Transportation Security Administration

OPERATIONAL ASSESSMENT (OA) REPORT

for the

Risk Based Security (RBS)

Assessor

Operational Assessment

March 28, 2012

OFFICE OF SECURITY CAPABILITIES

Approval:

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EXECUTIVE SUMMARY

OVERVIEW:

The Transportation Security Administration (TSA) developed Risk Based Security (RBS) procedures to use at airports nationwide. TSA is exploring enhanced behavior detection as an important component of an RBS approach. This Operational Assessment Report (OAR) provides leadership with an assessment of the operational capabilities of the RBS Assessor screening procedures. The OAR includes a comparison of baseline data to data collected following the rollout of RBS Assessor screening procedures in evaluation areas such as throughput and threat identification. TSA Office of Security Operations (OSO) personnel collected baseline data at Detroit Metropolitan Wayne County Airport (DTW) from 18 July 2011 through 16 September 2011. The Operational Assessment (OA) test team conducted the OA during a Proof-of-Concept (PoC) period at DTW beginning on 17 October 2011, and ending on 16 December 2011. Data through 18 October 2011 were considered burn-in data.

SYSTEM DESCRIPTION:

The RBS Assessor screening procedures modified current screening procedures by deploying a new behavior detection technique, called Behavior Assessment Level II. This process added 100 percent behavior assessor interaction with passengers at the Travel Document Checker (TDC) node to detect high-risk passengers. TSA personnel nominated to operate as Assessors underwent a new Aviation Passenger Assessor (APA) training course and On-The-Job training. Personnel able to pass these courses were designated as Assessors during the OA. Personnel included DTW Behavior Detection Officers (BDOs), DTW field office Federal Air Marshals (FAMs), and Transportation Security Inspectors (TSIs). There was one operational scenario that was employed during the OA, which is described in the paragraph below.

Assessors conducted TDC screening and interviews with every passenger. There was not a separate TDC operator. The Assessor referred any suspect passengers to additional screening. The term "referral" indicates that a passenger was a selectee, a Law Enforcement Officer (LEO) was summoned, a fraudulent identification document was found, or a serious prohibited item was found. The term "high-risk event" indicates that a LEO arrest was made, a fraudulent identification document was found, or an "asterisk serious prohibited" article was found.

RESULTS:

The revised procedures had four major impacts:

1. TDC throughput decreased by 58 percent from 226.6 passengers per hour to 96.4 passengers per hour due to a 200 percent increase in TDC processing time from 13.0 seconds per passenger to 38.9 seconds per passenger.
2. Assessor referrals were less than 1 percent.
3. The observed high-risk event rate was less than 1 percent.

4. The estimated referral success rate, calculated as Assessor detections divided by total referrals, was less than 2 percent.

Details on each of these impacts, with additional supporting data, are included below.

1. TDC throughput decreased by 58 percent from 226.6 passengers per hour to 96.4 passengers per hour due to a 200 percent increase in TDC processing time from 13.0 seconds per passenger to 38.9 seconds per passenger.

The increase in passenger processing time was caused by the additional interaction between passengers and Assessors, regardless of whether the interaction resulted in a referral. This is clear from the table below, which shows the average TDC processing time per person by referral.

Referral	TDC Processing Time (seconds)
Yes	217.7
No	38.5

2. Assessor referrals were less than 1 percent.

During the PoC period, the test team observed 44 Assessor referrals out of 25,100 samples, which equates to a referral rate of 0.2 percent. During the same PoC period, the Screening of Passengers by Observation Techniques (SPOT) program reported a total of 183 referrals out of 323,383 total passengers. The SPOT program number includes Assessor referrals that occurred during times when the test team was not observing, as well as SPOT referrals.

3. The observed high-risk event rate was less than 1 percent.

During the PoC period, there were nine total observed high-risk events out of 323,383 total passengers, which equates to an observed high-risk rate of 0.003 percent. These nine events included three Assessor referrals, one SPOT referral, and five checkpoint incidents.

4. The estimated referral success rate, computed as Assessor detections divided by total referrals, was less than 2 percent.

During the PoC period, there were three observed high-risk events that were the result of Assessor detection out of 183 total referrals, for a referral success rate of approximately 2 percent.

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1.0 INTRODUCTION

1.1 Purpose of the Operational Assessment (OA)

The Transportation Security Administration (TSA) developed Risk Based Security (RBS) procedures to use at airports nationwide. TSA is exploring enhanced behavior detection as an important component of an RBS approach. This Operational Assessment Report (OAR) provides leadership with an assessment of the operational impact of the RBS Assessor screening procedures. The OAR includes a comparison of baseline data to data collected following the rollout of RBS Assessor screening procedures in evaluation areas such as throughput and threat identification. TSA Office of Security Operations (OSO) personnel collected baseline data at Detroit Metropolitan Wayne County Airport (DTW) from 18 July 2011 through 16 September 2011. The OA test team conducted the OA during a Proof-of-Concept (PoC) period at DTW beginning on 17 October 2011, and ending on 16 December 2011. Data through 18 October 2011 were considered burn-in data.

1.2 Scope of the Operational Assessment

The OA test team conducted 60 days of data collection at DTW during a PoC period with the revised screening procedures in place.

Representative Transportation Security Officers (TSOs) and Assessors operated the selected checkpoint in support of live screening operations with real passengers. TSOs operated the site under the existing Checkpoint Standard Operating Procedure (SOP) Revision 9, Version 3 during the baseline period. During the PoC period, Assessors operated the Travel Document Checker (TDC) station under the new RBS Assessor SOP, while normal checkpoint operations were unchanged. The test team observed operations, and recorded Assessor and passenger actions. Data collectors observed Assessor/TDC processing times, throughput rates, referral rates, and utilization. Assessor and TDC functions were performed simultaneously. In accordance with the Transportation Security Administration (TSA) Checkpoint Screening Process Data Elements Standards (CSPDES) Revision 09.00 V2.05, the test team collected all passenger counts in randomly chosen fully-loaded sessions lasting approximately 15 minutes each. The team also conducted a series of Assessor interviews towards the end of the PoC period, and was provided with customer comment cards from the airport.

