Audit Report

High Throughput Package Sorter at the Queens, NY, Processing and Distribution Center

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Highlights

Objective

Our objective was to evaluate the performance and functionality of the U.S. Postal Service's High Throughput Package Sorter (HTPS) at the Queens, NY, Processing and Distribution Center (P&DC) and determine whether planned transportation savings were realized.

In February 2017, the Postal Service approved about $32.5 million for the purchase of its second HTPS machine to assist with the rapidly expanding number of inbound international packages arriving at the John F. Kennedy International Service Center (JFK ISC). The Postal Service projected that installing the HTPS at the Queens P&DC would save transportation costs of $131.1 million for fiscal years (FY) 2018 through 2028 ($8 million for FY 2018) by eliminating trips between the JFK ISC and other facilities. The Queens HTPS became fully operational in November 2017.

The Postal Service originally projected deploying up to 30 HTPS machines at P&DCs nationwide. However, in May 2017, the Postal Service approved deployment of an Enhanced Package Processing Sorter (EPPS) which will have higher throughput and productivity than the HTPS. As a result, the Denver, CO, and Queens HTPS machines are the only two deployed and there are no plans to purchase additional HTPS machines at this time.

What the OIG Found

The HTPS machine at the Queens P&DC did not meet its performance and functionality goals and did not achieve the projected $8 million in transportation savings for FY 2018. Specifically, for the period December 2017 through November 2018, the average throughput (number of packages fed through the machine divided by hours of machine use) was 12,489 packages per hour — about 17 percent lower than the projected 15,000 packages per hour. In addition, the average calculated productivity (number of packages fed through the machine divided by employee workhours) was 374 packages per workhour — about

> *" Our objective was to evaluate the performance and functionality of the U.S. Postal Service's HTPS at the Queens, NY P&DC and determine whether planned transportation savings were realized."*

22 percent lower than the 478 packages per workhour goal.

The machine exceeded the 197,629 average daily packages processed goal by about 31,000 pieces (or about 16 percent) by running the HTPS at its maximum daily runtime of 18-20 hours per day in order to process all the HTPS package volumes. However, throughput and productivity are more relevant measures of HTPS performance as these measures directly affect personnel and transportation costs.

The HTPS was not meeting the throughput goal because about 17 percent of the machine's trays were occupied with recirculating packages. When the HTPS cannot read a package address (for example when it is only partially illegible), it sends an electronic image to the Remote Encoding Center (REC) in Salt Lake City, where an employee reviews the image of the address and attempts to correct it. If correctable, the information is electronically returned to the HTPS machine and the package is sorted. If the address is not correctable, the package can circulate on the HTPS up to three times before it is rejected. This recirculation adversely affects throughput.

From December 2017 through November 2018, 83.6 million packages were fed into the Queens HTPS machine and 10.5 million packages (or about 13 percent) were rejected. When packages are rejected from the HTPS operation, they are resorted on less efficient processing equipment.

The HTPS was not meeting the productivity requirement of 478 pieces per workhour in part because 33 employees were needed to staff the machine rather than the projected 30 staff members. The additional staff were needed to open and load mail, remove non-machinable packages, and scan mail barcodes.

We also noted that employees were charging workhours to the HTPS machine operation when not working in that operation. During our site observations from November 5-8, 18 of 141 Queens P&DC employees (or about 13 percent) were

charging the HTPS operation number but not working in that operation. An additional 12 employees were working in the HTPS operation but were not using the HTPS operation number. When employees do not attribute workhours to the correct operation, the Postal Service cannot effectively evaluate performance and ensure adequate staffing.

We also found that the Postal Service only achieved $269,000 of the projected $8 million of transportation savings in FY 2018.

Addressing the low throughput and productivity of the HTPS at the Queens P&DC will help reduce costs, increase operational savings, and better support the Postal Service's strategic plan to build a world-class package platform. We calculated that the lower than expected throughput cost the Postal Service about $2.1 million from December 2017 through November 2018.

