Office of Inspector General | United States Postal Service

RISC Report

Improving Operational Efficiency Using Informed Visibility

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Executive Summary

In fiscal year (FY) 2015, the U.S. Postal Service began to deploy Informed Visibility (IV), a system designed to centralize postal data and provide near-real time visibility into the mailstream. As of June 2021, IV centralized information from 82 different USPS data systems and about 11,000 pieces of mail processing equipment at postal facilities nationally. IV is a critical component to managing the mail processing network, which handles billions of mailpieces and packages annually. In addition, IV is expected to better inform postal decisions related to operations, finance, sales, marketing, and revenue.

When the Postal Service launched its investment into IV, it stated the system would improve the efficiency of processing operations by reducing how many hours employees at processing facilities needed to work, among other benefits. Specifically, the Postal Service wanted IV to provide plant management at processing facilities with a tool to better and more efficiently understand the mail coming in and out of their facility. Knowing when mail will arrive prepares plant management to schedule employees and machines more efficiently. Lastly, IV allows the Postal Service to rely less on external contractors to collect data, enabling the Postal Service to measure performance internally and diagnose service failures more easily.

In this white paper, the U.S. Postal Service Office of Inspector General (OIG)'s objective was to assess IV's expected operational efficiency benefits and identify the benefits and challenges plant management at processing facilities have experienced using IV to increase operational efficiency. We also sought to present opportunities for improvement. The OIG's research methods involved reviewing postal documentation, surveying plant management, examining feedback on IV provided to the Postal Service by its employees, and interviewing management at Postal Service headquarters and in the field.

The Postal Service has not directly measured the specific cost savings from IV's improved operational efficiency. Nevertheless, it indicated IV had improved workhour efficiencies since its adoption, and we confirmed processing workhours decreased. Plant management said that IV helped them advance operational efficiency by providing a timesaving, central source of information that enabled them to better monitor operations, conduct root cause analysis, and schedule employees. For example, plant management could monitor operations while away from the facility floor, such as during meetings or when outside the facility.

Although management confirmed IV produced many operational efficiencies, plant management also shared a variety of opportunities to further improve operational efficiency using IV. Specifically, plant management identified opportunities to address issues related to unavailable or unreliable data, navigation, and slow system performance. For example, they wanted IV to provide more granular data at the facility, employee, or piece level. In addition, plant management deemed at least some data in IV unreliable when scheduling employees, attempting to analyze problems in real-time, or trying to reproduce data provided in IV dashboards. Navigating to or within dashboards was difficult, as well, according to plant management. Expanding access to push reports and alerts in IV could make navigation easier. Plant management also indicated they experienced slow system performance at certain times of day, when using certain Internet browsers, or filtering certain data in IV.

In its 10-year plan, the Postal Service indicated it will continue to invest in IV to drive value. In addition, the Postal Service noted data-driven analytics will inform how the agency optimizes processing operations. Feedback from plant management could help shape these decisions. Current field-level feedback about IV is provided through a helpdesk. The Postal Service does not periodically request feedback from IV users in the field to gather information about what parts of the system would most benefit from enhancement. Without asking for feedback, the Postal Service may be unaware of potentially needed IV improvements. When we shared plant management's feedback about challenges with unreliable and unavailable data, headquarters management acknowledged those challenges but said they did not currently have plans to update the system to address those concerns.

Lastly, plant management identified opportunities to leverage IV more fully by improving access to the system's data visualizations and using more of its predictive capabilities. For example, they would like to access IV data on a mobile device, rather than at a desktop computer. A potential solution involved expanding participation in the existing Informed Facility and Informed Mobility initiatives,

which are intended to enable display of IV dashboards on facility floor monitors and tablets. Although headquarters provided predictive capabilities in IV, plant management shared they saw potential to use these capabilities more extensively in their work.

IV has greatly enhanced the Postal Service's visibility into the mailstream, yielding numerous operational efficiency benefits for the agency and other stakeholders. However, there are opportunities for IV to produce even more operational efficiency benefits. The Postal Service indicated it is already pursuing some of these opportunities, and the Postal Service and its customers will be better off for it.

What the OIG Recommends

We recommend management develop a formal avenue to periodically solicit feedback from Informed Visibility users to ascertain system functionality and gauge opportunities for enhancements.

Observations

Introduction

The U.S. Postal Service annually processes billions of mailpieces and packages, collecting massive amounts of data as these items move through the postal network. Before 2015, the agency had many different systems for mail tracking and service performance, but these systems were not capable of collecting, processing, or analyzing real-time data about how mail was moving through the network.[1] For example, the Postal Service could not track identifiable mailpieces, such as barcoded First-Class letters, from induction to delivery. In addition, the Postal Service indicated investing in its legacy systems was costly and unlikely to provide the degree of mail visibility it required. Deploying a new system to address processing demands was critical, given the immense number of mailpieces processed daily and the growth in package volume over the last decade.

To meet the need for a new system, the Postal Service deployed Informed Visibility (IV). According to the IV proposal — called a Decision Analysis Report (DAR)[2] — the Postal Service designed IV to take advantage of the insights derived from mail tracking data to become more efficient, increase service performance, expand the value of mail, and drive change both across the organization and throughout the mailing industry. Deployed in fiscal year (FY) 2015, the Postal Service intended for IV to provide internal and external users with a single access point to near-real time information about mail (see Figure 1).

Figure 1: Postal Data System Capabilities Before and After IV

Capability	Before	After
Near-Real Time	✗	✓
Comprehensive	✗	✓
High Volume Data Collection	✗	✓
Internal Tracking & Reporting	✗	✓
End-to-End Tracking	✗	✓
Costly Maintenance for Limited Extendibility	✓	✗

Source: OIG summary of Postal Service statements in DAR for Informed Visibility.

The Postal Service expected IV to enable the agency to track and report in near-real time the status of mailpieces from pickup to delivery. End-to-end tracking would help USPS know where mail was, whether in a tray on a processing machine, within a sack on a truck, or inside a container on an airplane. The Postal Service also anticipated IV would help improve the frequency of mailpiece scanning.

In this white paper, the U.S. Postal Service Office of Inspector General (OIG) assessed IV's expected operational efficiency benefits and identified the benefits and challenges plant management at processing facilities have experienced using IV to increase operational efficiency. We also present opportunities for improvement based on input from plant management. To meet our objectives, we reviewed documentation outlining the expected benefits of IV and interviewed plant management at 15 processing facilities.[3] We also interviewed management at Postal Service headquarters responsible for IV's development

1 Near-real time means data responses in minutes instead of hours, according to the Postal Service.
2 A DAR is a document prepared by management to recommend an investment for approval.
3 Plant management included postal employees with the following occupation titles: senior plant manager, plant manager, manager in-plant support, operations support specialist, and operations industrial engineer. We collected perspectives on IV from a subset of plant management across the 336 processing facilities in the postal network.

and implementation. In addition, we surveyed plant management, analyzed workhour data, and examined employee-generated feedback about IV that went to headquarters management. The objectives, scope, and methodology are described in more detail in Appendix A.

Anticipated Benefits of IV

The Postal Service anticipated IV would better inform postal decisions related to operations, finance, sales, marketing, and revenue. The agency projected three key sources of cost savings from IV: eliminating several legacy systems, reducing reliance on contractors, and improving operational efficiency. The Postal Service succeeded at the first two, and this paper assesses progress toward the third — operational efficiency.

System Consolidation and Contractor Reduction

As of June 2021, IV had centralized data from 82 systems, 11,000 pieces of mail processing equipment, and 32,000 postal facilities nationally, processing 200 terabytes of data per day. To put that in perspective, in 2018 the Library of Congress' digital collection — a digital record of American history and creativity — contained 16,000 terabytes of data. IV processes enough data annually to fill the digital collection nearly five times over. IV also centralized data on when and where mailpieces and packages were scanned. Due to IV, the Postal Service retired the following systems: Intelligent Mail Barcode (IMb) Tracing, Business Intelligence Data Store, Intelligent Mail Accuracy and Performance System, the Web Mail Condition Reporting System, and the International Mail Measurement System.

In addition, IV led the Postal Service to use fewer contractors. Specifically, IV allowed the Postal Service to transition away from using a contractor to perform external mail service performance measurement. IV also enabled the Postal Service to measure volume and the time it takes mail to travel from one ZIP Code to another, rather than hiring a contractor to measure it.[4] IV eliminated the need for contracts with vendors who measured mail volumes on rural routes as well.[5]

Operational Efficiency Benefits

Operational efficiency was a key pillar of the business case for IV. IV was expected to both produce cost savings and improve employees' ability to complete their jobs, according to the DAR.

