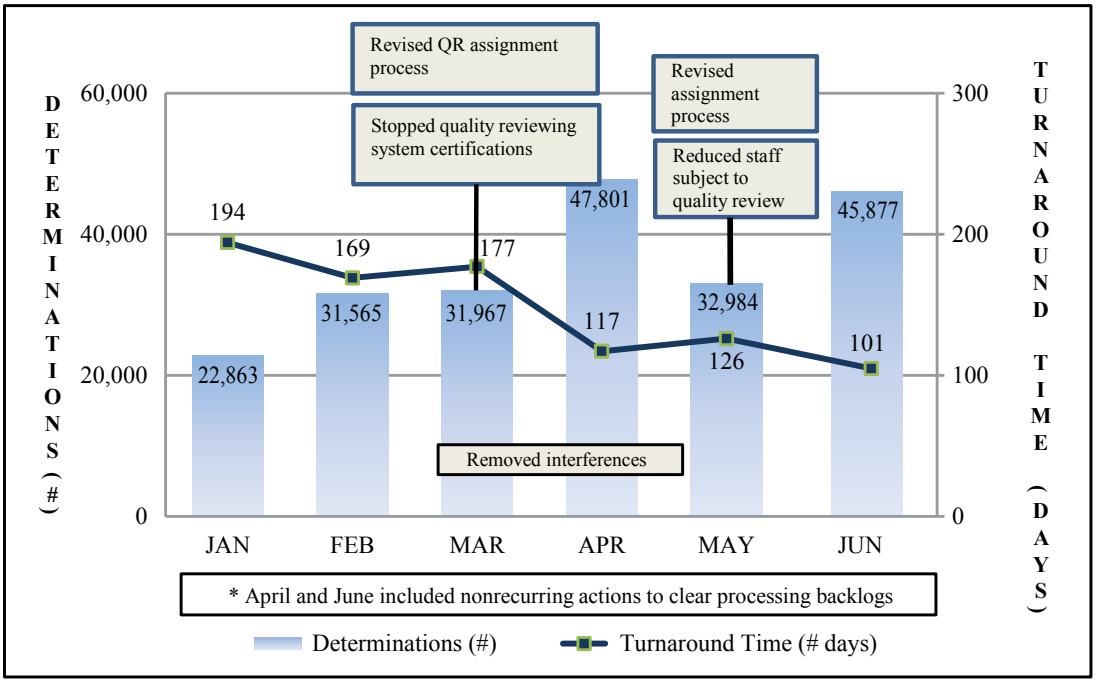
Summary

Improvements to staff review capacity were:

3.3.1 Revised assignment procedure for quality review of certifications to increase the number of determinations and reduce the average number of days to determination (March 2012).
3.3.2 Established assignment procedure to account for age of applications to normalize the average number of days to determination (May 2012).
3.3.3 Revised quality assurance procedures to continue exceptional quality levels while redirecting staff resources to staff determinations (March 2012—system; May 2012—staff).
3.3.4 Revised operating procedures to remove interferences and maximize staff work capacity to increase the number of determinations and reduce the average number of days to determination (March through May 2012).

Focused process changes to the staff review function contributed to a 48 percent decrease in the average number of days to process a determination, from 194 days to 101, and a sustained increase in the number of determinations per month, as displayed in **Exhibit 3-4**.

EXH 3-4. CY 2012 YTD – NUMBER OF DETERMINATIONS, AVERAGE NUMBER OF DAYS TO DETERMINATION, AND MAJOR PROCESS CHANGES



Focused process changes also resulted in a substantial reduction in quality review backlog, from two-and-a-half months to one week, as displayed in **Exhibit 3-5**.

EXH 3-5. CY 2012 – YTD – NUMBER OF MONTHS QUALITY REVIEW BACKLOG

Jan	Feb	Mar	Apr	May	Jun
2.5	1.2	0.25	0.25	0.25	0.25

In calculating a quality rate, considering determinations quality reviewed or audited and affirmed by the second review, WOTC determined that the quality rate remained within acceptable levels as WOTC initiated process improvements and increased determinations within faster time frames. The monthly quality rates are displayed in **Exhibit 3-6**.

