City of Bowling Green Creates Physical Inventory to Safeguard Its Equipment Assets
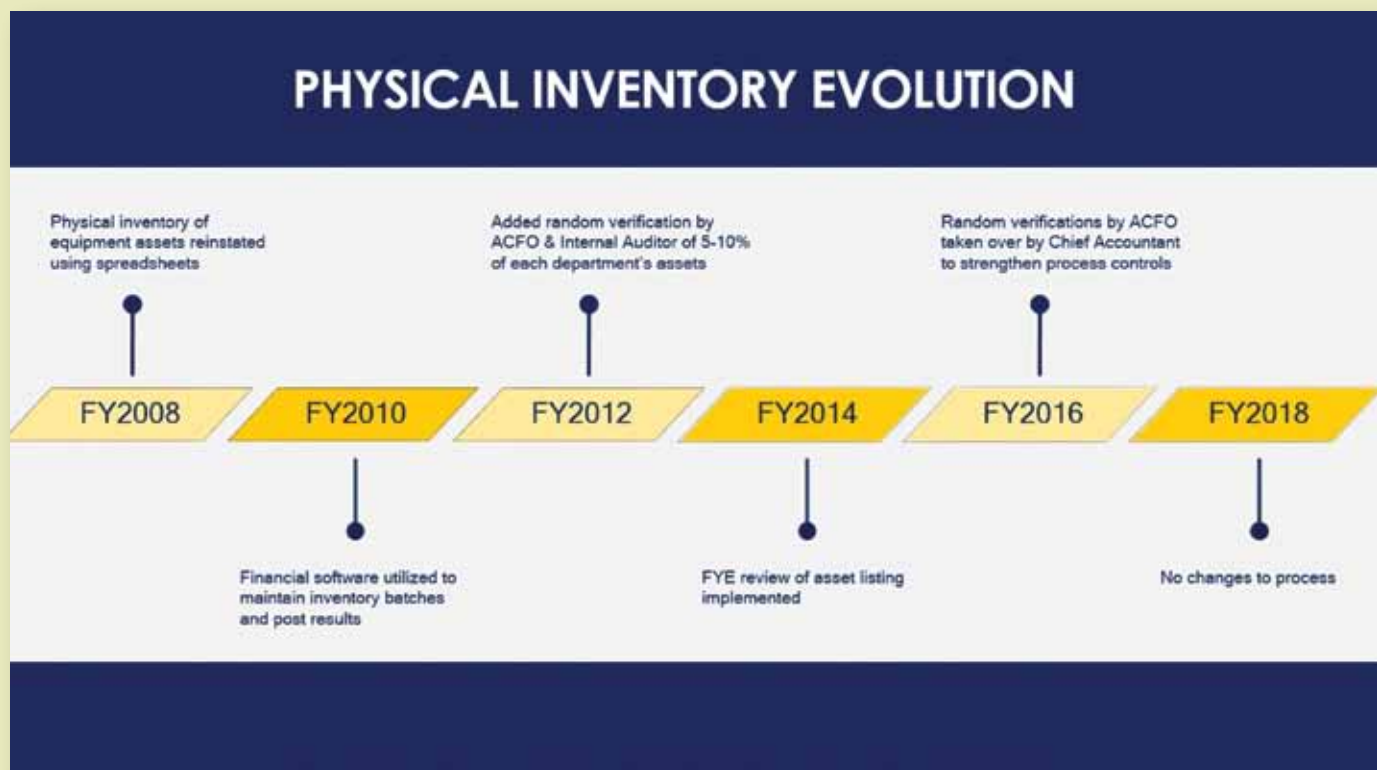
BY ERIN BALLOU

The City of Bowling Green, Kentucky, Finance Department conducts an inventory of land, building, and improvement assets approximately every five years and for equipment assets every two years. The program began in fiscal 2008, after a period of eight years with no inventory as a result of turnover in key finance and accounting staff. By fiscal 2008, none of the staff members involved in previous physical inventories were there to help — and a new audit firm was hired in fiscal 2006 — so the assistant chief finance officer (CFO) had to start over from the beginning, by researching best practices and relevant examples from other cities, universities, and attending a GFOA capital assets training session held in December 2006.

> The physical inventory process was embedded in the city's financial software, where minor changes are automatically uploaded from inventory batches directly to the capital asset file. Then random verification audits were introduced, followed by annual asset reviews.