The OA focused on the throughput and threat identification impacts of the RBS Assessor screening procedures. The analysis evaluated the issues and evaluation areas by examining the measures presented in Table 1-1. The test team collected underlying data for these measures per the RBS Assessor Data Collection and Analysis Plan, Version 11-18-2011-Final. During the first phase of data collection (month one), the test team captured passenger counts in 15-minute sessions, as well as TDC processing times with basic descriptive information (e.g., number of

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passengers in the party, whether there was a referral, etc.). During the second phase of data collection (month two), the test team captured passenger counts in 15-minute sessions with additional information on system states (e.g., starved, blocked, etc.), as well as TDC processing times with greater descriptive information than in month one (e.g., TDC lane, RBS group).

Table 1-1: OA Issues and Measures

Issue	Evaluation Area	Measure
Issue 1: Throughput Impacts. What are the throughput impacts associated with RBS Assessor?	1-1: TDC	1-1-1: TDC Processing Time 1-1-2: TDC Passengers per Hour 1-1-3: Assessor Referral Rate 1-1-4: Human Factors
Issue 2: Threat Identification Impacts. What is the impact of RBS Assessor on threat identification measures?	2-1: Observed High-Risk Events	2-1-1: Frequency of Observed High-Risk Events

The analysis considered factors such as conditions (fully-loaded vs. non-fully loaded) to provide causality of measure results and/or anomalies to decision makers.

1.3 Background

Extensive research indicates behavior analysis and interviewing are effective methods for detecting malicious intent and potential high-risk individuals. The recently conducted Screening of Passengers by Observation Techniques (SPOT) Validation Study from the Department of Homeland Security (DHS) Science and Technology Directorate provides further evidence that SPOT is significantly more effective than random screening protocols at identifying high-risk individuals, such as individuals in possession of "asterisk serious prohibited"/illegal items, false or fraudulent travel or Identification Documents (IDs), and those arrested resulting from discovery during referral screening. A program such as SPOT provides a more effective use of resources for identifying a diverse set of threats that represent a low base rate event among the traveling population.

1.4 System Description

The RBS Assessor screening procedures modified current screening procedures by deploying a new behavior detection technique, called Behavior Assessment Level II. This process added 100 percent behavior assessor interaction with passengers at the TDC node to detect high-risk passengers. TSA personnel nominated to operate as Assessors underwent a new Aviation Passenger Assessor (APA) training course and On-The-Job (OJT) training. Personnel able to pass these courses were designated as Assessors during the OA. Personnel included DTW Behavior Detection Officers (BDOs), DTW Field Office Federal Air Marshals (FAMs), and DTW Transportation Security Inspectors (TSIs). There was one operational scenario that was employed during the OA, which is described in the paragraph below.

Assessors conducted TDC screening and interviews with every passenger. There was not a separate TDC operator. The Assessor referred any suspect passengers for additional action. The term "referral" indicates that a passenger was a selectee, a Law Enforcement Officer (LEO) was summoned, a fraudulent identification document was found, or a serious prohibited item was found. The term "high-risk event" indicates that a LEO arrest was made, a fraudulent identification document was found, or an "asterisk serious prohibited" article was found.

1.5 Event Limitations/Mitigations

Limitations associated with the overall OA effort are listed below.

- No threat inject testing was conducted during this OA. Thus, the evaluation was limited to impacts on throughput and the detection of any high-risk scenarios that happened to occur during the 60-day test period.
- No baseline TDC processing time data were collected specifically for the Assessor project, so passenger count session data collected during the baseline period from McNamara Terminal/Checkpoint Red 1 were used to derive an approximate baseline TDC processing time for McNamara Terminal/Checkpoint Red 1.
- No baseline referral data were available for the analysis.

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2.0 CONCLUSIONS

The revised procedures had four major impacts:

1. TDC throughput decreased by 58 percent from 226.6 passengers per hour to 96.4 passengers per hour due to a 200 percent increase in TDC processing time from 13.0 seconds per passenger to 38.9 seconds per passenger.
2. Assessor referrals were less than 1 percent.
3. The observed high-risk event rate was less than 1 percent.
4. The estimated referral success rate, computed as Assessor detections divided by total referrals, was less than 2 percent.

Details on each of these impacts, with additional supporting data, are included below.

1. TDC throughput decreased by 58 percent from 226.6 passengers per hour to 96.4 passengers per hour due to a 200 percent increase in TDC processing time from 13.0 seconds per passenger to 38.9 seconds per passenger.

The increase in passenger processing time was caused by the additional interaction between passengers and Assessors, regardless of whether the interaction resulted in a referral. This is clear from the table below, which shows the average TDC processing time per person by referral.

Table 2-1: Processing Times by Referral (Yes/No)

Referral	TDC Processing Time (seconds)
Yes	217.7
No	38.5

2. Assessor referrals were less than 1 percent.

During the PoC period, the test team observed 44 Assessor referrals out of 25,100 samples, which equates to a referral rate of 0.2 percent. During the same PoC period, the SPOT program reported a total of 183 referrals out of 323,383 total passengers. The SPOT program number includes Assessor referrals that occurred during times when the test team was not observing, as well as SPOT referrals.

3. The observed high-risk event rate was less than 1 percent.

During the PoC period, there were nine total observed high-risk events out of 323,383 total passengers, which equates to an observed high-risk rate of 0.003 percent. These nine events high-risk events included three Assessor referrals, one SPOT referral, and five checkpoint incidents.

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4. The estimated referral success rate, computed as Assessor detections divided by total referrals, was less than 2 percent.

During the PoC period, there were three observed high-risk events that were the result of Assessor detection out of 183 total referrals, for a referral success rate of approximately 2 percent.

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3.0   OA RESULTS

3.1   Throughput Impacts

The throughput impacts assessment addressed the following question: "What are the throughput impacts associated with RBS Assessor?" This issue focused on processing times, throughput, and related measures. Table 3-1 presents the throughput impacts measures examined in this test.