EXH 3-6. CY 2012 YTD – QUALITY RATE PERCENTAGE

Jan	Feb	Mar	Apr	May	Jun
98.1%	97.2%	97.9%	99.4%	98.7%	97.6%

Future Improvements

WOTC is moving toward a processing environment not dependent on paper. In May 2012, WOTC implemented changes to the data entry process (see Section 3.1.4) to document additional application information during the data entry process. This change will ultimately eliminate the use of hard copy applications and documentation to conduct staff reviews resulting in a decrease in the average number of days and an increase in the number of determinations by staff analysts. Additionally, an environment not dependent on paper will eliminate transport and printing activities and also reduce future costs associated with records retention and storage needs.

4.0 Conclusion

SB 563 required TWC to establish a pilot program to improve the efficiency and quality of operations while reducing costs and adopting a structured approach for identifying the wasteful use of state resources and improving processes.

The pilot achieved its operational goals of issuing more determinations within shortened time frames that substantially decreased the backlog of applications pending determination.

Improved operations resulted in a 55 percent increase in maximum potential tax credit value for Texas employers during the first nine months of FFY 2012 compared to the prior year. Ultimately, the tax credits benefit Texas employers and their new employees.

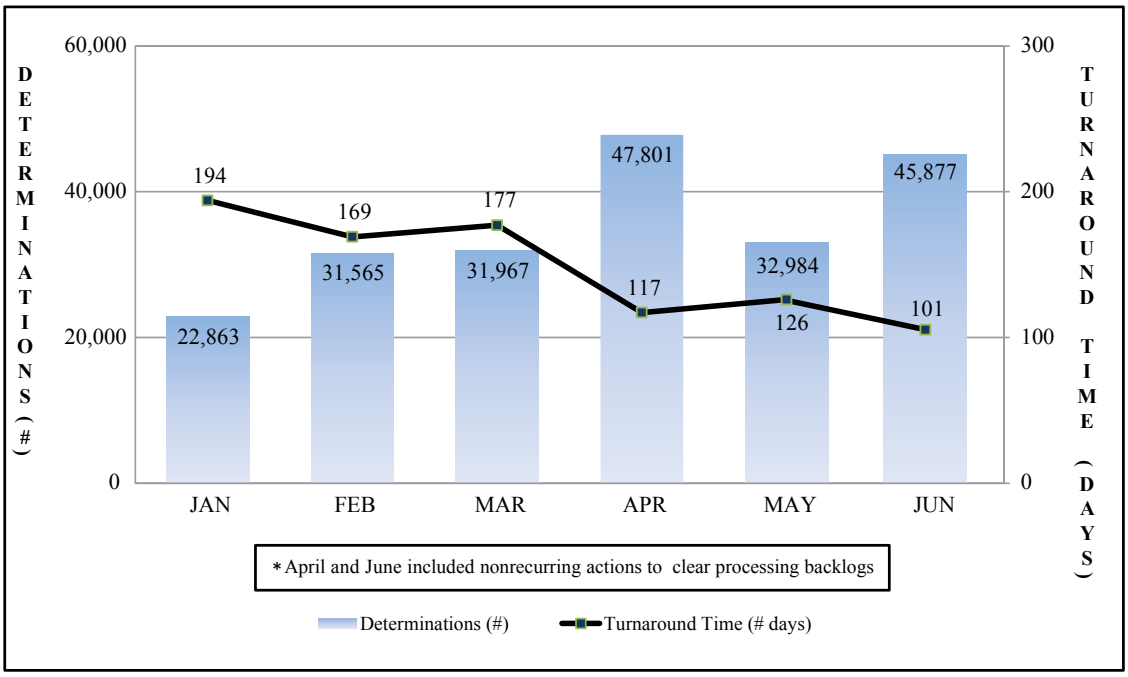
4.1 Efficiency and Quality of Operations

Pre-pilot, the number of applications appeared to exceed WOTC's capacity to make determinations and respond timely to employers.