Economic Benefits

The DAR projected IV would result in operational efficiencies with a cost savings of $47.94 million. The operational efficiency cost savings constituted more than a quarter of the overall anticipated savings (26.1 percent) of the system.[6] Specifically, the DAR indicated operational efficiency savings would result from reduced workhours in Labor Distribution Codes (LDCs) 13 and 17, which relate to processing operations.[7] LDCs categorize the tasks completed by processing facility employees. To record when they begin and end these tasks, employees use clock rings. The data recorded by these clock rings can be used to analyze the number of employees dedicated to a task and how many hours are spent on that task.[8]

We sought to calculate actual cost savings using the assumptions about LDCs 13 and 17 in the DAR. The assumptions would help ensure we calculated the workhour savings stemming from IV, rather than other sources. However, the Postal Service could not provide support for how it arrived at its workhour savings assumptions.[9] In addition, it had not directly measured the specific cost savings from IV's improved operational efficiency.[10] Nevertheless, management indicated

4 Prior to IV, the Postal Service relied on a contractor to study Return Receipt service and field data collectors to support statistical programs, such as for the Origin Destination Information System-Revenue, Pieces, and Weight (ODIS-RPW) program. The Postal Service confirmed ODIS-RPW reporting was deployed in IV, reducing costs related to field data collection.
5 IV also ended contract support for mail tracking systems such as IMb Tracing, Web ADVANCE, and ePUBWATCH.
6 In the original IV DAR, operational efficiency savings constituted nearly half of the overall savings (45.9 percent) expected for IV. However, the percentage decreased after the second DAR modification was approved.
7 LDCs 13 and 17 involved mechanized mail processing operations and other direct mail processing operations, respectively. Starting in January 2018, the Postal Service estimated using IV would result in annual operational efficiency savings under LDCs 13 and 17 by 0.75 percent and 1.25 percent, respectively.
8 In our interviews with plant management, interviewees said it was hard to determine the actual workhour savings under LDCs 13 and 17 because employees were not properly using clock rings to switch operations. Incorrect use of clock rings results in incorrect workhours charged to the LDCs.
9 According to management, "due to multiple factors; including the length of time since their creation, retirement of involved personnel, computer/laptop refresh, and facility restack, we are unable to locate some of the supporting documentation on the assumptions for the projected annual operational efficiency savings."
10 Postal management indicated it measured the operational efficiency benefits of IV indirectly, such as through cost avoidance or improved service performance.

IV had improved efficiencies in a variety of LDCs, including LDCs 13 and 17, since its adoption.

We determined the workhours under LDC 17, compared to FY 2013, were lower in FYs 2019 and 2020 (see Table 1). FYs 2019 and 2020 are the first two complete fiscal years after the full implementation of IV. We also found that, while workhours for LDC 13 increased by 11.9 percent between FYs 2013 and 2020, the volume of mail handled by these employees grew significantly, by 135.3 percent. LDC 13 workhours increased by a far lower percentage than the volume handled under that LDC, and IV may have contributed to this efficiency.

Table 1: Workhour and Volume Comparison

	FY 2013	FY 2018	FY 2019	FY 2020	Change (FYs 2013 to 2020)
LDC 13 Workhours	29,538,278	27,304,639	28,450,663	33,065,562	11.9%
LDC 17 Workhours	75,181,000	68,284,733	66,907,260	65,341,164	-13.1%
Combined Workhours (LDC 13 + LDC 17)	104,719,279	95,589,372	95,357,923	98,406,727	-6.0%
LDC 13 Mail Volume	3,344,426,203	6,214,188,392	6,532,123,029	7,869,422,645	135.3%

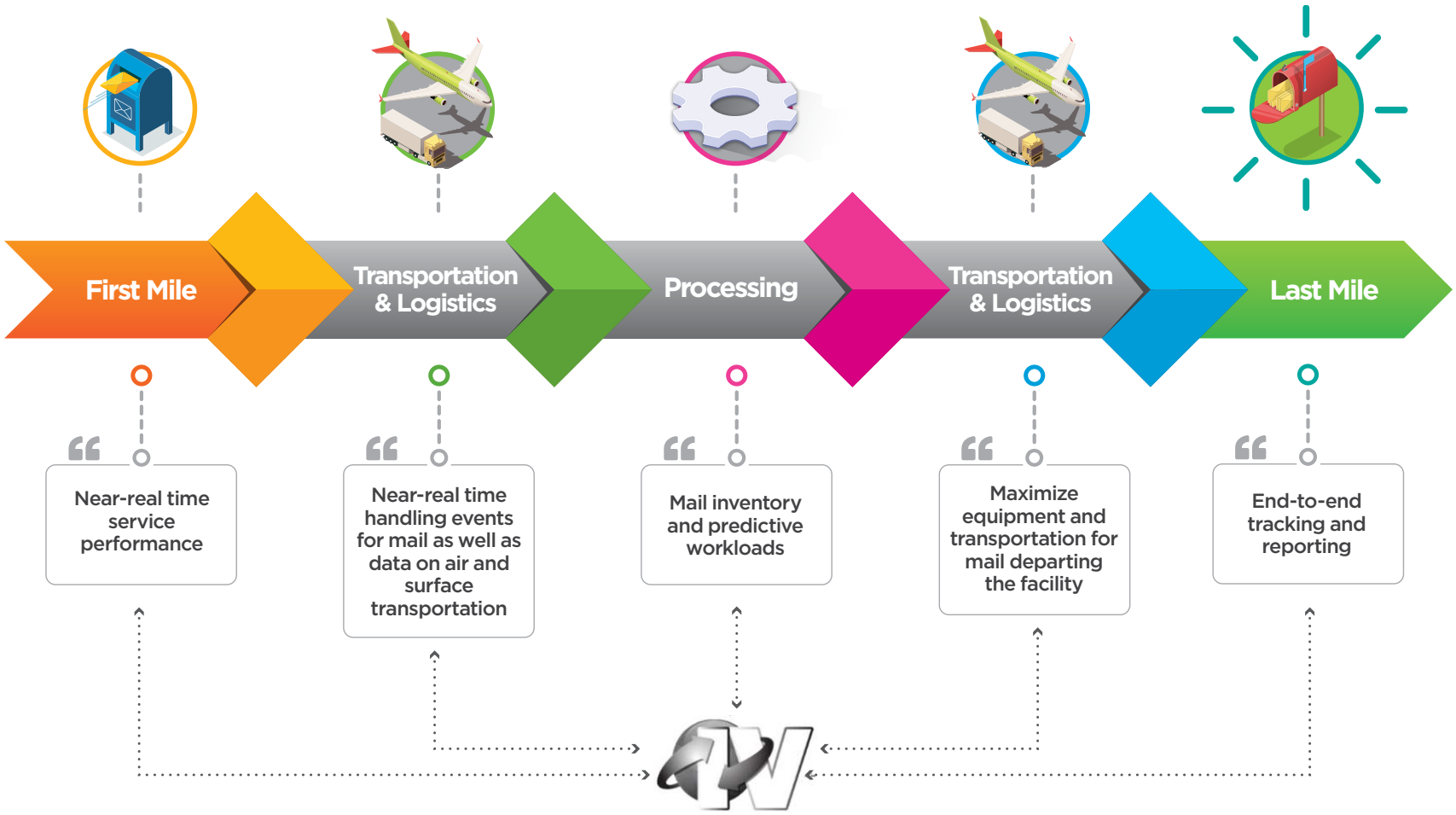
Source: Enterprise Data Warehouse.

Operational Efficiency

IV was supposed to produce operational benefits by making it easier to understand what was happening inside and outside processing facilities more clearly (see Figure 2). First, IV was expected to give a thorough picture of which mail was in the facility. Second, and related to the first, IV was expected to allow the Postal Service to measure mail service performance internally in near-real time, enabling plant management to diagnose problems, such as service failures, more easily.[11] Lastly, IV was expected to enable plant management to predict incoming mail volume and upcoming workloads. Predictions would use information on workloads at the same point last year and recent scans of actual inventory. IV's predictive capability would help plant management maximize resources. For example, plant management could use IV data on incoming volume to help schedule employees and machines. The Postal Service has already deployed IV dashboards aimed to improve each of these operational areas, and the agency continues to expand these capabilities.[12]

11 A service failure occurs when a mailpiece does not arrive on time.
12 In this paper, we use the terms "dashboard" and "report" interchangeably. Although there is a technical difference between these types of IV applications, this difference is not examined in this paper.