Table 3-1: Throughput Impacts Measures

Issue	Evaluation Area	Measure
Issue 1: Throughput Impacts. What are the throughput impacts associated with RBS Assessor?	1-1: TDC	1-1-1: TDC Processing Time 1-1-2: TDC Passengers per Hour 1-1-3: Assessor Referral Rate 1-1-4: Human Factors

Details relating to each measure follow. All time measures are in seconds unless otherwise noted.

3.1.1   Measure 1-1-1: TDC Processing Time

Findings and Analysis

The average TDC processing time per passenger increased in the PoC period. The test team collected PoC data at McNamara Terminal/Checkpoint Red 1. Since no baseline TDC processing time data were collected specifically for the Assessor project, analysts used the passenger count data that OSO collected during 10-minute sessions at McNamara Terminal/Checkpoint Red 1 to derive the overall TDC time per the formula below:

$$TDC\ Processing\ Time/Pax\ =\ Total\ Time/Pax - Approach\ Time/Pax$$

where the Approach Time/Pax was derived from the PoC data and Total Time/Pax was derived from:

$$\frac{Total\ Time}{Pax}(seconds) = 60\ seconds/(\frac{Pax}{Minute})$$

and where Pax/Minute was derived from:

$$\frac{Pax}{Minute} = (Pax\ in\ 10 - minute\ session)/10$$

Analysts divided the PoC TDC processing time per party by the number of people in the party to arrive at an approximate TDC processing time per person. Both the PoC data and the baseline data that were provided to the Office of Security Capabilities (OSC) represent fully-loaded and non-fully loaded conditions.

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The summary statistics and histograms below indicate that in the PoC period, the processing time distribution became wider, shifted to the right, and had more instances of longer processing times. The widening of the distribution indicates an increase in variability of the TDC processing time, which is a reflection of the variability in the Assessor screening process (some passengers might take longer to question depending on their initial responses). The distribution's shift to the right indicates that, overall, the average TDC processing time increased. As a note regarding Figures 3-1 and 3-2, although the x-axes go out to 60 and 100 seconds, respectively, there were some records (approximately 1.4 percent) greater than 100 seconds and five PoC records that went as high as 400 to 500 seconds. Only one baseline record was higher than 55 seconds (it was 150 seconds). The remainder of the high processing time records occurred during the PoC period and many are associated with an observed referral.

Table 3-2: TDC Processing Time per Passenger

			TDC Processing Time		
Variable	**Type**	**Trials**	**Mean**	**Median**	**StDev**
Time per Passenger	Baseline	618	13.0	12.0	7.4
	PoC	24,670	38.9	35.0	21.2

Figure 3-1: Histogram of Baseline TDC Processing Time

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Histogram of TDC Processing Time
(Type = PoC)
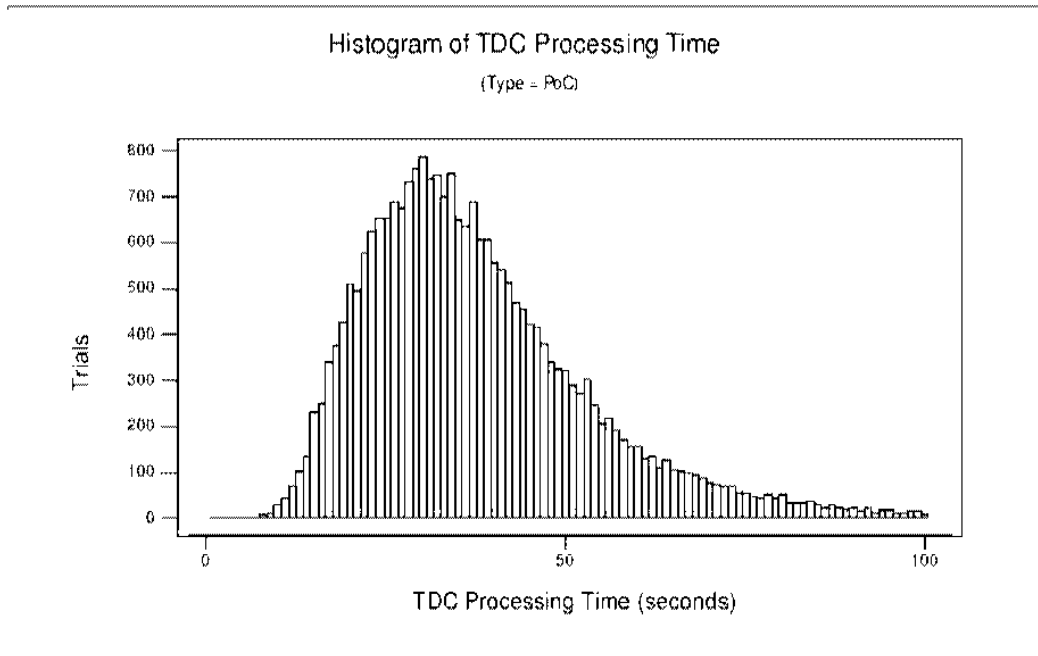
Figure 3-2: Histogram of PoC TDC Processing Time

A statistical t-test for the difference in means indicates that the increase in TDC processing time was statistically significant. A summary of the t-test result is included below.

Table 3-3: Two-sample T for TDC Processing Time per Passenger

Variable	Type	Trials	TDC Processing Time		
			Mean	StDev	Standard Error (SE) Mean
Time per	Baseline	618	13.0	7.4	0.3
Passenger	PoC	24,670	38.9	21.2	0.1

Difference = mu (Baseline) - mu (PoC)
Estimate for difference: -25.8
90% Confidence Interval (CI) for difference: (-26.4, -25.3)
T-Test of difference = 0 (vs not =): T-Value = -79.0 P-Value = 0.0 DF = 895

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SENSITIVE SECURITY INFORMATION

The average party advance time, defined as the time for a party to travel from the front of the line to the TDC, was 4.2 seconds during the PoC period, with a median of 4.0 seconds and a standard deviation of 2.0 seconds. The histogram below shows the distribution of the party advance time.