Effect of operational efficiencies on timelines

The pilot's goal was to increase the number of applications processed and reduce the average number of days for determinations on whether applications qualify employers for tax credits, within existing resources. Improvements implemented during the pilot eliminated several significant delays in the processing of applications, which resulted in periodic surges in performance due to the processing of backlogged cases. Overall, the pilot created efficiencies that increased the monthly number of determinations and decreased the average number of days to determination, while maintaining high levels of quality and customer service. **Exhibit 4-1** represents the increase in the number of determinations [2] and the decrease in the average number of days to determination.

EXH 4-1. CY 2012 YTD – NUMBER OF DETERMINATIONS AND AVERAGE NUMBER OF DAYS TO DETERMINATION



As of the end of May 2012, staff completed 97 percent of applications filed for hires in CY 2011—three months ahead of last year's performance. This production increase resulted in staff completing 87 percent of CY 2011 applications by the 2012 tax filing deadline, compared to staff completing 60 percent of CY 2010 applications by the 2011 tax filing deadline. Assuming sustained and continued pilot improvements, TWC's goal is to complete 100 percent of 2012 applications by the 2013 tax filing deadline. **Exhibit 4-2** displays the number of 2010 and 2011 applications, and the number and percentage of applications processed by the 2010 and 2011 tax filing deadlines.

[2] The number of determinations includes: issued determinations for hires in CY 2011; issued determinations for veteran-related target groups for hires in CY 2012; and determinations made but not issued for non-veteran target group hires in CY 2012.

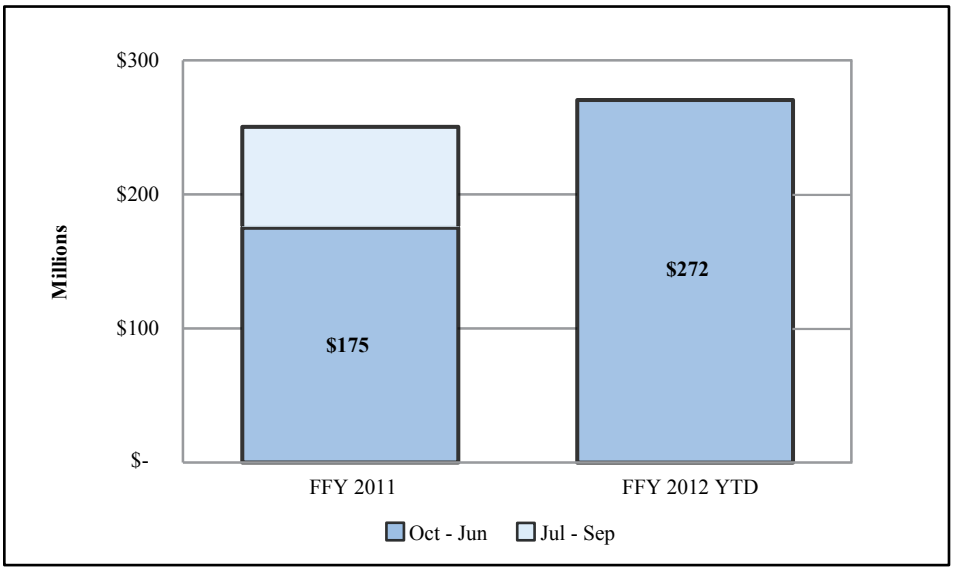
EXH 4-2. CY 2010 & CY 2011 – NUMBER AND PERCENTAGE OF APPLICATIONS PROCESSED BY TAX FILING DEADLINE

Calendar Year	Total Applications	Applications Processed by Tax Filing Deadline	Completed by Tax Filing Deadline
2010	262,356	157,578	60%
2011	282,701	245,057	87%

Effect of operational efficiencies on employer tax credits

The increase in the number of determinations, with a decreased average number of days to determination, resulted in a 55 percent increase in maximum potential tax credit value to employers October through June for Federal Fiscal Years 2011 and 2012. The comparative amounts are $175 million (2011) and $272 million (2012). **Exhibit 4-3** displays the increase in maximum potential tax value.