Figure 2: IV Uses from Across the Mailstream



Source: OIG analysis of Postal Service DAR on Informed Visibility.

An example of a dashboard that offers a new predictive capability is the Intelligent Run Plan Generator (IPG). Piloted at three processing facilities, IPG uses artificial intelligence to leverage actual and predicted volume data to improve machine run plans.[13] IPG makes operational changes to the run plan for individual processing machines. IPG can also make changes to the overall run schedule for all processing machines in the facility.[14]

Postal management indicated IV would help plant management predict incoming mail volume and upcoming workloads.

13 Based on the expected mail volume, a run plan is a schedule of mail processing and maintenance operations for the machines and sort programs at a processing facility. Postal management indicated IPG enabled plant management to identify when to consolidate the mail sorted on a processing machine more easily.

14 Postal management confirmed [redacted]

Postal management indicated it was developing dashboards specifically targeted toward operations during Peak Season. The Postal Service's Peak Season lasts about eight weeks, starting on or around Thanksgiving Day in November and ending on or around Martin Luther King, Jr. Day in January. During this time, a higher amount of letter mail and packages moves through the Postal Service network. These in-development dashboards would use data on processing operations from Peak Season during the previous year to automate planning for plant management.

Using predictive capabilities, the Postal Service is working toward improving problem diagnoses in plants with its Business Intelligence Capacity Model. The model leverages IV data to assess risk in operations at mail processing facilities in near-real time. Specifically, it compares mail volumes at the processing facility to machine capacity and available space for mail transport equipment at the facility.

Perspectives on the Benefits of IV

With the numerous capabilities it offers, IV has great potential to help plant management operate their facilities and solve problems more efficiently. To determine whether management thought IV fulfilled that potential, we conducted interviews at headquarters and in the field. We also surveyed plant management nationwide. Management confirmed that, overall, IV had met expectations. Specifically, IV was a timesaving, central source of data that enabled plant management to monitor operations, conduct root cause analysis, and better schedule employees. In addition, IV has allowed plant management to communicate operational issues to headquarters more easily, leveraging near-real time data to increase efficiency.

Providing a Timesaving, Central Source of Data

Prior to IV, plant management had to ask a specialist for data via email, and the specialist would email back a data report. Management stated IV greatly increased the ease and speed with which plant management accessed postal data, providing a timesaving, central source of information. IV allowed plant management to generate the same reports without outside assistance in seconds, offering more current information that better informed plant operations.

> *"IV has made it a lot easier to find information that has typically been flung across a number of reports previously. IV has put a front on a number of reports that previously had to be hunted down and were not the easiest to use."*
> – Survey Respondent

Specifically, plant management interviewees at nine of the 15 facilities in our sample confirmed IV saved them time, and interviewees at 12 processing facilities indicated they liked how IV centralized data. Survey respondents shared these sentiments. For example, a respondent referred to IV as a "one stop shop."

Monitoring Operations

Headquarters management indicated that IV enabled plant management to monitor both incoming and already-arrived mail in near-real time. They expected plant management to adjust how they use resources accordingly. In addition, IV has allowed plant management to make near-real time changes in operations to ensure actual performance matched the operating plan.[15]

> *"[IV provided] some near real time machine performance monitoring that was previously unavailable."*
> – Survey Respondent

In line with headquarter management's expectations, interviewees at all processing facilities indicated they used IV to track the performance of machines and communicate issues to other staff. For example, during meetings or when away from the facility, plant management used IV to identify performance issues and quickly contact on-site staff to take corrective action. IV also enabled plant management to adjust operations using near-real time IV data related to Run Plan Generator compliance.[16] About three-quarters of

15 Headquarters management noted two separate IV dashboards — "Performance to Plan" and "Performance to Plan Dashboard" — enabled plant management to make near-real time changes in operations.
16 Run Plan Generator creates a schedule of mail processing and maintenance operations based on the machines and expected mail volume at a facility.

survey respondents (76.7 percent) found IV very helpful or somewhat helpful for monitoring machine details.

> *"Performance to Plan has at times shown me when a machine was not running that I expected to be running."*
> – Survey Respondent

Using scan data, plant management stated IV enabled them to monitor mail inventory, including delayed mail and the physical location of mail within the facility. Within IV, the Managed Mail Program dashboard provided data on actual versus expected mail volume, and the Mail Processing Performance dashboard provided actual processing performance scores by mail type. Three-quarters of survey respondents (75.3 percent) found IV very helpful or somewhat helpful for monitoring mail conditions in near-real time. When survey respondents provided examples of ways that IV has improved their facility's operational efficiency, about one-third of the examples shared (32.7 percent) involved monitoring performance and inventory in near-real time.

Performing Root Cause Analysis

Management indicated that diagnostic reports in IV helped identify problems. They confirmed IV enabled them to better diagnose the root cause of service failures, correct them, and prevent future failures. According to management, root cause analysis often involved identifying issues at the container or piece level across the mailstream.

> *Management indicated plant management used IV to generate diagnostic reports and identify problems with operational efficiency.*

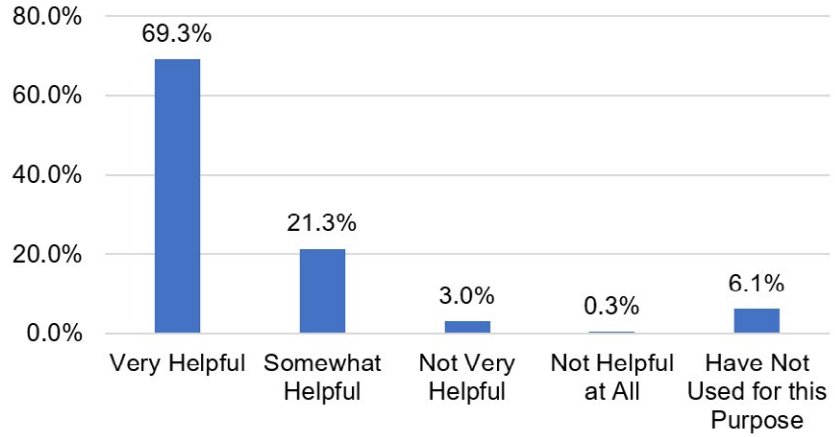
Plant management provided several examples of how data from IV could be used to determine where failures originated, whether at their own facility or elsewhere. Other potential sources for these failures include the delivery unit, originating plant, or destinating plant. If the failure was at their facility, plant management could physically visit the operation flagged in the IV data. For example, plant management could visit a processing machine or scanning operation on the facility floor. They could then discuss the failure with the relevant employees, such as clerks or mail handlers. This communication would help ensure the immediate issue is corrected and employees adhered to proper procedure in the future. A failure could also reveal the need to adjust procedures or create new ones. Specifically, capabilities such as the Bundle Breakage tool can provide specific details on what mailers are impacted by a stopped machine, and what impacts this might have on the rest of operations. This allows plant management to communicate more effectively and prepare downstream plants for upcoming mail conditions.

> *"The ability to research root causes of packages has been immensely helpful in fixing both short-term and long-term problems in processing and logistics."*
> – Survey Respondent

Plant management at all facilities we interviewed reported using IV extensively for root cause analysis and found the system helpful for this purpose. In addition, nearly seven-in-10 survey respondents (69.3 percent) found IV very helpful for such analysis (see Figure 3). When respondents later provided examples of ways that IV has improved their facility's operational efficiency, almost half of the examples shared (46.4 percent) involved using root cause analysis to diagnose service failures.

Figure 3: Most Survey Respondents Found IV Very Helpful for Root Cause Analysis

Q: How helpful is IV for the following tasks: Diagnosing root cause issues impacting performance.



Source: OIG survey of plant management.

Scheduling Employees

Management indicated the Informed Visibility Employee Scheduler (IVES) helped them schedule employees more effectively, improving operational efficiency.[17] For example, plant management could use IVES to allocate employees better during lulls in volume, prevent interference between operations, and use employees flexibly.[18]

IV enables plant management to schedule employees more effectively.