Histogram of Party Advance Time
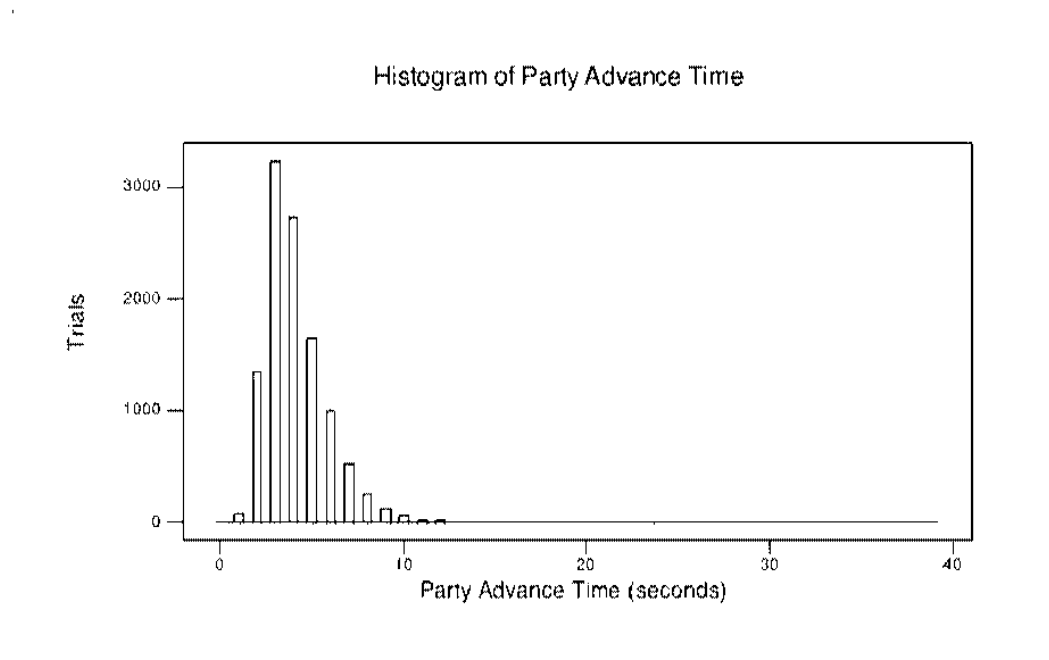
Figure 3-3: Histogram of PoC Party Advance Time

As discussed in Section 3.1.3, the referral rate was less than 1 percent, so referrals are not the driver behind the increase in the TDC processing time.

Table 3-4 shows the difference in TDC processing time per passenger between fully-loaded and non-fully loaded conditions.

Table 3-4: Processing Times by Conditions

Conditions	Trials	TDC Processing Time (seconds)
Fully-Loaded	7,133	36.9
Non-Fully Loaded	17,537	39.7

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Table 3-5 shows the difference in TDC processing time per passenger by whether there was a referral for all conditions.

Table 3-5: Processing Times by Referral (Yes/No)

Referral	Trials	TDC Processing Time (seconds)				
		Mean	Median	Minimum	Maximum	StDev
Yes	44	217.7	195.0	39.0	501.0	115.5
No	24,626	38.5	35.0	1.0	364.0	19.2

Table 3-6 shows the difference in TDC processing time by party size for all conditions, including referrals. It also shows how much additional time is required for each additional passenger in the party. Please note that the TDC processing time for a party of one is not equal to the average TDC processing time per passenger because the latter is calculated by dividing the total party time by the size of the party for all parties, whereas the former is an average of only the one-person parties.

Table 3-6: Processing Times by Party Size

Party Size	Trials	TDC Processing Time per Party (seconds)	Additional TDC Processing Time per Passenger (seconds)
1	18,078	43.1	N/A
2	4,810	57.7	14.6
3	965	72.5	14.8
4	568	88.2	15.7
5	181	105.3	17.1
6	49	133.8	28.5
7	13	145.6	11.8
8	6	161.2	15.6

The remainder of the analysis in this section uses month two data only, since the additional analytical factors that are employed (e.g., RBS group) were collected after the first month of data collection. Please note that the sum of the total trials in Tables 3-7 and 3-8 is much lower than the sum of the total trials in Tables 3-9 and 3-10 because the Passenger Lane and TDC Position fields were added part of the way through month two.

Table 3-7 shows the difference in TDC processing time per passenger and per party during month two by passenger lane for all conditions. It should be noted that there was crossover between the lanes at times (e.g., a regular passenger going through the employee lane). Specific circumstances are outlined below.

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Non-employees utilized the employee lane when they were:

- Family members traveling with employees,
- Military personnel in uniform, or
- Personnel from the family lane that were directed to utilize the employee lane during fully-loaded conditions (lines extended beyond the family lane end point).

Non-families utilized the family lane in cases where:

- Individuals mistook the family lane for the Sky Priority Lane,
- Individuals were passengers with disabilities (since the family lane was also dedicated to people with disabilities), or
- Travelers were routed to the family lane by airport security personnel due to fully-loaded conditions (lines extended beyond the regular lane end point).

Table 3-7: Processing Times by Passenger Lane

Passenger Lane	Trials	TDC Processing Time per Passenger (seconds)	TDC Processing Time per Party (seconds)
Employee	69	26.0	33.5
Family	710	34.4	62.4
Regular	5,438	37.0	45.4

Table 3-8 shows the difference in TDC processing time per passenger and per party during month two between the different TDC positions for all conditions. The three TDC positions do not correlate to the passenger lanes in Table 3-7. Generally, passengers were processed by any one of the TDC positions, with one passenger lane and one family lane each leading up to a point where the passenger could go to any of the three positions (although families generally were processed at TDC 2 or TDC 3). Employees and Flight Crew were typically processed by a TSO (not TSI/Assessor/FAM) away from the three TDC positions, however, there were times early in the morning when Employees and Flight Crews were processed by a TSI/Assessor/FAM at one of the three TDC positions in Table 3-8.

Table 3-8: Processing Times by TDC Position

TDC Position	Trials	TDC Processing Time per Passenger (seconds)	TDC Processing Time per Party (seconds)
TDC 1	1,781	37.0	46.0
TDC 2	2,556	37.3	45.7
TDC 3	1,909	35.3	50.4

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Table 3-9 shows the difference in TDC processing time per passenger and per party during month two between Assessor employee types for all conditions.