EXH 4-3. FFY 2011 & FFY 2012 YTD – MAXIMUM POTENTIAL TAX CREDIT VALUE TO EMPLOYERS

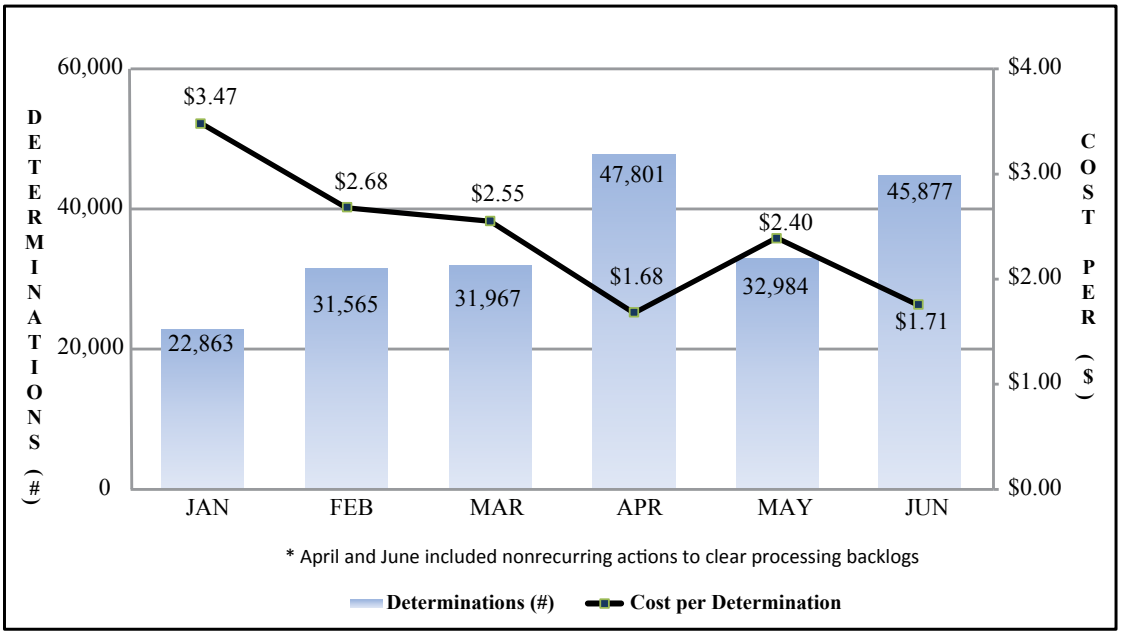


4.2 Reducing Costs

WOTC is a federally funded program not supplemented by state dollars. With an existing backlog, and reduced federal funding in the current federal fiscal year, redirecting staff resources allowed the program to handle increasing numbers of applications while reducing the average number of days to determination.

During the pilot, the cost per determination decreased and reflects the program's ability to manage increasing numbers of applications within a shorter time frame and without potential staff and automation costs needed to produce the same results prior to the pilot. Until program operations stabilize, the cost per determination will fluctuate; however, sustained improvements position TWC to operate within budget limitations. **Exhibit 4-4** displays the cost per determination trend compared to the number of determinations, which includes some increases due to backlog reductions not expected to reoccur.

EXH 4-4. CY 2012 YTD – NUMBER OF DETERMINATIONS AND COST PER DETERMINATION



In addition to traditional operating cost savings, WOTC recognizes there are additional benefits to both TWC and employers. With the operational efficiencies gained through the pilot, TWC can continue educational efforts to employers and individuals typically having barriers to employment, to increase participation without adversely affecting response times. Further, by being able to respond to applications quicker, employers who do not have to pay to amend tax returns for certifications issued after the tax filing deadline realize a cost savings as well.