What the OIG Recommended

We recommended management:

- Develop a plan to reduce the number of packages recirculated or rejected by the Queens HTPS machine to achieve daily volume and throughput goals.

- Instruct supervisors to review staff labor code selections for accuracy for the Queens HTPS.

Transmittal Letter

May 23, 2019

MEMORANDUM FOR: ERIC D. CHAVEZ
VICE PRESIDENT, NORTHEAST AREA

E-Signed by Inspector General
VERIFY authenticity with eSign Desktop
Darrell E. Benjamin, Jr.

FROM: Darrell E. Benjamin, Jr.
Deputy Assistant Inspector General
  for Mission Operations

SUBJECT: Audit Report – High Throughput Package Sorter at the
Queens, NY, Processing and Distribution Center
(Report Number NO-AR-19-004)

This report presents the results of our audit of the High Throughput Package Sorter at the Queens, NY, Processing and Distribution Center (Project Number 19XG001NO000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Margaret B. McDavid, Director, Network Processing, or me at 703-248-2100.

Attachment

cc: Postmaster General
    Vice President, Network Operations
    Vice President, Engineering Systems
    Corporate Audit Response Management

Results

Introduction/Objective

This report presents the results of our self-initiated audit of the high throughput package sorter (HTPS) at the Queens, NY, Processing and Distribution Center (P&DC) (Project Number 19XG001NO000). The objective was to evaluate the performance and functionality of the U.S. Postal Service's HTPS at the Queens, NY, P&DC, and determine whether planned transportation savings were realized. See Appendix A for additional information about this audit.

Background

In February 2017, the Postal Service approved about $32.5 million for the purchase of its second HTPS machine to handle much of the rapidly expanding number of inbound international packages arriving from the John F. Kennedy International Service Center (JFK ISC). The Postal Service was expecting a ▇▇▇▇▇▇ percent increase in international package import volume in calendar years 2017 and 2018, respectively. Prior to deployment of the Queens HTPS, mail was transported to facilities outside the Triboro District[1] by surface transportation because the Queens P&DC did not have sufficient processing capacity. The related Decision Analysis Report (DAR)[2] projected that installing the HTPS at the Queens P&DC would save the Postal Service $131 million in transportation costs from FYs 2018 through 2028, about $10.7 million per year, by eliminating trips between the JFK ISC and package processing sites located outside the Triboro District. The Queens HTPS became fully operational in November 2017.

> " *The Denver, CO, and Queen's HTPS machines are the only two deployed and the Postal Service has no plans to purchase additional HTPS machines at this time.* "

The Postal Service originally projected deploying up to 30 HTPS machines at P&DCs nationwide. However, in May 2017, the Postal Service approved deployment of an Enhanced Package Processing Sorter (EPPS), which will have higher throughput and productivity than the HTPS. As a result, the Denver, CO, and Queen's HTPS machines are the only two deployed and the Postal Service has no plans to purchase additional HTPS machines at this time.