Plant management noted they used IVES daily or weekly to schedule employees, monitor staffing hours, and adjust those hours as needed. IVES also enabled them to address issues related to attendance and overtime. For example, an interviewee said that knowing the status of mail volume on an incoming truck allows plant management to more easily determine whether to send employees home. This information also enables plant management to otherwise ensure the optimal number of employees are present to handle the incoming volume. In addition, interviewees at seven processing facilities indicated they used IV dashboards, such as IVES, to identify inefficiencies in LDC workhours. Lastly, a majority of survey respondents (56.8 percent) reported IV helped them monitor employee productivity.

Communicating Between Higher-level Management and the Field

Plant management indicated they used IV data when communicating with higher-level management, including headquarters, regional, division, or district management. For example, if higher-level management used the Performance to Plan dashboard and saw a plant was diverging from its planned activity, they could call that plant's management. If a machine was not running when it was supposed to be, higher-level management could also see that and call the plant to find out what was happening.

Plant management noted that higher-level management sent a daily email with IV data on performance at their plant and others. During routine teleconferences with higher-level management, IV was used to help resolve operational issues. Interviewees also indicated they use IV as a communication tool with higher-level management, showing them the impact of problems, rather than just explaining it verbally.

Plant management confirmed they received daily messages from higher-level management that highlighted issues at their plant or at others.

Plant management could communicate with National Operations Control Centers (NOCCs), using IV, to correct operational issues.[19] For example, plant management coordinated with NOCCs on issues related to maintenance indicators, efficiency, and run plans. In addition, NOCCs helped plant management by using IV to provide anticipated volume to airlines that transport mail and packages for the Postal Service. Plant management confirmed NOCCs

17 IVES is a web-based application to manage the staffing and scheduling of postal employees. IVES generates weekly base schedules for each mail processing site, but plant management must make changes to these base schedules, including adding planned overtime, and additional metrics.
18 Headquarters management said IVES was most helpful during peak season, and plant management heavily depended on IVES to prevent incoming operations from interfering with outgoing operations within plants.
19 NOCCs serve as mission control for the postal processing network, monitoring the movement of mail and packages and resolving issues in transportation, processing, and maintenance. NOCCs use IV data to perform this work.

> *"[IV] helps isolate our failures so we can focus on the things we can control and pass along to other facilities the things they control to help improve service."*
> – Survey Respondent

communicated about issues at their plant. For example, an interviewee indicated they found it helpful that a NOCC communicated to them about discrepancies between scans and loaded trucks between 3 a.m. and 5 a.m. Plant management also used IV to communicate issues they identified to other facilities handling postal operations. Interviewees at seven processing facilities confirmed they used IV for this purpose. In addition, plant management reported higher-level management identified high-performing plants nearby to contact for best practices.

Perspectives on Challenges and Opportunities with IV

Plant management identified several challenges with using IV and presented opportunities to address these challenges. Pursuing these opportunities could enable plant management to improve operational efficiency even more.

Addressing System Issues

When field operational staff have questions or concerns about IV, they communicate that to headquarters through a helpdesk.[20] Postal management decides which reports to expand, improve, or eliminate based on usage data. The Postal Service does not periodically request feedback from IV users in the field to gather information about what parts of the system would most benefit from enhancement. Without asking for feedback, the Postal Service may be unaware of potential needed IV improvements. In interviews and survey responses, plant management identified various opportunities to improve IV by addressing issues related to unavailable or unreliable data. In addition, plant management raised issues related to navigation and slow system performance.

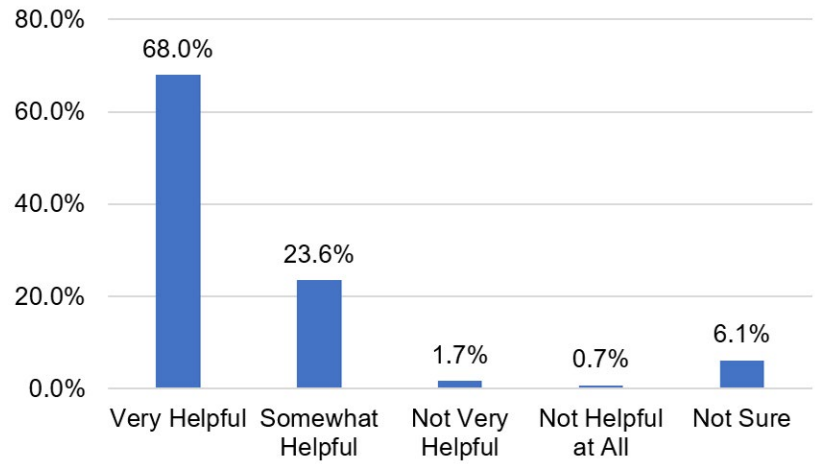
Unavailable Data

Plant management shared they wanted access to more granular data in IV. Interviewees at 11 processing facilities expressed interest in more piece-level data in IV dashboards, such as Mail Condition Visualization, Mail Processing Performance, and Bundle Visibility.[21] In addition, an interviewee noted they would like IVES to offer more employee-level data, such as percentage of sick leave used. According to our survey, 91.6 percent of respondents would find additional detailed, piece-level data in more IV reports very helpful or somewhat helpful (see Figure 4). In addition, between June 2019 and April 2021, issues related to unavailable data appeared in nearly two-in-three pieces of feedback (64.9 percent) that IV users submitted to the Postal Service.

> *"The inability for IVES to display individual machines next to a name(s) is what is holding most [supervisors] back from replacing their excel based scheduling tools."*
> – Survey Respondent

Figure 4: Nearly All Survey Respondents Would Find Additional Data Helpful

Q: How much would the following hypothetical changes to Informed Visibility help you do your job? Additional detailed, piece-level data in more IV reports.



Source: OIG survey of plant management.

20 Headquarters also accepts requests for enhancements via email. However, it does not request such feedback.
21 The goal of Mail Condition Visualization is to provide near-real time visibility of a facility's on-hand volume, delayed processing volume, delayed dispatch volume by mail category and processing operation, and historical trailer information. Mail Condition Visualization replaced the piece reporting in the Web Mail Condition Reporting System. Bundle Visibility assists in tracking nested mail volume as it travels through the Postal Service processing and delivery network.

Plant management expressed interest in more granular, piece-level data, such as the intelligent mail barcode for a failed mailpiece, to assist in root cause analysis. In addition, feedback from plant management suggested aggregate data for a postal sub-division, such as a district, may not be as useful as more detailed data. For example, service performance data for a particular delivery unit that experienced a service failure could be more useful.

In the absence of what they viewed as sufficiently granular data in IV, plant management shared they sometimes had to use one or more other systems to meet their data needs. For example, an interviewee said the lack of piece-level data in the Bundle Visibility dashboard required the interviewee to obtain data from the Enterprise Data Warehouse, a repository of postal data sets. Interviewees at all processing facilities indicated they still used data from other systems for mail visibility.[22] Some interviewees shared that they would like IV to centralize more data from other systems, such as Enterprise Data Warehouse, Surface Visibility, Mail Processing Equipment Watch, Web End of Run, Overtime Administration, and the Mail History Tracking System.[23] For example, an interviewee shared they would like near-real time at-risk indicators in IV that they currently could only access via a separate maintenance website.

Even when wanted data are available in IV, they might not be in all the dashboards where plant managers want to access the data. For example, an interviewee noted data from a different dashboard were unavailable in IVES. Interviewees at three processing facilities indicated, if a dashboard did not provide sufficiently granular data, they had to get the data from another source. For example, an interviewee shared an issue they encountered when they examined container tracking more closely in IV. They needed to cut and paste containers of interest from one dashboard into another dashboard, according to the interviewee. The interviewee noted this process was necessary to obtain information on the pieces in those containers. Linking dashboards would help prevent this manual effort and could reduce any human error it may introduce into analyses.

> *"[It is a challenge] not being able to access/ export the raw data in tools such as Cycle Time for deeper analysis."*
> – Survey Respondent

Plant management indicated they needed to conduct additional analysis on some IV data outside of the system. Several IV users shared this difficulty in feedback to headquarters and in response to our survey.[24] In addition, an interviewee said they had to export spreadsheets from IV to meet their business needs. The interviewee indicated they worked with higher-level management to manipulate the exported spreadsheets to glean desired insights.

In response to issues of unavailable data, headquarters management indicated there are no restrictions to including outside data in IV and noted the Postal Service is exploring opportunities to add links to other applications in IV. Management acknowledged that some plant managers may perceive unavailable data as an issue but said that certain dashboards provide only aggregate data by design. For example, there are multiple dashboards with piece-level data for First-Class Mail and packages. The granularity of IV data was intentional. The Postal Service did not communicate any plans to expand granularity or to integrate additional systems to increase granularity at this time. However, in its 10-year plan, the Postal Service indicated it will continue to invest in IV to drive value. In addition, the Postal Service noted data-driven analytics will inform how the agency optimizes processing operations.