Table 3-9: Processing Times by Employee Type

Employee Type	Trials	TDC Processing Time per Passenger (seconds)	TDC Processing Time per Party (seconds)
BDO	6,098	35.5	47.0
FAM	1,828	38.6	46.0
TSI	3,180	38.4	48.7

Table 3-10 shows the difference in TDC processing time per passenger and per party during month two between RBS groups for all conditions. Please note that CCCC indicates that the passenger or party was cleared by the mobile boarding pass scanner.

Table 3-10: Processing Times by RBS Group

RBS Group	Trials	TDC Processing Time per Passenger (seconds)	TDC Processing Time per Party (seconds)
CCCC	43	48.5	52.0
Military	58	28.4	33.1
Blank (not specified)	10,008	37.6	44.8
Over 65	374	38.8	59.3
Traveling with Children	623	23.2	81.3

3.1.2 Measure 1-1-2: TDC Passengers per Hour

Findings and Analysis

TDC throughput during fully-loaded conditions (projected from 15-minute sessions) decreased substantially during the PoC period, as shown in the summary statistics and charts below. To address the throughput drop, additional Assessors were added at the TDC positions, so that there were two Assessors at each TDC position for a total of six Assessors. Baseline data that were provided to OSC represent both fully-loaded and non-fully loaded conditions, though subsequent observations indicate that there was not a difference between these states. Analysts only used the baseline data for McNamara Terminal/Checkpoint Red 1. POC counts include passengers, employees, and crew. Analysts also assumed baseline counts to include all three groups since there was no annotation to the contrary.

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Table 3-11: TDC Passengers per Hour

| Variable | Type | Trials | TDC Throughput | | |
			Mean	Median	StDev
Passengers per Hour	Baseline	618	226.6	222.0	57.9
	PoC	724	96.4	91.0	31.2
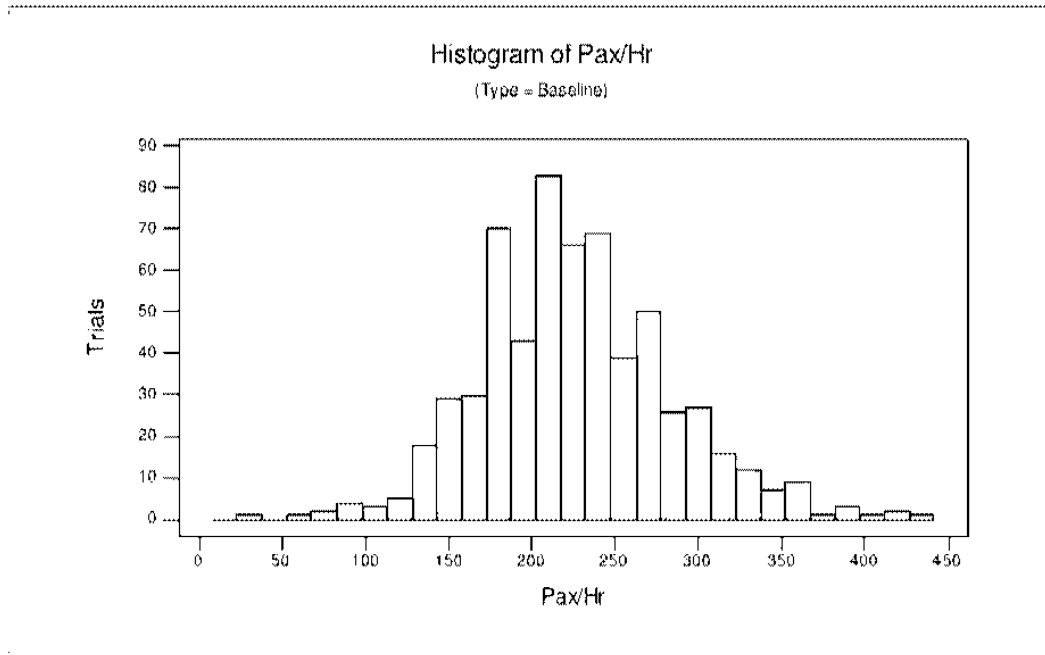
Figure 3-4: Histogram of Baseline TDC Passengers per Hour
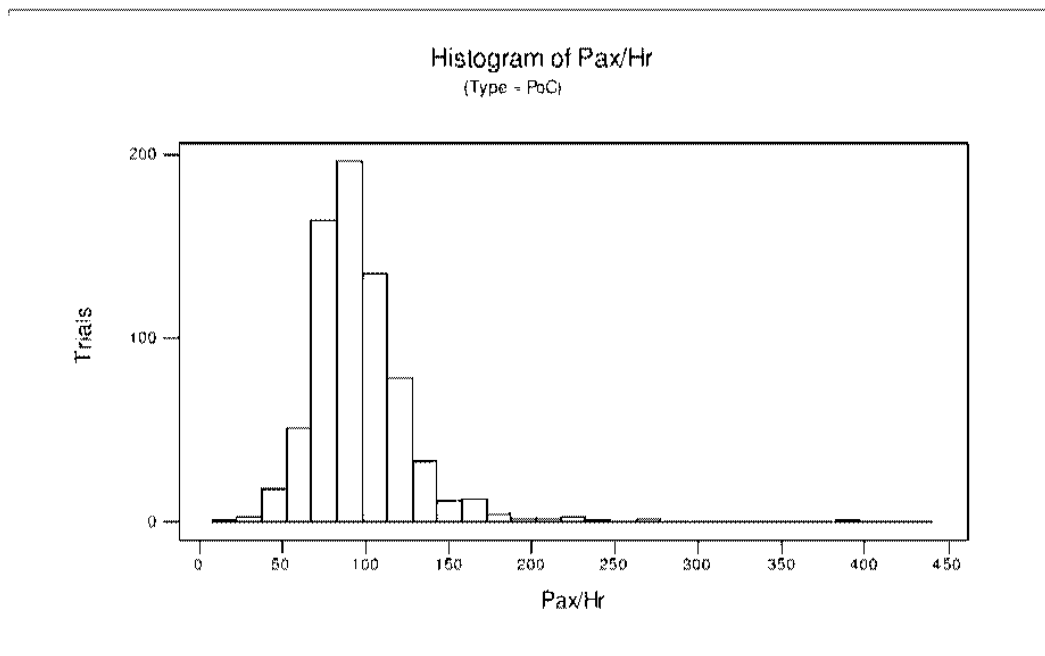
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Figure 3-5: Histogram of PoC TDC Passengers per Hour

A statistical t-test for the difference in means indicates that the decrease in TDC throughput was statistically significant. A summary of the t-test result is included below.