Since physical inventories were reestablished, the city has made continuous improvements to the program. In fiscal 2010, the process was embedded in the city's financial software, where minor changes are automatically uploaded from inventory batches directly to the capital asset file. Then, in 2012, random verification audits were introduced, and in 2014, annual asset reviews were added. (See Exhibit 1 for a timeline detailing the evolution of the program.)

The lack of a physical inventory for eight years luckily did not result in any unmanageable issues. The primary concern was inaccurate records such as miscoded asset locations and responsible departments. For example, if the parks department transferred a mower

Exhibit 1: Evolution of Physical Inventory Process

PHYSICAL INVENTORY EVOLUTION

Physical inventory of equipment assets reinstated using spreadsheets

Added random verification by ACFO & Internal Auditor of 5-10% of each department's assets

Random verifications by ACFO taken over by Chief Accountant to strengthen process controls

FY2008 | FY2010 | FY2012 | FY2014 | FY2016 | FY2018

Financial software utilized to maintain inventory batches and post results

FYE review of asset listing implemented

No changes to process

to the public works department and finance staff were not notified, the asset record would be incorrect. Asset records, and the subsequent reporting, are at risk of being unreliable when the volume of inaccuracies grows, and this could be a concern during audits.

Additionally, the lack of staff that had been through an inventory process did not lead to problems. They used notes from the previous process to develop the program's structure, and their fresh perspective was beneficial. For example, the previous staff used the financial software application minimally, while the new program relied heavily on pulling records from the software and eventually updating them as part of the process. Also, the legacy program was centered on hard copy paper lists with hand-written notes, while the new program favored paperless methods.

The new program has led to fewer variances being reported during the inventory, with 12 transfers or disposals reported in fiscal 2018 versus 66 in 2010. This decrease in exceptions has resulted in more accurate, up-to-date asset records, which in turn produces quality financial statements, since capital assets are a large portion of every city's balance sheet. Staff can also rely on the information in the financial software to make operational decisions; for example, an asset report by location may be used to plan for the closing of a facility during the winter by identifying pieces of equipment that can be repurposed in another area until the spring.

HOW IT WORKS

In 2008, the city started using the Physical Inventory of Equipment Assets program every other year to locate and identify all capital equipment assets. Since then, improvements have been added continually, such as embedding the process into the city's financial software to automatically upload minor changes directly to the capital asset file.
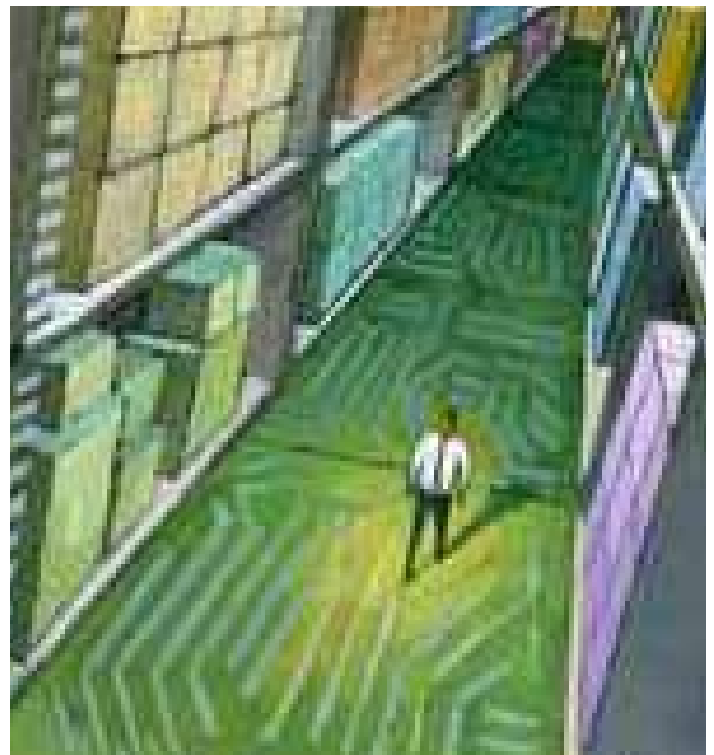
Tools and Resources

See screen captures and sample memos for this project at gfoa.org/BowlingGreenInventory.