22 At the top of the IV web page, the system displays the following tagline: "Informed Visibility: The single source for all your mail visibility needs." However, IV did not appear to meet all of plant management's mail visibility needs.

23 Surface Visibility is a mobile-scanning application that tracks mail across the surface network, Mail Processing Equipment Watch provides the operational status of mail processing equipment, Web End of Run stores end-of-run data for each run processed on mail processing equipment, Overtime Administration helps assign and administer overtime, and Mail History Tracking System helps identify issues in Delivery Point Sequencing. Headquarters management indicated some IV dashboards use data from Enterprise Data Warehouse, Surface Visibility, Mail Processing Equipment Watch, and Web End of Run. However, management confirmed Overtime Administration and Mail History Tracking System were not integrated into IV, though management noted it would explore integrating the latter system into IV in July 2021.

24 Among feedback submitted to headquarters, 5.3 percent of the pieces of feedback related to manipulating IV data into a usable form. In our survey, 2.5 percent of challenges involved this issue.

Unreliable Data

Plant management deemed some data in IV unreliable. For example, interviewees from six processing facilities noted IVES did not include all the data they needed when scheduling employees. An interviewee indicated IV's barcode lookup did not provide accurate information. When survey respondents were asked about potential challenges with using IV, one-in-five examples (22.2 percent) provided by respondents involved unreliable data. Fourteen percent of feedback to the Postal Service also related to unreliable data.

> *"If IVES improve the lag time down to just minutes, it will be a very powerful tool."*
> – Survey Respondent

IV data that were updated more frequently could be helpful, according to plant management. Interviewees at seven processing facilities indicated some IV data lag anywhere from minutes to hours. Lag could, for example, lead IV to attribute mail volume and workhours to the next tour or otherwise diminish the system's utility, according to plant management. Plant management also shared that two different systems, different dashboards, or even the same dashboard could generate different results. For example, an interviewee said they tried to recreate reports in IV that the interviewee received from higher-level management. However, the interviewee indicated they could not reproduce the results independently.

> *"GREATEST CHALLENGE: inconsistent results. Two computers side by side on the same network set to the same filters will return different results."*
> – Survey Respondent

In addition, plant management reported concerns about the accuracy of data supplied to IV. Interviewees at 13 processing facilities indicated the data in Mail Condition Visualization were inaccurate, requiring plant management to manually count mail.[25] Manually counting mail is inherently inefficient. For example, an interviewee said they witnessed incoming trucks that IV displayed as empty. However, the interviewee shared that the trucks were full upon physical inspection. Interviewees also noted that mail handled manually rather than by automated machine were not reflected in IV data. Plant management indicated this issue could adversely affect how they allocated resources. They also shared that poor scanning and clock ring habits among employees contributed to inaccurate data in IV, reducing their analytical value.[26]

> *"We spend to[o] much time chasing 'delayed mail' being reported in [Mail Condition Visualization] only to find there are issues with the data."*
> – Survey Respondent

Headquarters management explained that although the examples mentioned above might be seen as problematic, the functionality and update-rates of data were intentional. In addition, management noted it was working under system constraints — not all systems can report in near-real time. For example, some IV dashboards intentionally provide only historical data for the last week, month, or quarter. Management acknowledged plant managers would like more near-real time data in IV, and the Postal Service indicated it was working towards that goal. Management implied that, because IV dashboards were operating as designed, the IV data were reliable. They also suggested that some plant managers may be experiencing issues using IVES because they misunderstood the dashboard's business rules or encountered programming errors.

25 Previous OIG reports have detailed issues with data reported in Mail Condition Visualization. For example, several reports in FY 2021 indicated management was not processing mail properly, causing Mail Condition Visualization to report the mail as delayed. In addition, missed load scans and improper consolidate scans have led Mail Condition Visualization to improperly report a high number of delayed dispatch containers. For more information on this topic, see the following reports: U.S. Postal Service Office of Inspector General, *Mail Operations at the Denver, CO, Processing and Distribution Center*, Report No. 21-151-R21, July 27, 2021, https://www.uspsoig.gov/sites/default/files/document-library-files/2021/21-151-R21.pdf; U.S. Postal Service Office of Inspector General, *Delayed Mail at the Lehigh Valley, PA Processing and Distribution Center*, Report No. 20-272-R21, April 12, 2021, https://www.uspsoig.gov/sites/default/files/document-library-files/2021/20-272-R21.pdf.

26 In response to issues of poor scanning and clock ring habits, headquarters management indicated it sends out daily messages that identify groups of processing facilities that have opportunities to improve their scanning habits. Management suggested poor clock ring habits should not have a significant impact on the reliability of IV data related to operational efficiency.

Navigation

Plant management stated they found it difficult to navigate to or within dashboards. This difficulty may, in part, be due to plant management's perception of the frequently changing IV interface and functionality. Interviewees at 10 processing facilities cited difficulties navigating to or within dashboards. For example, an interviewee indicated IV was poorly organized and had too much clutter. In our survey results, one-in-ten challenges reported (9.9 percent) related to navigation. Headquarters management noted that, because IV catered to many different audiences, plant management could feel overwhelmed by the many tools and data IV provides. Management suggested that when users feel overwhelmed, they should focus on the dashboards that are most important for their needs.

Navigating to Dashboards

Nearly all survey respondents (92.9 percent) noted they would find more convenient navigation to frequently used dashboards very helpful or somewhat helpful. Interviewees at eight processing facilities also confirmed they would find more convenient navigation to dashboards helpful. For example, an interviewee suggested allowing plant management to filter available dashboards like Google Search, and another interviewee proposed enabling plant management to navigate IV using voice commands. In addition, interviewees at four processing facilities reported they would find it helpful to customize the list of available dashboards on IV's landing page, enabling users to focus on often-used dashboards and remove unused dashboards.

Headquarters management indicated that users could already bookmark dashboards in IV to save time returning to them. In addition, it was developing a favorite reports page, a search bar, and a section with frequently used dashboards in IV. An upcoming homepage redesign will enable plant management to customize which reports they see in IV. The Postal Service's existing efforts to improve dashboard navigation may address some of the difficulties plant management shared with the OIG.

Navigating Within Dashboards

Plant management reported they would like to customize dashboards in IV. For example, an interviewee noted they wanted the option to add another custom attribute in IVES. Among feedback to the Postal Service, 12.9 percent pieces of feedback related to difficulties with the user interface. In our survey, 4.5 percent of challenges reported related to this issue. Several survey respondents expressed interest in a more intuitive dashboard interface, such as an option to automatically focus on data specific to their facility. Lastly, plant management shared they would like improvements in the format and readability of dashboards. For example, an interviewee said certain dashboards, such as Run Plan Generator and Performance to Plan, are formatted differently from other dashboards. A potential opportunity to address this issue would involve ensuring IV dashboards are formatted more consistently.

> *"Content [specific to my facility is] crowded out by other content."*
> – Survey Respondent

> *"I cannot comfortably read the display. It is way too light and flat. It needs some contrast. The majority of newer Postal applications […] lack the capability to customize the display."*
> – Survey Respondent

Headquarters management indicated that IV already allows plant managers to customize dashboards to select relevant data and save that customization. The "save" feature enables users to easily return to their customized dashboard in the future. The Postal Service is developing a role-based IV user experience and plans to allow users to further customize dashboards. In addition, management noted it was improving the user interface — including bars, size, and font — in the IPG dashboard. [redacted]

Using Push Reports and Alerts

Receiving push reports and near-real time alerts from IV helps alleviate issues with navigation. These features enable plant management to receive a report via email or an alert via text.[27] IV offers customizations that allow users to select relevant data and receive automated push reports that provide subscribers with an overview of past and upcoming operations.[28] However, users typically receive these push reports at set times each day, which means they may not always be helpful for resolving urgent issues. Headquarters management suggested plant management could supplement push reports with near-real time alerts, which provide updated data quickly and therefore can influence operations in near-real time.[29] Management confirmed it continues to look for opportunities to make near-real time alerts available in more IV dashboards.