Finding #1: High Throughput Package Sorter Throughput

The HTPS machine at the Queens P&DC did not meet its throughput goal. From December 2017 through November 2018, the average throughput (number of packages fed through the machine divided by hours of machine use) was 12,489 packages per hour, about 17 percent lower than the DAR's throughput performance goal of 15,000 packages per hour (see Figure 1).
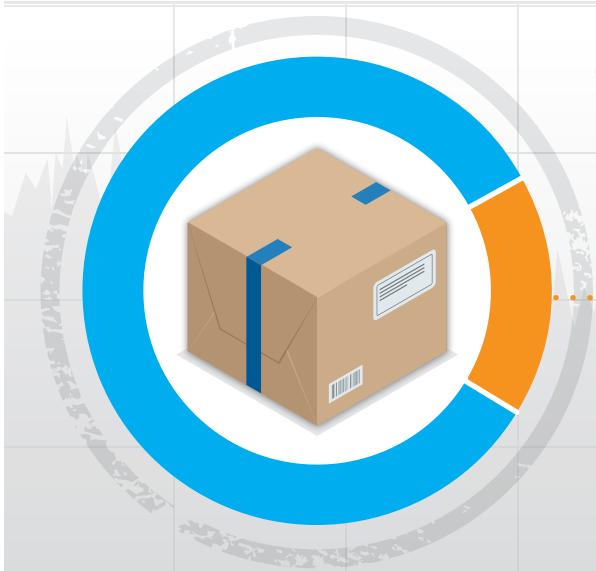
Figure 1. HTPS Monthly Throughput
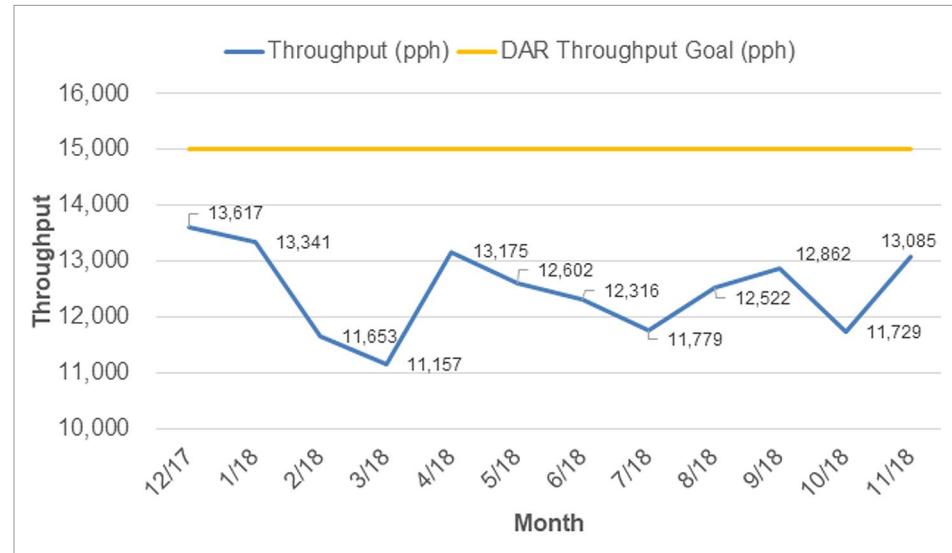
Source: Enterprise Data Warehouse (EDW).

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1   The Triboro District is located outside of New York City and includes the boroughs of Brooklyn, Queens, Staten Island, and Western Nassau County.
2   Decision Analysis Report Business Case, Additional Package Processing Equipment – Fiscal Year (FY) 2017 Program.

The **HTPS** was not meeting the **throughput goal**.

17 PERCENT

of the machine's trays were occupied with **recirculating packages**.

The machine exceeded the 197,629 average daily packages processed goal by about 31,000 pieces (or about 16 percent) by running the HTPS at its maximum daily runtime of 18-20 hours per day. Running the machine at the maximum runtime to achieve a daily volume goal is inefficient and incurs additional personnel, machine and maintenance costs. We therefore concluded that throughput and productivity are more applicable measures of HTPS performance, as these measures directly affect personnel and transportation costs.

The HTPS was not meeting the throughput goal because about 17 percent of the machine's trays were occupied with recirculating packages. When the HTPS cannot read a package barcode or address, for example if it is partially illegible, it sends an image to a Postal Service Remote Encoding Center (REC) in Salt Lake City, where an employee reviews the image of the address and attempts to correct it. If correctable, the information is returned to the machine and the package is sorted. If the address is not correctable, the package can circulate on the HTPS up to three times before it is rejected. This recirculation adversely affects throughput.