Table 3-12: Two-sample T for TDC Passengers per Hour

			TDC Throughput		
Variable	**Type**	**Trials**	**Mean**	**StDev**	**SE Mean**
Passengers per	Baseline	618	226.6	57.9	2.3
Hour	PoC	724	96.4	31.2	1.2

Difference = mu (Baseline) - mu (PoC)
Estimate for difference: 130.2
90% CI for difference: (126.0, 134.5)
T-Test of difference = 0 (vs not =): T-Value = 50.1 P-Value = 0.0 DF = 912

During the second month of the PoC period, the test team collected utilization data to provide further insights into the effect of the new procedures. Table 3-13 shows the approximate percentage of time spent in each state during a 15-minute session.

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Table 3-13: Percentage of Time Spent by State per Session

State	Percentage of 15-Minute Session
Party Advance - The party is advancing from the front of the line to the TDC.	12%
TDC Process - The party is being processed at the TDC station.	80%
Suspect - A passenger or party requires either additional directions or there is direct hand-off or Supervisor TSO (STSO) intervention.	0%
Starved - A process is starved when an upstream operation is constraining throughput. When the process is starved, passengers or items are not being queued up before the operation being evaluated at a rate sufficient to maintain a continuous use.	3%
Blocked - A process is blocked when a downstream operation is constraining throughput. When a process is blocked, passengers or items cannot be processed through the operation under evaluation because a downstream process is constraining throughput.	5%
Idle - No queue of passengers exists before the podium and the officer is waiting for passengers to arrive.	0%
Other - This state can indicate that the process is stopped for a number of reasons not included in the previous definitions, to include calibration, equipment, TSO-to-TSO discussion/consultation, and other similar reasons.	0%

3.1.3 Measure 1-1-3: Assessor Referral Rate

Findings and Analysis

During the PoC period, the test team observed 44 referrals out of 25,100 samples, which equates to a referral rate of 0.2 percent. The SPOT program indicated that a total of 183 referrals occurred during the PoC period, out of 323,383 passengers, which equates to a referral rate of 0.1 percent. Referral data during the baseline data collection period are not available.

3.1.4 Measure 1-1-4: Human Factors

Findings and Analysis

The test team interviewed 31 Assessors towards the end of the PoC period, who provided the following thoughts relative to the process. In terms of manpower, the test team asked Assessors how well they felt that the staffing levels during the PoC period worked for covering passenger volume. As Figure 3-6 shows, the Assessors generally felt that manpower was sufficient to support the new procedures. However, two specific points recurred in the additional comments

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made. Nine Assessors comments indicated that the staffing distributions need to better align with passenger volume. There were cases in which interviewees felt that there was too much staff for the passenger volume (e.g., very early morning) and not enough at other times which interfered with lunches and breaks. Four interview respondents stated that if FAMs and TSIs do not continue to support the program, additional BDOs will be needed to serve as Assessors. Overall the test team agrees with these comments and noticed that there were times when the staffing did not align with demand, though typically this was quickly addressed.
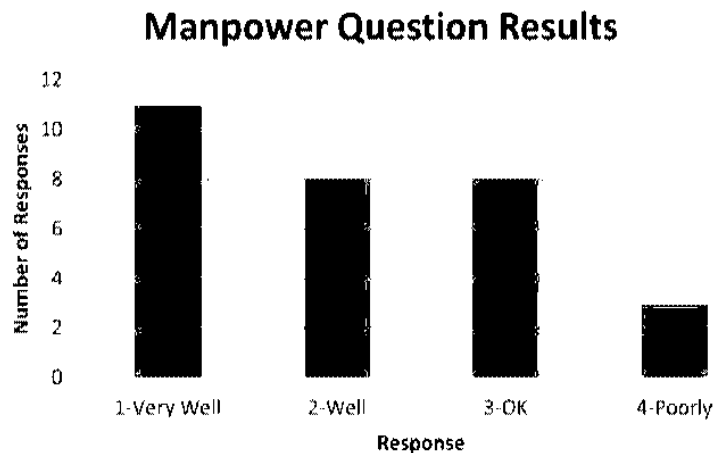
Manpower Question Results

Figure 3-6: Manpower Question Results

The test team also asked Assessors how clear and easy to implement they found the new Assessor procedures to be. As Figure 3-7 shows, the result was mixed.
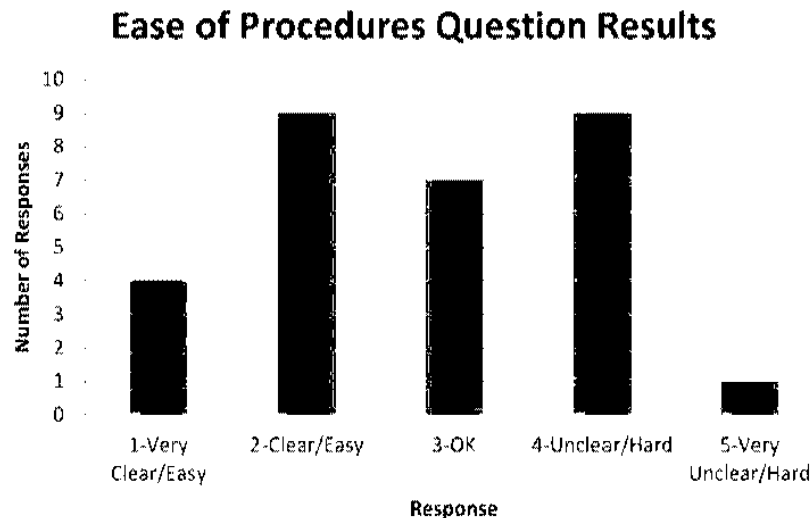
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Ease of Procedures Question Results

Figure 3-7: Ease of Procedures Question Results

Comments provided generally fell into one of four areas: layout, seating and rotation, referrals, and training. Further details for each area are included below.