> *"[It is a challenge] not having the ability to choose to have some reports come automatically to email."*
> – Survey Respondent

Although the Postal Service has expanded access to push reports and alerts in IV, plant management showed interest in expanding this capability even further. According to our survey, three-in-four respondents (77.4 percent) would find daily or weekly emails of IV reports that they regularly access very helpful or somewhat helpful. Interviewees at five processing facilities also shared this sentiment. In addition, interviewees at nine processing facilities indicated they would like IV to allow users to subscribe to customized email push reports. Three-in-four survey respondents (75.1 percent) also shared they would find these near-real time alerts very helpful or somewhat helpful.

Slow System Performance

When survey respondents provided examples of challenges with IV, one-in-three examples (33.3 percent) related to slow system performance. Interviewees at ten processing facilities noted IV slowed down at certain times of day.[30] For example, interviewees shared that IV slows down when West Coast users log on, between 2 a.m. and 4 a.m., and before or during teleconferences. In addition, an interviewee suggested using a different Internet browser could help achieve faster system performance. Lastly, plant management noted IV sometimes completed data queries slowly.

> *"Depending on the Internet browser you use, some site[s in IV] perform faster than others."*
> – Survey Respondent

Headquarters management acknowledged that IV users experienced slow system performance. Slow system performance was, in part, due to problems with the code, hardware, or Internet connections. Management indicated it upgraded the system to make it faster. It also noted that it monitored the performance of the underlying IV systems and fixed known problems contributing to slow system performance. However, management emphasized that issues in the field could contribute to the slow system performance that plant management experienced. For example, some plant managers' local hardware or Internet connections could contribute to slow system performance. In addition, management acknowledged users experienced slow responses from their data queries when IV was initially implemented, but IV's developers have since addressed this slow system performance. Specifically, management confirmed changes to IV enabled users to select more than one filter for a single query, greatly speeding up the query process.[31]

27 Headquarters management confirmed that not all IV dashboards offer alerts in part because near-real time alerts need to convey urgency and be linked to dashboards that provide data in near-real time. For example, management noted that dashboards that only show historical data would not offer near-real time alerts.
28 Headquarters management confirmed push reports are already being sent via email and that, in June 2021, it began a pilot that allowed plant management to receive push reports via text message. In addition, management noted it was developing alerts that would leverage data from Mail Processing Equipment Watch. These alerts would display facility-level data on volume being run and processing volume.
29 Headquarters management explained that users typically received a push report at a fixed time each day, such as in the morning. In contrast, near-real time alerts could arrive at any moment and prompt the recipient to adjust ongoing operations.
30 Plant management also mentioned experiencing issues with server downtime. Headquarters management suggested server downtime was infrequent.
31 The new query process may not have been widely available or known, as several survey respondents expressed frustration about how IV reloaded data whenever they selected a filter in a dashboard.

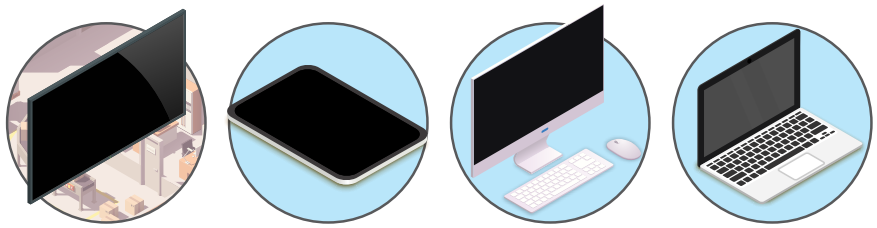
Leveraging Data Visualizations and Predictive Capabilities More Fully

In interviews and survey results, plant management identified opportunities to leverage IV more fully by enhancing access to the system's data visualizations and using the system's predictive capabilities more extensively in their work.

Access to Data Visualizations

As of FY 2021, IV was available in a browser, best viewed on a computer, which limited access to employees that regularly sit at a computer, such as plant managers. Management acknowledged the need to access IV data on the facility floor or a mobile device rather than a desktop computer. For example, interviewees at eight processing facilities expressed interest in allowing floor employees to track their performance using IV data.[32] This functionality would encourage employees to compete with other employees. Interviewees also indicated they wanted a quick and easy way to read and understand IV data on the facility floor.[33] Two postal initiatives that may address these challenges involve facility floor monitors and a mobile interface: Informed Facility and Informed Mobility (see Figure 5). The OIG previously recommended expanding these initiatives in customer service and delivery operations.[34]

Figure 5: Where IV is Accessed



Note: While there is some mobile access to IV, the system is neither fully mobile optimized nor accessible on a mobile interface in all facilities.
Source: OIG analysis.

Facility Floor Monitors

Deployed nationally in FY 2018, the Postal Service's Informed Facility initiative was intended, in part, to enable processing facilities to display IV dashboards on facility floor monitors.[35] As of June 2021, 188 processing facilities had participated in the Informed Facility initiative.[36] The Informed Facility initiative has a feature designed to make it easy to display existing IV dashboards. However, plant management must purchase monitors to participate in Informed Facility.

Although the Postal Service has attempted to make IV more accessible on the facility floor, plant management suggested more processing facilities would benefit from the Informed Facility initiative.[37] According to our survey, nearly nine-in-10 respondents (86.5 percent) would find improved visualizations of IV data for display to employees on the facility floor very helpful or somewhat helpful. In

32 Interviewees noted, at the time of the interview, they regularly printed out reports of IV data, such as on-time performance for the previous day. Plant management would then post the printed reports at a central location on the facility floor to benefit floor employees, according to the interviewees.
33 An interviewee indicated floor employees have trouble understanding or reading the dashboards in IV, leading the employees to ignore the dashboards. An interviewee at a different processing facility suggested IV data visualizations must show employees how they can improve what they have control over, such as data that relate to employees' specific operation rather than the entire facility.
34 U.S. Postal Service Office of Inspector General, *National Operational Assessment - Customer Service and Delivery Operations*, Report No. R9RG002DR000-R20, December 12, 2019, https://www.uspsoig.gov/sites/default/files/document-library-files/2019/19RG002DR000-R20.pdf.
35 In addition, Informed Facility "may be tailored to a specific audience, such as executives, managers, or front-line employees with custom content such as local events, employee engagement activities, service talks, and instructional messaging," according to the Postal Service.
36 Informed Facility has also been deployed at Postal Service headquarters, delivery units, and retail units.
37 Interviewees at seven processing facilities said they already had floor monitors displaying IV data as part of Informed Facility. For example, an interviewee praised the monitor on a package processing machine and would like similar monitors on more machines throughout their processing facility. An interviewee at a different processing facility shared that Informed Facility allowed floor employees to compare the on-time rate at their facility against other facilities.

addition, interviewees at 10 processing facilities, including those that already had floor monitors, indicated they would like IV visualizations on monitors around the facility floor.

Mobile Interface

Piloted at seven processing facilities in 2019, the Postal Service's Informed Mobility initiative was intended to enable supervisors on the floor of processing facilities to access IV data through a mobile interface on tablets.[38] As of June 2021, the Informed Mobility pilot had ended, and the Postal Service had not yet decided whether to deploy the initiative nationally. Headquarters management indicated this initiative addressed a key issue preventing supervisors from fully leveraging IV's capabilities: supervisors must physically observe operations *on* the facility floor yet accessing IV typically requires using a computer *off* the facility floor. Management suggested users would appreciate having IV data more immediately available to them on different media, such as tablets and smartphones.[39]

Plant management reported they would benefit from accessing IV through a mobile interface. According to our survey, nearly three-in-four respondents (73.8 percent) would find a mobile-optimized IV app with all dashboards very helpful or somewhat helpful. Interviewees at seven processing facilities indicated they would like IV to be accessible on mobile devices so they could monitor IV on the facility floor or elsewhere.