4.3 Structured Approach

TWC's adoption of a structured approach for identifying the wasteful use of state resources and improving processes benefited significantly from applying the Theory of Constraints methodology as a strategy to focus, prioritize, drive quick solutions, and solve problems while integrating methods and concepts of Lean and Six Sigma. Using integrated process improvement tools, a throughput operating strategy, independent data analyses, weekly team meetings, and week-over-week (and month-over-month) reporting, the project team identified and implemented several major initiatives as discussed in Section 3.0. The approach enabled program management, within a structured framework, to evaluate expected throughput, initiate actions, and measure results with independence.

4.4 Effectiveness

TWC concludes that the pilot was effective based on the resulting increase in the number of determinations processed and decrease in the average number of days to determination within existing resources and without increasing staffing or procuring automation. The solutions identified in this report are those having the most significant impact on operations resulting in faster determinations to employers. Sustained improvements position TWC to operate within budget limitations, and WOTC plans to monitor results as operations stabilize and to continue improvement of operational efficiencies using a structured approach.

Appendices

A-1 Maximum Potential Tax Credit Values By Target Group
A-2 Theories: Theory of Constraints, Lean, and Six Sigma

A-1. Maximum Potential Tax Credit Values by Target Group

Tax credits currently are available for hires in the following categories:

Target Group	Maximum Tax Credit
Disabled veterans with a service-connected disability and unemployed for at least 6 months	$9,600
Veterans unemployed for at least 6 months	$5,600
Disabled veterans with a service-connected disability	$4,800
Veterans receiving Supplemental Nutrition Assistance Program (SNAP) benefits	$2,400
Veterans unemployed for at least 4 weeks	$2,400

The WOTC program's legislative authority for the following non-veteran target groups expired on December 31, 2011. However, DOL advised states to continue receiving and processing applications, but not issue determinations, for the following target groups, pending possible reauthorization of the program.

Target Group	Maximum Tax Credit
Long-Term Family Assistance recipients who are members of a family that has received Temporary Assistance for Needy Families (TANF) benefits for at least 18 consecutive months	$9,000*
TANF recipients	$2,400
Ex-felons	
Designated community residents	
Vocational rehabilitation referrals	
SNAP recipients	
Supplemental Security Income recipients	
Summer Youth program participants who are 16 to 17 years old, work between May 1 and September 15, and live in an empowerment zone	$1,200

*IRS applies credit over a two-year period

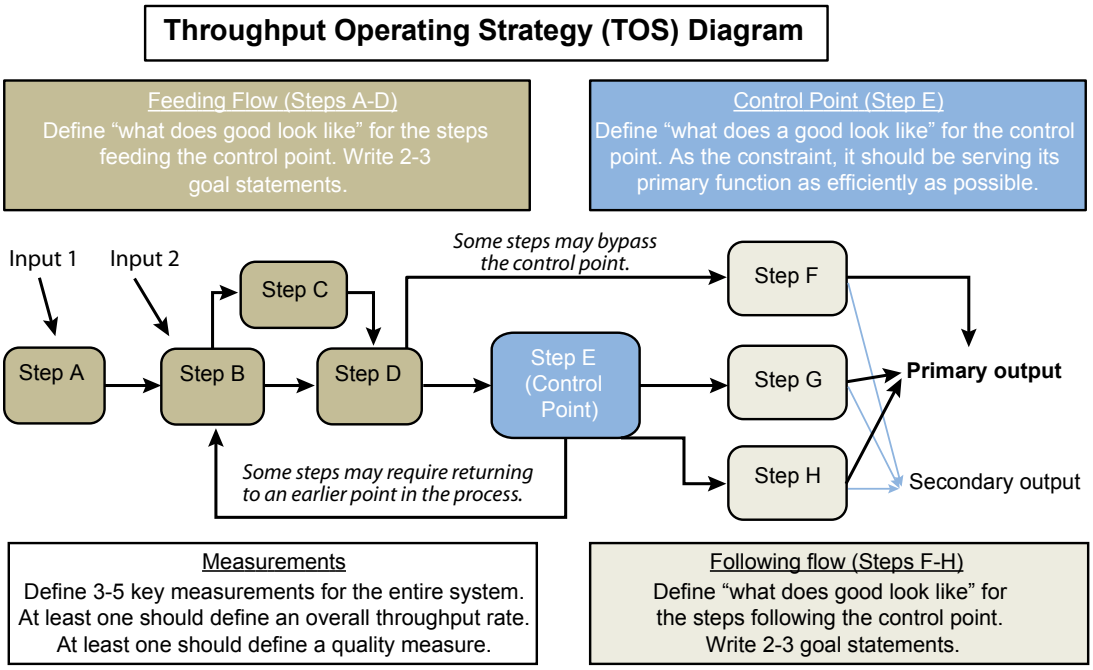
A-2. Theories: Theory of Constraints, Lean, and Six Sigma