> The new program has led to fewer variances being reported during the inventory, with 12 transfers or disposals reported in fiscal 2018 versus 66 in 2010.

The physical inventory process is a collaborative effort that relies on engaged stakeholders, including the assistant CFO, who manages the process; departmental staff, who complete the inventory; senior managers, who review and approve changes; the internal auditor and chief accountant, who perform random verifications; the purchasing manager, who investigates surpluses from the prior year and variances in the current year; and the city manager and CFO, who support the overall program.

The inventory is conducted as follows:

- The assistant chief finance officer (CFO) kicks off the biennial program with a refresher training. All documentation of the process is distributed to preselected departmental staff.
- Each departmental point of contact creates and maintains a physical asset inventory batch for their respective department in the city's financial software. (See Exhibit 2.)
- Departmental staff members locate all listed assets in the inventory batch and note any changes to location, respon-

Exhibit 2: Completed Inventory Batch Worksheet

Updated with staff notes, which are saved to asset's profile history.

City of Bowling Green
Physical Inventory Worksheet
Sorted By: Department - General Location - Specific Location - Asset Number

sible department, responsible employee, and/or asset descriptions. (See Exhibit 3.) If an asset is not found, staff members complete a missing asset form, which the assistant CFO reviews and investigates.

- Departmental points of contact update software with the inventory results. The assistant CFO processes any changes to the active status or asset description.
- Departmental senior managers review, approve, and submit inventory changes to assistant CFO.

About the City

The City of Bowling Green, Kentucky, has a population of 67,000 people and employs about 750 full and part-time employees. The city maintains more than 1,000 equipment assets and 500+ land, building, and improvement assets.

In 2018, the city received the Exceptionally Well Implemented GFOA Best Practice award for its capital asset inventory.

Exhibit 3: Inventory Batch Post Listing Report

Summary listing of assets in batch showing: if completed, when, by which user, if profile was changed, and profile change date.

City of Bowling Green
Asset Management Physical Inventory Batch Post Listing

Asset Number	Description	Completed	Completed Date	Completed By User	Profile Changed	Effective Date

Department: 3111 - PW - Administration   Description: 2017 PW Admin Inventory   Initiated: 12/19/2017   Completed:

Classification: Equipment-GG Equip & Mach

Asset Number	Description	Completed	Completed Date	Completed By User	Profile Changed	Effective Date
0014996	2001 CHEVY TAHOE 4 WD VEH # 5507 1GNEK13VX1J266408 PW ENG	Yes	1/22/2018	Courtenay Howell	Yes	12/19/2017