From December 2017 through November 2018, 83.6 million packages were fed into the Queen's HTPS machine and 10.5 million packages (or about 13 percent) were rejected. When packages are rejected from the HTPS operation, they are resorted on other less efficient processing equipment. The Queens P&DC incurred $2.1 million in questioned costs during the period December 2017 through November 2018, due to increased processing costs. The Postal Service also has an opportunity to save $2.1 million per year through future cost avoidance by reducing the number of packages recirculated or rejected on the Queens, NY, P&DC HTPS machine.

Recommendation #1

The **Vice President, Northeast Area**, develop a plan to reduce the number of packages recirculated or rejected on the Queens, NY, Processing & Distribution Center High Throughput Package Sorter machine to help achieve the daily volume and throughput goal.

Finding #2: High Throughput Package Sorter Productivity

The Queens HTPS was not meeting its productivity DAR goal. For the period December 2017 through November 2018, the average calculated productivity (number of packages fed through the machine divided by employee workhours) was 374 packages per workhour — about 22 percent lower than the 478 packages per workhour goal (see Figure 2).

Figure 2. HTPS Monthly Productivity
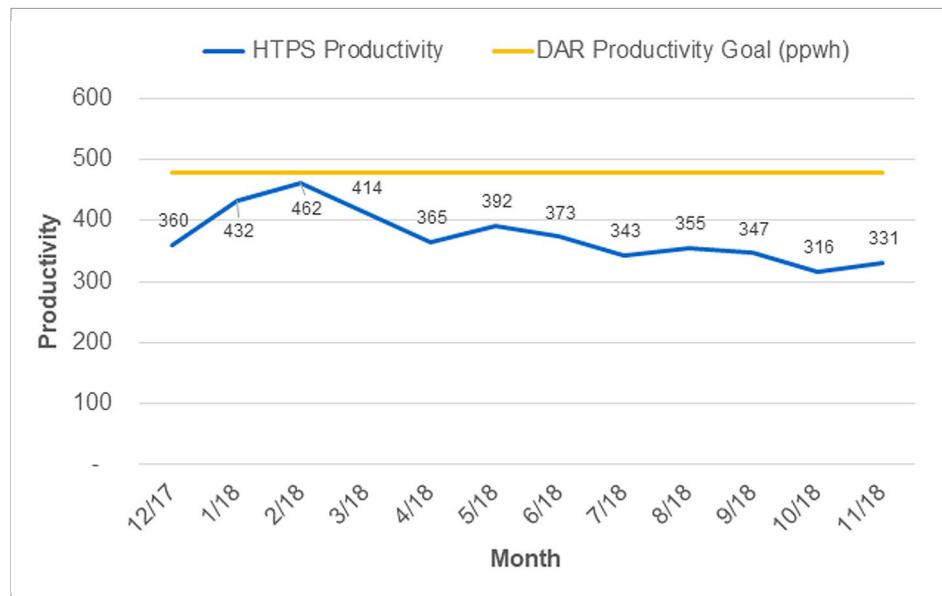
Source: EDW.

We observed that 33 employees were needed to staff the machine rather than the projected 30 staff members, causing lower productivity. The additional staff were needed to open and load mail, remove non-machinable packages, and scan mail barcodes.

Another cause for lower productivity was employees charging workhours to the HTPS machine operation when not working in that operation. During our

site observations from November 5-8,18 of 141 Queens P&DC employees (or about 13 percent) were charging the HTPS operation number but not working in that operation. An additional 12 employees were working in the HTPS operation but were not using the HTPS operation number. According to Postal Service policy[3] employees must immediately clock into the new operation when moving from one operation to another, and supervisors must make certain that employees clock in and out according to their assigned schedules and approve daily clock rings.[4] When employees do not attribute workhours to the correct operation, the Postal Service cannot effectively evaluate performance and ensure adequate staffing.

> **Recommendation #2**
>
> The **Vice President, Northeast Area**, instruct supervisors to review staff labor code selections for correctness for the Queens, NY, Processing & Distribution Center High Throughput Package Sorter.