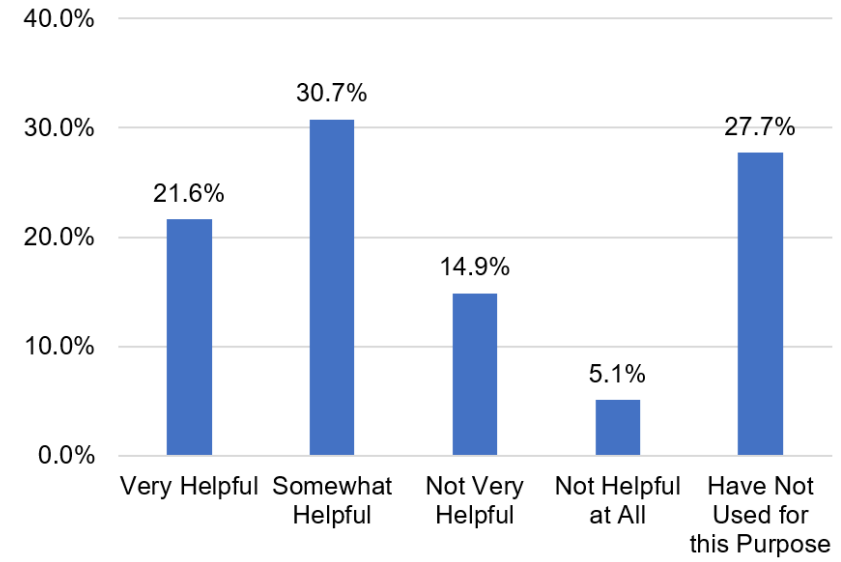
> *"If we could get the iPads or tablets for all the floor [managers], real time data would be more helpful- they do not sit at a desk, we do not get the emails until the end of the day."*
> – Survey Respondent

Predictive Capabilities

Although IV offered numerous predictive capabilities, responses from plant management suggested they could use these capabilities more extensively in their work. About half of respondents (52.3 percent) shared that they used IV to predict workloads and found this capability helpful (see Figure 6).[40] However, more than a quarter of survey respondents (27.7 percent) reported they had not used IV's predictive workload capability. Regardless, plant management showed interest in using IV for predictive purposes. For example, interviewees at four processing facilities indicated they would like to use IV more for predictive purposes but had not yet done so. An interviewee said they wanted to predict and resolve recurring problems by identifying trends on certain days of the week, akin to a Lean Six Sigma project. Lean Six Sigma projects focus on making processes more efficient.

Figure 6: One-in-Four Survey Respondents Have Not Used IV to Predict Workloads

Q: How helpful is IV for the following tasks: Predicting workloads to optimize the next day's processing and resource plans.



Source: OIG survey of plant management.

38 Informed Mobility was also intended to support customer service supervisors at delivery units, and 21 delivery units were part of the pilot.
39 In June 2021, headquarters management confirmed that mobile devices used in processing facilities have access to IV data related to employee clock rings, service performance, mail inventory, political mail, and workload performance. However, management did not have plans to add dashboards to the mobile device platform at that time.
40 IVES has predictive capabilities, but respondents did not always recognize IVES as a predictive tool.

Individuals in plant management who indicated they leverage IV's predictive capabilities largely shared they found these capabilities helpful. Headquarters management indicated it received positive feedback from users at processing facilities that participated in the IPG pilot. However, plant management indicated IV lacks certain features necessary to make full use of the system's predictive capabilities. They suggested helpful features would include more timely volume data for use in the Run Plan Generator and enabling custom date ranges in more dashboards.

> *"[IV] is an excellent diagnostic tool, but not a great planning or predictive workload tool."*
> – Survey Respondent

OIG Recommendation

Recommendation 1: We recommend the **Vice President, Processing & Maintenance Operations**, in coordination with the **Vice President, Enterprise Analytics**, develop a formal avenue to periodically solicit feedback from Informed Visibility users to ascertain system functionality and gauge opportunities for enhancements.

Conclusion

IV is continually growing in terms of the available data, integrated systems, and overall capabilities. When the Postal Service deployed IV, the agency set out to centralize the massive amount of data it processes each day and to make those data accessible to staff across the organization. The Postal Service expected IV to improve operational efficiency at processing facilities. Management agreed IV helped improve the Postal Service's operational efficiency. However, plant management identified opportunities to further improve operational efficiency using IV. The Postal Service indicated it is already pursuing some of these opportunities, and the Postal Service and its customers will be better off for it.

Summary of Management's Comments

Management disagreed with the recommendation to develop a formal avenue to periodically solicit feedback from Informed Visibility users to ascertain system functionality and gauge opportunities for enhancements. Management asserts the Postal Service has an IV feedback process that enables end users to ask questions and provide feedback/suggestions. This process includes vetting with key stakeholders to determine the best approach to enhance the user experience with consideration to cost and prioritization. Additionally, management states it is not clear that the benefit of implementing a formal periodic feedback process would net greater value while incurring additional cost. Lastly, management's position is the methodology for collecting user feedback on IV is a management decision.

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

Evaluation of Management's Comments

We consider Management's comments to the recommendation unresponsive.

Regarding Management's disagreement with the recommendation, the OIG recognizes the Postal Service has existing avenues, via email or a helpdesk call, for collecting feedback on IV. However, we have identified an opportunity to supplement the existing feedback avenues to proactively provide greater insights into potential solution enhancements.

Regarding Management's statement that a periodic, formal process for soliciting feedback on how to improve IV would result in costs that exceed potential benefits, neither the OIG nor the Postal Service has conducted a cost-benefit analysis to support or negate that claim.

Lastly, recommendations provided by the OIG are to identify potential solutions for gaps and opportunity areas identified in our fieldwork. As such, our recommendation does not determine what actions management should take, but rather identifies a potential solution to improve IV's feedback collection process.

The recommendation requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective action is completed. The recommendation should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendation can be closed. We view the disagreement to the recommendation as unresolved and plan to pursue it through the formal resolution process.

Appendices

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

Appendix A: Additional Information

Objective, Scope, and Methodology

The objective of the research paper was to:

1. Assess how IV was to improve operational efficiency at processing facilities.
2. Identify the benefits and challenges postal employees at processing facilities have experienced using IV to support operational efficiency and present opportunities for improvement.

The paper examined the use of IV to improve operational efficiency at postal processing facilities in the U.S. between FYs 2015 and 2020, unless otherwise noted. We completed our interviews in FYs 2020 and 2021, and we fielded our survey in FY 2021.

The OIG used the following methods to research the objectives:

- **Reviewed documentation of operational efficiency benefits.** To identify the expected operational efficiency benefits of IV, we reviewed the IV DAR, DAR Business Case Modifications 1 and 2, and supporting materials. We also reviewed Investment Review Committee presentations from the program execution briefing in FY 2017 and post-deployment update in FY 2021.[41]
- **Interviewed headquarters management.** In FY 2020, we interviewed Processing Operations and Enterprise Analytics from headquarters. We followed up with them in FY 2021.
- **Interviewed plant management.** We interviewed plant management at 15 Processing & Distribution Centers (P&DCs) in our judgmentally-selected sample (see Table 2).[42] The P&DCs in the sample varied in location and size.[43] We interviewed plant management at 12 of the 15 P&DCs in FY 2020. In FY 2021, we re-interviewed two and received written follow-up from three of those 12, and interviewed plant management at the remaining three P&DCs.

Table 2: Plant Management Interview Participants

Occupation Title	Participants
Senior Plant Manager	6
Plant Manager	10
Manager In-Plant Support	7
Operations Support Specialist	9
Operations Industrial Engineer	4

Source: OIG.
Note: Five interview participants had the following other occupation titles: manager distribution operations, manager operations program support, manager transportation networks, and supervisor maintenance operations.

- **Surveyed plant management.** In FY 2021, we circulated a seven-minute online survey to plant management. For details on the survey methodology, see Appendix B.
- **Analyzed postal data on workhours and IV feedback.** We reviewed trends in postal workhour data between FYs 2013 and 2020. We also identified patterns in IV user feedback submitted to the Postal Service between June 2019 and April 2021.

We conducted work for this white paper in accordance with the Council of the Inspectors General on Integrity and Efficiency, Quality Standards for Inspection and Evaluation. We discussed our observations and conclusions with management on August 26, 2021, and included their comments where appropriate.

41 The Investment Review Committee develops the Postal Service's capital investment strategy and monitors investments like those outlined in the IV DAR. The IV DAR included the following overall performance metrics: increase in visibility of mail, improvements in system performance, and increase in service measurement volume. An IRC post-deployment report indicated the goals for all three of these metrics have been met.
42 The 15 P&DCs were: Anaheim, Cape Girardeau, Cardiss Collins, Colorado Springs, Eastern Maine, Lansing, Montgomery, Nashville, Queens, Raleigh, San Francisco, Seminole, Sioux Falls, Southern Maryland, and Toledo.
43 We judgmentally selected two P&DCs in each of the seven former-postal areas. However, three P&DCs were selected from the Western Area because it had disproportionately more facilities. We ensured the sample varied by district population density and plant size, as measured in processing operations workhours for FY 2018.