Clasification Equipment-GG Equip & Mach Totals: 1 Assets

Classification: Equipment-Equip PW

Asset Number	Description	Completed	Completed Date	Completed By User	Profile Changed	Effective Date
0008069	Topcon GTS-3D Total Station Veh 553	Yes	1/25/2018	Courtenay Howell	No	
0013292	Truckster/Toro Workman 3100	Yes	12/27/2017	Courtenay Howell	No	
0013727	GPS Receiver w/ accessories S/N 0220115023	Yes	12/27/2017	Courtenay Howell	No	
0014963	2001 Chevy S10 Blazer #5501 1GNDT13W41K201511	Yes	1/25/2018	Courtenay Howell	Yes	12/19/2017
0014995	2001 chevy tahoe 4wd veh # 5506 1GNEK13V81J266995 PW ENG	Yes	12/19/2017	Courtenay Howell	Yes	12/19/2017
0015213	2003 FORD CROWN VIC #5513	Yes	1/25/2018	Courtenay Howell	No	
0015877	2005 Ford Excursion Sport Utility #5512	Yes	12/19/2017	Courtenay Howell	Yes	12/19/2017
0016429	Ice Machine (CHA kitchen) Model #SN-20	Yes	12/27/2017	Courtenay Howell	No	12/27/2017
0016491	Trimble R8 GNSS GPS Rover Model #60158-66	Yes	1/5/2018	Courtenay Howell	No	
0016590	Compelte Traffic Controller Cabinet (stored at operations) S/N: 15776A & 1048526. Transferred to Storm Water Operations Nov 14	Yes	1/22/2018	Courtenay Howell	Yes	01/22/2018
0017109	10 Ton Back-up Cooling Unit - IT	Yes	1/25/2018	Courtenay Howell	Yes	12/26/2017
0017132	Trimble Geo XH, GPS Equipment	Yes	1/22/2018	Courtenay Howell	No	
0017253	2010 John Deere 6130D Cab Tractor/Wbatwing bush hog (Asset #17270) #4077 S/N: P06130X001244	Yes	1/5/2018	Courtenay Howell	No	
0017267	KIP 7100 Wide Format Digital Copier for Engineering	Yes	12/19/2017	Courtenay Howell	No	
0017270	John Deere CX20 20' Rotary batwing bush hog cutter #4078 9 attached to #4077)	Yes	1/5/2018	Courtenay Howell	No	
0017317	Robotic Total Station for Surveying S/N: 91410486 For Radio and S/N: RS0AC02441 For Accessory Kit	Yes	1/5/2018	Courtenay Howell	No	
0017524	TOTAL STATION ROBOTIC UPGRADE WITH PRISM FOR SURVEYING	Yes	1/22/2018	Courtenay Howell	No	
0017535	REAL TIME WATER QUALITY MONITORING SYSTEM	Yes	1/24/2018	Courtenay Howell	Yes	01/22/2018
0017557	2013 NISSAN ROGUE #5521	Yes	12/19/2017	Courtenay Howell	Yes	12/19/2017
0017611	THREE QUARTER TON FACILITIES TRUCK #5515	Yes	12/19/2017	Courtenay Howell	No	
0017648	CITY HALL DIESEL GENERATOR & INSTALLATION	Yes	1/22/2018	Courtenay Howell	No	
0017662	REAL TIME WATER QUALITY MONITORING STATION	Yes	1/22/2018	Courtenay Howell	Yes	01/22/2018
0017705	2016 FORD F150 CREW CAB 4 WHEEL DRIVE TRUCK #5518	Yes	12/19/2017	Courtenay Howell	Yes	12/19/2017
0017706	2016 FORD F150 CREW CAB 4 WHEEL DRIVE TRUCK	Yes	12/26/2017	Courtenay Howell	Yes	12/26/2017

- After all changes have been validated and documented, the assistant CFO reviews all inventory batches and posts each one.
- The internal auditor or the chief accountant verifies a random sample (approximately 5 to 10 percent of each department's assets). If a large number of variances are reported, the internal auditor will schedule a follow-up verification of a larger sample or may call for the department to redo the inventory.

> Randomly verifying a number of each department's assets is a unique feature of the city's physical inventory process.