Finding #3: High Throughput Package Sorter Transportation Savings

The Postal Service did not achieve the $8 million of transportation savings in FY 2018 projected in the DAR. Actual transportation savings for FY 2018 as a result of installing the Queens HTPS were $269,000, while the DAR projected savings were $8 million. While the Postal Service did not achieve the projected DAR transportation savings, increasing package processing capacity by investing in the Queens HTPS was necessary to meet package volume growth and service requirements.

" Additional staff were needed to open and load mail, remove non-machinable packages, and scan mail barcodes."

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3   Handbook M-32, *Management Operating Data System Section* 4-4.3, September 2018.
4   Handbook F-21, *Time and Attendance Handbook*, Section 114.1, February 2016.

Management's Comments

Management agreed with the findings and recommendations but disagreed with the monetary impact associated with recommendation 1.

Regarding recommendation 1, management stated that the Queens P&DC developed a plan which includes staffing the machine with a full crew and employee training. The plan also includes huddle boards which display maintenance and operational machine goal measurement. During our audit, the recirculated packages percentage was 17 percent. Since implementing this plan, the recirculation percentage has declined and was 8.6 percent for the week March 30, 2019. Management implemented the plan January 26, 2019, and provided the sign-in sheet for the employee training along with their response letter.

Regarding recommendation 2, management stated that they trained all supervisors and employees on TACS policies which included emphasizing the importance of accurate reporting. In addition, management will perform quarterly reviews of TACS LDC codes beginning in FY 2019, Quarter 3. Management provided support with their response letter that they completed the training May 8, 2019.

Regarding the monetary impact, management agreed that the lower throughput was the result of recirculated packages; however, they believe the monetary impact is only $2.1 million and not $4.2 million because they did not concur with the funds put to better use or future saving opportunities.

See Appendix B for management's comments in their entirety.

Evaluation of Management's Comments

The OIG considers management's comments responsive to the recommendations in the report.

Regarding the monetary impact, the Postal Service's monetary impact calculation was for one year. We calculated the lower than expected throughput for two years. Specifically, it cost the Postal Service $2.1 million from December 2017 through November 2018. In addition, the Postal Service has an opportunity to save an additional $2.1 million in funds put to better use over the next 12 months by reducing the number of packages recirculated or rejected on the Queens, NY, P&DC HTPS machine to increase daily volume and throughput.

All recommendations require OIG concurrence before closure. Management provided written comments and supporting documentation to close both recommendations. Based on the documentation provided by Northeast Area management, we consider all recommendations closed with the issuance of this report.

Appendices

Click on the appendix title below to navigate to the section content.

Appendix A: Additional Information

Scope and Methodology

Our objective was to evaluate the performance and functionality of the Queens P&DC HTPS and determine whether the Postal Service realized its planned transportation savings. To achieve our objective, we:

- Analyzed data from the Postal Service's EDW, WebEOR, Contract Authoring and Management System (CAMS), the Material Handling System, and the Time and Attendance Collection System (TACS) to evaluate HTPS volume, productivity, throughput, rejects, workhours and transportation savings.

- Compared HTPS performance with DAR performance measures.

- Observed HTPS performance and staff clocking procedures at the Queens P&DC.

- Discussed HTPS performance, expectations, transportation costs, and functional issues with Postal Service headquarters personnel and Northeast Area and Queens P&DC managers.

We conducted this performance audit from October 2018 through May 2019, in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We discussed our observations and conclusions with management on April 19, 2019, and included their comments where appropriate.

We assessed the reliability of the Postal Service's EDW, WebEOR, CAMS, Mail & Images Reporting System, Material Handling System, and TACS data by interviewing knowledgeable agency officials, conducting observations, reviewing related documentation, and comparing data to published reports. We determined that the data from these systems were sufficiently reliable for the purposes of this report.