Prior Coverage

Report TItle	Objective	Report Number	Final Report Date	Monetary Impact
Mail Operations at the West Valley, AZ, Processing and Distribution Center	To evaluate mail conditions at the West Valley, AZ, P&DC.	21-166-R21	July 27, 2021	N/A
Mail Operations at the Denver, CO, Processing and Distribution Center	To evaluate mail conditions at the Denver, CO, P&DC.	21-151-R21	July 27, 2021	N/A
Delayed Mail at the Santa Ana, CA Processing and Distribution Center	To determine the cause of delayed mail at the Santa Ana, CA, P&DC.	21-119-R21	May 24, 2021	N/A
Delayed Mail at the Phoenix, AZ, Processing and Distribution Center	To determine the cause of delayed mail at the Phoenix, AZ, P&DC.	21-114-R21	May 12, 2021	N/A
Delayed Mail at the North Houston, TX, Processing and Distribution Center	To determine the cause of delayed mail at the North Houston, TX, P&DC.	21-074-R21	April 13, 2021	N/A
Delayed Mail at the Lehigh Valley, PA Processing and Distribution Center	To determine the cause of delayed mail at the Lehigh Valley, PA, P&DC.	20-272-R21	April 12, 2021	N/A
Mail Delivery Issues – Pleasant Hill Station, Des Moines, IA	To assess mail delivery service at Pleasant Hill Station – Des Moines, IA.	DRT-AR-19-013	July 31, 2019	$1,210
Delayed Mail Validation	To determine the accuracy of the Postal Service's delayed mail reporting.	NO-AR-17-011	August 10, 2017	N/A

Appendix B: Plant Management Survey Methodology

The OIG used an enterprise online survey tool, Alchemer, to survey plant management. We obtained a data set with the contact information for all postal employees with the occupation title of senior plant manager, plant manager, manager in-plant support, operations support specialist, or operations industrial engineer.

Fielding

The survey was fielded online from May 4 to May 18, 2021. An invitation with a link to the survey was sent to 1,289 postal employees via email, and the OIG received 297 completed responses, reflecting a 23 percent survey response rate (see Table 3).

Table 3: Plant Management Survey Respondents

Occupation Title	Invitees	Respondents	Response Rate (%)
Senior Plant Manager	35	11	31.4
Plant Manager	112	45	40.2
Manager In-Plant Support	133	57	42.9
Operations Support Specialist	745	126	16.9
Operations Industrial Engineer	264	58	22.0
Total	**1,289**	**297**	**23.0**

Source: OIG survey of plant management.

Data Processing

The OIG applied cleaning rules for the survey data for quality control. The cleaning process removed survey responses from respondents who indicated they were unfamiliar with IV or otherwise indicated they seldom use the system.[44] In addition, we removed survey responses from respondents who did not provide answers to any of the survey questions. Lastly, we removed a survey response that appeared to be from a respondent who was not invited to participate in the survey. Among the 327 survey responses, the OIG removed 30 survey responses (9.2 percent) in total, resulting in 297 completed responses.

44 According to our survey, 70.7 percent of respondents indicated they used IV multiple times per day.

OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

Survey of Informed Visibility Users at Mail Processing Facilities

Thank you for clicking on this survey!

Your thoughtful participation in this survey will help the USPS Office of Inspector General understand how plant leadership is using Informed Visibility to improve efficiency in mail and package processing operations at processing facilities.

Your individual feedback is confidential, so please feel comfortable expressing your honest opinions. This survey should take less than seven minutes to complete.

Questions marked with an asterisk (*) are required.

1. What is your occupation title? *

- ○ Senior Plant Manager
- ○ Plant Manager
- ○ Manager In-Plant Support
- ○ Operations Support Specialist
- ○ Operations Industrial Engineer
- ○ Other

2. How often do you generally use Informed Visibility? *

- ○ Multiple times per day
- ○ Once per day
- ○ A few times per week
- ○ Once per week
- ○ Less than once per week
- ○ Almost never
- ○ I do not use Informed Visibility
- ○ I do not know

3. Informed Visibility can be used for scheduling employees in advance, predicting workloads in advance, and accessing real-time data to proactively inform decision making.

How helpful is IV for the following tasks: *

	Very Helpful	Somewhat Helpful	Not Very Helpful	Not Helpful at All	Have Not Used for this Purpose
Predicting workloads to optimize the next day's processing and resource plans	○	○	○	○	○
Monitoring machine details (e.g., volume, throughput, and status)	○	○	○	○	○
Scheduling employees (i.e., using the Informed Visibility Employee Scheduler [IVES])	○	○	○	○	○
Monitoring mail conditions for the facility in real time, including mail that is in transit	○	○	○	○	○

4. Informed Visibility can also be used for performing diagnostics on service issues and monitoring employee productivity.

How helpful is IV for the following tasks: *

	Very Helpful	Somewhat Helpful	Not Very Helpful	Not Helpful at All	Have Not Used for this Purpose
Monitoring employee productivity	○	○	○	○	○
Diagnosing root cause issues impacting performance	○	○	○	○	○

5. Please provide any examples of ways that Informed Visibility has improved the efficiency of operations at your facility, if at all.

6. In your experience, how helpful are the following types of training and guidance for Informed Visibility? *

	Very Helpful	Somewhat Helpful	Not Helpful	Not Helpful at All	Have Not Used This Training
Webinar instruction from leadership	○	○	○	○	○
BlueTube tutorials on how to use dashboards	○	○	○	○	○
Analytics University	○	○	○	○	○
Informal sharing of best practices with colleagues	○	○	○	○	○
In-person instruction from leadership	○	○	○	○	○
Written user guides on how to use dashboards	○	○	○	○	○

7. What are some challenges, if any, that you have experienced using Informed Visibility?

8. Have you or a team member shared challenges or suggestions regarding Informed Visibility with USPS leadership? *

Select all that apply. To undo a selection, click the box again.

- ☐ Yes, directly with regional leadership
- ☐ Yes, directly with headquarters leadership
- ☐ Yes, through the feedback button in IV
- ☐ Yes, somewhere else
- ☐ No

8a. Were you satisfied with the response to your feedback?

Please select an option. *

Very Satisfied	Somewhat Satisfied	Not Very Satisfied	Not Satisfied at All	Not Sure
○	○	○	○	○

Please explain your selection.

9. How much would the following hypothetical changes to Informed Visibility help you do your job? *

	Very Helpful	Somewhat Helpful	Not Very Helpful	Not Helpful at All	Not Sure
Improved visualizations of IV data for display to employees on the facility floor	○	○	○	○	○
Mobile optimized IV app with all dashboards	○	○	○	○	○
Additional information or SOPs on how to best use IV to improve efficiency	○	○	○	○	○
Additional detailed, piece-level data in more IV reports	○	○	○	○	○
Daily/weekly emails of IV reports that you regularly access	○	○	○	○	○
Real-time emailed alerts of operational issues based on IV data	○	○	○	○	○
More convenient navigation to frequently used dashboards (for example, a search feature)	○	○	○	○	○

10. Are there any other comments that you would like to share with us about Informed Visibility?

Appendix C: Management's Comments

UNITED STATES POSTAL SERVICE

September 10, 2021

JENNIFER MYKIJEWYCZ
DIRECTOR, OPERATIONS CENTRAL
RESEARCH AND INSIGHTS SOLUTION CENTER

SUBJECT: Improving Operational Efficiency Using Informed Visibility – Final Review Draft (Project Number 2020RISC002)

Thank you for the opportunity to review and comment on the Office of Inspector General's (OIG's) white paper: *Improving Operational Efficiency Using Informed Visibility*.

Recommendation [1]:

We recommend the **Vice President, Processing & Maintenance Operations**, in coordination with the **Vice President, Enterprise Analytics**, develop a formal avenue to periodically solicit feedback from Informed Visibility users to ascertain system functionality and gauge opportunities for enhancements.

Management Response/Action Plan:

USPS disagrees with the OIG recommendation.

As discussed in the interview process and confirmed in the exit conference, USPS does have an IV feedback process that enables end users to ask questions and provide feedback/suggestions. This process includes vetting with key stakeholders to determine best approach to enhance the user experience with consideration to cost and prioritization.

Additionally, it is not clear that the benefit of implementing a formal periodic feedback process would net greater value while incurring additional cost.

The Postal Service's position is that the methodology for user feedback on internal applications is a management decision between the solution provider and stakeholders.

Jeffrey Johnson
Vice President, Enterprise Analytics

Mike Barber
Vice President, Processing & Maintenance Operations

cc: *Manager, Corporate Audit Response Management*

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