- The CFO receives a memo summarizing the entire proces and departmental senior managers receive the current year program results.
- Departments' equipment asset listings are reviewed at end of each fiscal year.
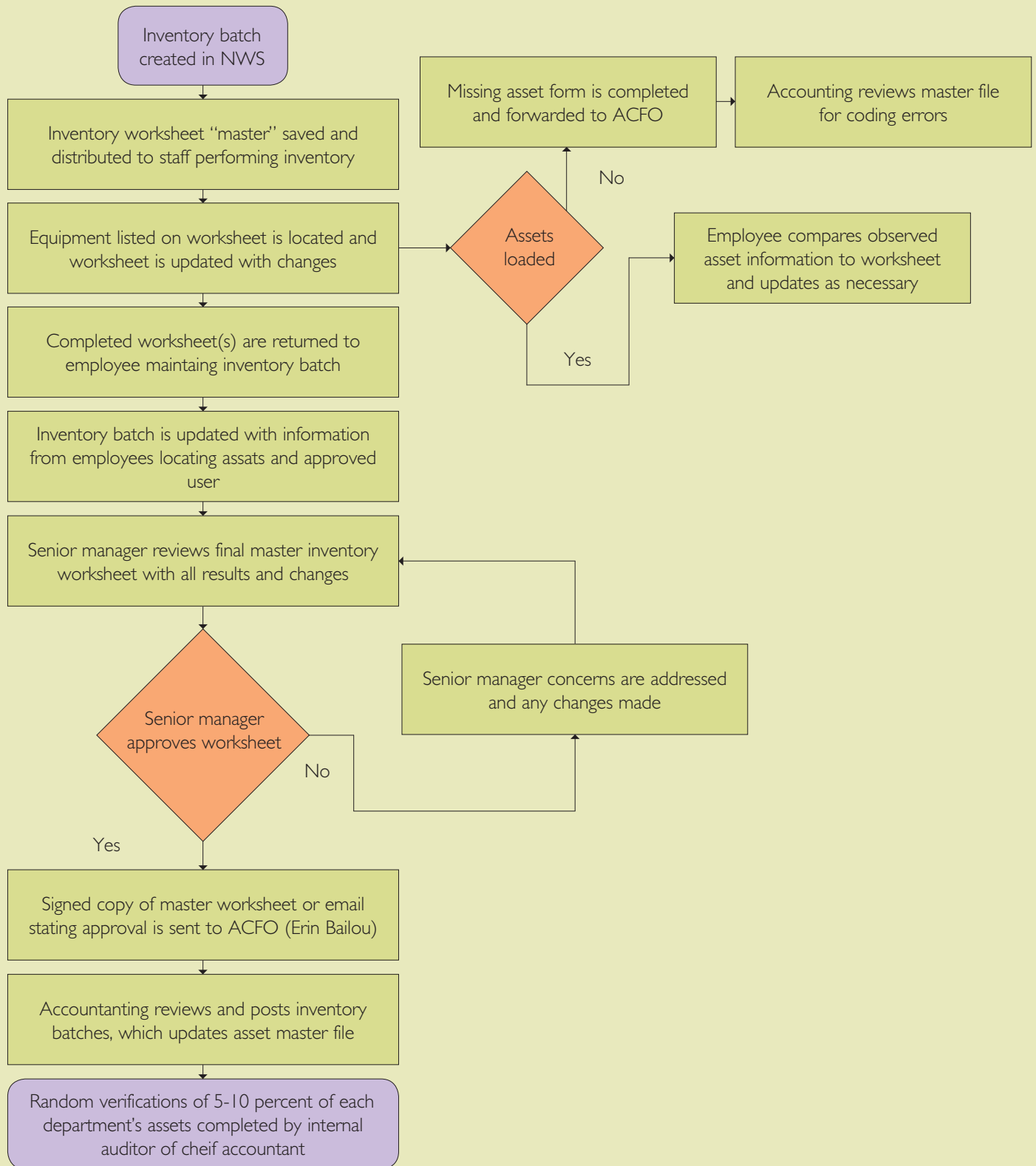
See Exhibit 4 for a flowchart of the physical inventory process.

Randomly verifying a number of each department's assets is a unique feature of the city's physical inventory process.

Exhibit 4: Physical Inventory Workflow

```
┌─────────────────┐
│  Inventory batch │
│  created in NWS  │
└────────┬────────┘
         │
┌────────▼──────────────────────┐        ┌──────────────────────────┐      ┌──────────────────────────┐
│ Inventory worksheet "master"  │        │ Missing asset form is     │      │ Accounting reviews master │
│ saved and distributed to      │        │ completed and forwarded   │─────▶│ file for coding errors    │
│ staff performing inventory    │        │ to ACFO                   │      │                           │
└────────┬──────────────────────┘        └──────────▲───────────────┘      └──────────────────────────┘
         │                                          │  No
┌────────▼──────────────────────┐        ◇─────────────◇            ┌──────────────────────────┐
│ Equipment listed on worksheet │        │   Assets     │           │ Employee compares observed│
│ is located and worksheet is   │───────▶│   loaded     │──────────▶│ asset information to      │
│ updated with changes          │        │              │           │ worksheet and updates as  │
└────────┬──────────────────────┘        ◇─────────────◇            │ necessary                 │
         │                                      │ Yes               └──────────────────────────┘
┌────────▼──────────────────────┐
│ Completed worksheet(s) are    │
│ returned to employee          │
│ maintaining inventory batch   │
└────────┬──────────────────────┘
         │
┌────────▼──────────────────────┐
│ Inventory batch is updated    │
│ with information from          │
│ employees locating assats and │
│ approved user                 │
└────────┬──────────────────────┘
         │
┌────────▼──────────────────────┐
│ Senior manager reviews final  │◀──────────────┐
│ master inventory worksheet    │               │
│ with all results and changes  │      ┌────────┴───────────────────┐
└────────┬──────────────────────┘      │ Senior manager concerns are│
         │                             │ addressed and any changes  │
   ◇──────────────◇                    │ made                       │
   │ Senior manager │                  └────────▲───────────────────┘
   │ approves        │─── No ──────────────────┘
   │ worksheet       │
   ◇──────────────◇
         │ Yes
┌────────▼──────────────────────┐
│ Signed copy of master         │
│ worksheet or email stating    │
│ approval is sent to ACFO      │
│ (Erin Bailou)                 │
└────────┬──────────────────────┘
         │
┌────────▼──────────────────────┐
│ Accountanting reviews and     │
│ posts inventory batches,      │
│ which updates asset master    │
│ file                          │
└────────┬──────────────────────┘
         │
┌────────▼──────────────────────┐
│ Random verifications of 5-10  │
│ percent of each department's  │
│ assets completed by internal  │
│ auditor of cheif accountant   │
└───────────────────────────────┘
```