Prior Audit Coverage

Report Title	Objective	Report Number	Final Report Date	Monetary Impact (in millions)
High Throughput Package Sorter at the Denver, CO, Processing and Distribution Center	Evaluate the performance and functionality of the HTPS at the Denver P&DC.	NO-AR-17-009	5/11/2017	$3.2

Appendix B: Management's Comments

UNITED STATES POSTAL SERVICE

May 8, 2019

LAZERICK POLAND
DIRECTOR, AUDIT OPERATIONS

SUBJECT: High Throughput Package Sorter at the Queens, NY, Processing and
Distribution Center – Report Number NO-AR-19-DRAFT

The findings and recommendation outlined in the above noted audit report have
been reviewed and the response is as follows.

Management agrees that the recirculated packages are the main causes of the low
throughput; however, we do not agree with the Monetary Impact amount accessed
of $4.2M. The lower throughput was a result of the recirculated packages and total
monetary impact is the $2.1M.

Recommendation #1
We recommend the **Vice President, Northeast Area,** develop a plan to reduce the
number of packages recirculated or rejected on the Queens, NY, Processing &
Distribution Center High Throughput Package Sorter machine to help achieve the
daily volume and throughput goal.

Management Response:
We agree with the recommendation. Queens P&DC developed a plan which
included staffing the machine with a full crew, coaching and training employees on
proper techniques and constant reinforcement. Our communication plan also
includes huddle boards that illustrate goal measurement including Maintenance and
Operations. All of these efforts are ongoing. The reporting mechanism used for
recirculated packages is "At Risk" Performance, named such for indicating pieces
that are "at risk" of failure. The High Throughput Package Sorter (HTPS) originally
ran at over 16% at risk. During the audit in November 2018, the at risk was at
13%. The week of March 30, 2019, the HTPS at risk was at 8.6%. The Goal for
international processing is 10%. Therefore, efforts already implemented have
shown a significant improvement in the reduction of recirculated packages.

For QUEENS NY P&DC: Weekly
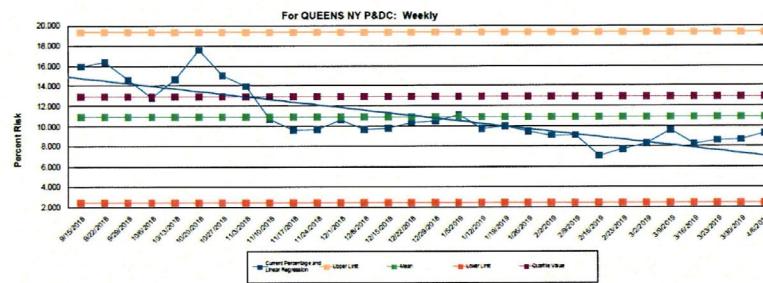
Target Implementation Date:
Completed – January 26, 2019

Responsible Official:
Plant Manager, Queens P&DC

Recommendation #2:
We recommend the **Vice President, Northeast Area,** instruct supervisors to review staff labor code selections for correctness for the Queens, NY, Processing & Distribution Center High Throughput Package Sorter.

Management Response/Action Plan:
We agree with the recommendation. We have retrained all Supervisors on TACS moves by explaining the importance of accurate reporting and how the hours are used in productivity by function and machine. This is also discussed continually during daily Turnover Meetings. We also have retrained all employees on the proper functional moves on the EBRs (see attached confirmation that follow-up Service Talks were provided to the employees). Additionally, we have reviewed TACS timekeeping practices with all SDOs to ensure compliance and we will perform quarterly reviews of TACS LDC codes beginning in Quarter 3, FY 19.

Target Implementation Date:
Completed – May 8, 2019

Responsible Official:
Plant Manager, Queens P&DC

Mary Ellen Skehan

for Eric D. Chavez
Vice President, Area Operations

cc: Manager Operations Support (Northeast)
        (A) Controller (Northeast)
        Plant Manager, Queens P&DC
        Manager, Corporate Audit Response Management

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