Layout

Interviewees felt that there should be a better layout and that the PoC process involved too many Assessors at one given time. Layout changes at DTW may be difficult due to space constraints; however, some specific layout recommendations for consideration include moving wheel chair passengers and the crew line to another checkpoint, and having more spacing between entry points, as well as between podiums. One Assessor commented that rules should, "Not allow managers to cut passengers in front of those already in line; this angers the passengers and clogs the checkpoint." Overall the test team agrees that moving crew, people in wheelchairs, and perhaps even families to another checkpoint that was approximately 100 feet away might have improved the flow at Checkpoint Red 1.

Seating and Rotation

There were a couple of comments from interviewees that felt that they should be able to sit down at the TDC station, and that there needs to be a 40/20 ratio, 20-minute break period after every 40 minutes worked. There were also comments about wanting some rotation and feeling like at times Assessors were being used to supplement the DTW workforce, as indicated by the following interviewee statement, "I felt at times we were being used to supplement the DTW workforce." The test team does not agree with these comments and observed that Assessors had more breaks than the typical TSO.

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Referrals

Interviewees provided the following referral comments which were taken verbatim from the interview responses. The test team recommends that these comments be considered when formulating the next version of the Assessor SOP.

- Suggest elevating passengers with communication barriers to additional screening due to prior experience with passengers with claims of being unable to speak or understand English when asked behavioral detection questions, but speaking and understanding English when submitted for additional screening.
- Suspicious behavior must be readily apparent to ask questions of passengers. Suggest not relying solely on physical signs of suspicious behavior in regards to the type of questions posed to passengers.
- Assessors should accompany the selectee throughout the screening process.
- Use FAMs and TSIs only as a secondary Assessor if additional questioning is required beyond the TDC station.
- Give passengers that refuse questioning or hand testing more unpredictable screening.
- Local BDO management should be more cognizant of airline positive sign indicators. There was a lack of consistency with BDOs, TSIs, and FAMs.
- Let us have more input on making a person a selectee.
- Everyone should be asked at least one baggage question.
- There needs to be a better format of the referral report process; nobody gave a clear understanding of how it should be done.

When asked how the new screening procedures impacted the checkpoint and passenger experience, over 70 percent of the respondents felt that the impact was positive or very positive in both areas. The test team agrees and noted that most passengers did not mind the new process, though there were a few that would get frustrated because they could not understand why they had to answer questions.

TSA 15-00014 - 008209
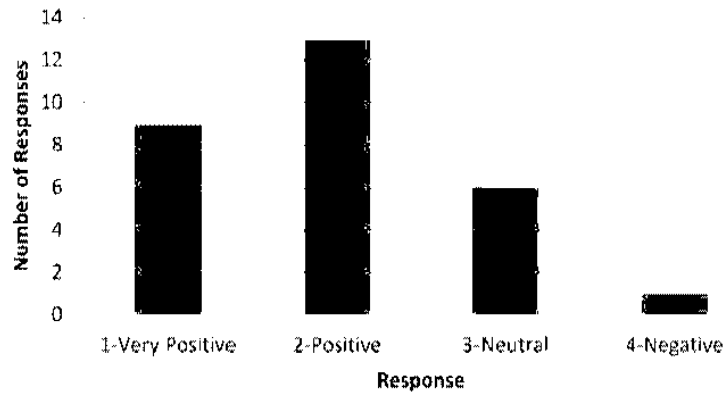
Checkpoint Impact Question Results

Figure 3-8: Checkpoint Impact Question Results

Passenger Experience Impact Question Results

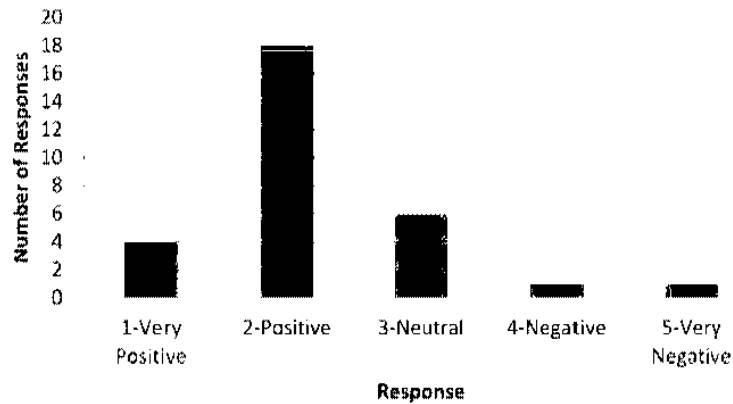Figure 3-9: Passenger Experience Impact Question Results

TSA 15-00014 - 008210

In terms of training, most interviewees felt that the training prepared them OK, well, or very well for the new process, as Figure 3-10 shows.
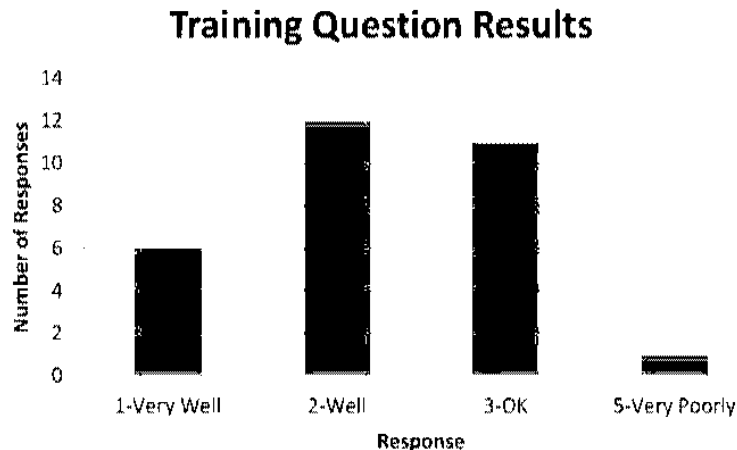
Training Question Results

Figure 3-10: Training Question Results

Some of the comments and improvement suggestions made relative to training are included below, and are separated into areas that were recurring themes.