Theory of Constraints

The Theory of Constraints (TOC) methodology focuses on delivering results through fundamental process knowledge at a system level—sharing similar concepts and ideals of Lean and Six Sigma—and sequenced for the greatest benefit to the system.

As the focusing tool within ITLS, TOC guides management of the value and flow of the system (complementary to Lean) and focuses on solving problems (complementary to Six Sigma) to develop more efficient and increased throughput. This focusing methodology targets immediate-, medium-, and long-term improvements based on reliable measurement system analysis and increases the speed of gains within process improvement.

The primary tool of TOC is the development of a throughput operating strategy (TOS) that is central to continuous improvement of a system as displayed below. The TOS identifies the strategy of a system by primary functions and focuses on activities that support throughput of the constraint (control point). These activities—as a method of continuous process improvement—rely on common sense tools, such as policy changes as well as the structural solutions of Lean (removing waste), and Six Sigma (decreasing rework and reduce variation), to solve problems.



The steps of TOS development are to:

(1) Identify the constraint(s), or control point(s).
(2) Squeeze the most out of the control point.
(3) Subordinate everything else to the above decisions.
(4) Elevate the control point.
(5) Go back to Step 1.

Lean

The Lean methodology focuses on eliminating waste from processes and increasing process speed (flow) to generate quality product. Lean is a continuous improvement technique that seeks perfection with short-term gains. This quest for perfection is also a central tendency of the Theory of Constraints. Within the continuous improvement cycle of ITLS, the Lean methodology provides analysis based on:

(1) Identifying the value of each process.
(2) Identifying the value stream of a business process by identifying the series of steps necessary to provide the product, service, or experience the customer desires and removing non-value added (wasteful) processes that a customer would not pay for or are not part of the value stream.
(3) Identifying the major factors keeping an opportunity from flowing smoothly through the process.
(4) Identifying situations where the customer drove the process with positive outcome and replicating success.
(5) Repeating each step to achieve perfection or excellence.
(6) Replicating throughout the organization.

Six Sigma

The Six Sigma methodology focuses on eliminating process variation and makes process improvements based on the definition of quality, process performance, and effects of process change. Six Sigma, like Lean, has similar goals to the Theory of Constraints to eliminate waste and improve processes. Within the continuous improvement cycle of ITLS, the Six Sigma methodology provides the five-step define, measure, analyze, implement, and control process to improve an inefficient process:

(1) Define the problem.
(2) Measure the current situation.
(3) Analyze for root cause.
(4) Improve the process effectively.
(5) Control the process to maintain the goal.

Measurement System Analysis

The bill's final requirement is the use of a measurement system analysis (MSA) to evaluate data. This type of analysis supports business decisions based on quantitative analysis.

A premise of measurement system analysis is that measurements must be applicable, accurate and precise, and stable, and is the reverse of anecdotal decision-making. The purpose of MSA is to qualify a measurement system for use by quantifying the accuracy, precision, and stability of a measure.

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