OJT

The following OJT comments were provided during the interviews and are included here verbatim. The test team is not in a position to comment on these since test team members did not observe OJT.

- More on the job training.
- Integrate OJT sessions into training protocol in order to confirm the Assessor's personality / ability to master proof-of-concept.
- Involve more real life training to give the trainee a better sense on how to handle real life situations when they do arise.
- Recommend real time feedback during OJT training. Assessors should be immediately aware of their progress during OJT. Assessors should not have to wait until nearing end of training to find out if they are not progressing satisfactorily.
- OJT process was inconsistent, certain Assessors were passed way too early; OJT should be 40 hours for everyone.
- Use only one trainer per Assessor during OJT; too many inconsistencies with having more than one person training an individual trainee.
- The OJT process was disorganized and inconsistent. International Defense System (IDS) should be directly involved in OJT process.

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- Better on the job training would be a great help.
- Only one OJT evaluator for each Assessor to decrease inconsistencies in training.
- Establish a mandatory amount of hours for training; only one or two mentors per trainee.

Classroom Training

The classroom training product was a Commercial-off-the-Shelf (COTS) package. There were several improvement suggestions on the COTS classroom training, which are listed below. The test team is not in a position to comment on these.

- Include more video in the classroom, specifically video that shows why what Assessors are doing is significant and what might realistically be encountered at the TDC station.
- Involve more real-life training to give the trainee a better sense on how to handle real-life situations when they do arise.
- Classroom training was great, but Assessors were not allowed to utilize/implement the training from class. Allow Assessors to utilize the techniques learned in class; they only utilized about 1 percent of the training received.
- There should be additional training on geographic items of interest to assist in identifying proper questions to pose to passengers. As an example, one-on-one passport training to assist in identifying (b)(3):49 U.S.C. § 114(r) (b)(3):49 U.S.C. § 1 would be helpful. In general, better training on IDs and passports would be helpful.
- Add more training on how to better screen domestic passengers. This training class was geared more towards international travelers.
- Class should be longer and more organized. The program felt rushed, was too stressful, and there was too much information to learn in a small period of time.
- Classroom and actual airport practices should be more cohesive and match one another. One interviewee stated that, "Headquarter BDOs and local BDO managers would often direct assessors to disregard classroom training." It should be noted that there are no Headquarter BDOs.

Refresher Training

Interviewees made a suggestion to implement refresher training because they felt that too much time passed between their initial training and the program start date.

Lessons Learned

Assessors made a recommendation to meet periodically to share lessons learned and discuss issues and concerns with handling individual situations in the hopes of determining the best methods, practices, or solutions.

TSA 15-00014 - 008212

In addition to the interview data, the airport provided the test team with customer comment cards, which included basic information such as the date, airport, etc., and a free-text field for customers to enter complaints or compliments. Overall the cards provided to the test team were positive and included comments describing a polite and professional staff, good impersonal questioning, and a willingness to wait a bit longer if it meant more safety in the air. There were also some comments about the process being too time consuming if the airport was crowded, and that an additional line might be helpful.

The test team was also made aware of eight complaints, seven of which were written and one of which was called in. No additional details on these complaints are available because they were not provided to the test team.

3.2 Threat Identification Measures

The threat identification measures assessment addressed the following question: "What is the impact of RBS Assessor on threat identification measures?" This issue focused on observed high-risk events. Table 3-14 presents the measure examined in this test.

Table 3-14: Threat Identification Test Measures

Issue	Evaluation Area	Measure
Issue 2: Threat Identification Impact. What is the impact of RBS Assessor on threat identification measures?	2-1: Observed High-Risk Events	2-1-1: Frequency of Observed High-Risk Events

Details relating to this measure are included below.

3.2.1 Measure 2-1-1: Frequency of Observed High-Risk Events

Findings and Analysis

Table 3-15 shows the frequency of observed high-risk events for the baseline and PoC periods, as well as observed high-risk events as a percentage of total throughput. Counts include events and throughput from McNamara Terminal/Checkpoint Red 1 only.

Table 3-15: Observed High-Risk Events

Period	Observed High-Risk Events	Total Throughput	Percentage
Baseline (7/18/11-9/16/11)	0	327,640	0.000%
PoC (10/17/11-12/16/11)	9	323,383	0.003%

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The SPOT program reported that no observed high-risk events occurred during the baseline period. The SPOT program reported that, during the PoC period, nine observed high-risk events occurred and there were 183 referrals. Of the nine observed high-risk events, three were Assessor detections, for an estimated referral success rate of approximately 2 percent (3/183).

TSA 15-00014 - 008214

4.0 ACRONYMS AND ABBREVIATIONS

APA	Aviation Passenger Assessor
BDO	Behavior Detection Officer
CCCC	Cleared by the mobile boarding pass scanner
CI	Confidence Interval
COTS	Commercial-off-the-Shelf
CSPDES	Checkpoint Screening Process Data Elements Standards
DHS	Department of Homeland Security
DTW	Detroit Metropolitan Wayne County Airport
FAM	Federal Air Marshal
ID	Identification Document
IDS	International Defense System
LEO	Law Enforcement Officer
OA	Operational Assessment
OAR	Operational Assessment Report
OJT	On-the-Job Training
OSC	Office of Security Capabilities
OSO	Office of Security Operations
PoC	Proof-of-Concept
RBS	Risk Based Security
SE	Standard Error
SOP	Standard Operating Procedure

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SPOT	Screening of Passengers by Observation Techniques
STSO	Supervisor Transportation Security Officer
TDC	Travel Document Checker
TSA	Transportation Security Administration
TSI	Transportation Security Inspector
TSO	Transportation Security Officer

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