This step was initially carried out by the internal auditor and assistant CFO, but this was changed in fiscal 2016 to transfer the assistant CFO's involvement to the chief accountant in order to mitigate potential internal control issues, given that the assistant CFO manages the overall physical inventory process. The internal auditor and chief accountant complete the verifications, meeting departmental personnel in the field to ensure the randomly selected assets are the correct asset, properly tagged, and in the correct location. Departmental personnel receive the random listing the day before the scheduled verification to help keep the process honest. As mentioned earlier, if a large number of variances are reported during the verification, the internal auditor will schedule a follow-up verification of a larger sample and may call for a department-wide re-inventory.

This step was first implemented in fiscal 2012 and has since resulted in more complete inventory results. (See Exhibit

> The physical inventory process also reengages departmental personnel in the asset program and reaffirms its importance, not only to financial statement presentation, but also to the city's overall mission of focusing on fiscal responsibility.

5 for a summary of the fiscal 2018 verification.)

The fiscal year-end review of departmental equipment asset listings is another distinguishing feature of Bowling Green's physical inventory process. It was implemented in fiscal 2014 to reduce the number of changes recognized during the biennial inventory. Now, the assistant CFO provides each department with an up-to-date asset listing as of early June each year. The department reviews the list and reports any known variances. A full physical inventory is not required, just a quick eyeball test. This process has drastically reduced the number of internal transfers and location changes reported during the physical inventory, from 30 internal transfers in fiscal 2010 to just six in fiscal 2018. (See Exhibit 6 for an example of a fiscal year-end report.)

OTHER IMPROVEMENTS

In addition to decreasing the number of variances each year, the program has also indirectly improved compliance with the procurement division's surplus program requirements. The surplus program relies on accurate reporting from departments when they use an electronic workflow form to request that equipment and/or supplies be removed from city service. This workflow depends on the asset number, description, and serial number being submitted correctly. When an asset is subsequently sold at auction or scrapped, it can be easily removed from the capital asset listing.

The physical inventory process also reengages departmental personnel in the asset program and reaffirms its importance, not only to financial statement presentation, but also to the city's overall mission of focusing on fiscal responsibility (among others, including quality of life, service delivery, public safety, neighborhood revitalization, visionary leadership, and economic development).

Employees see the value of the program firsthand and have asked how they can improve their reporting. Some have even conduct ad-hoc inventories outside of the biennial cycle. A truly exceptionally program is not managed alone by one person or department, but by the efforts of each department and employee involved in the process.

Exhibit 5: Bowling Green's Fiscal 2018 Verification Summary

Department	Assets		
	Inventoried	To Verifiy	Percent Verified
Administration	7	1	14.3
Finance	2	1	50
HR	3	1	33.3
Law	0	0	#DIV/0!
IT	140	15	10.7
Police	309	17	5.5
Fire	170	10	5.9
Public Works			
Admin	34	3	8.8
Operations	108	8	7.4
Fleet	28	4	14.3
Parks	139	13	9.4
Golf	7157		
Neighborhood and Community Services	16	2	12.5
Convention Center	20	2	10
Total	1047	82	7.8

Exhibit 6: Fiscal Year-End Asset Review Report

ASSET LISTING AS OF 6/8/17

	Description	Acquisition	Adjusted Cost	Responsible_Dep	Manufa	Manuf_Model	Manufacturer_Serial #
Crosswinds Golf Course							
0017430	Greenway Fan BM50-5-1-201-19	4/5/12	6,945.00	Parks - Golf	Other	Precision BM50!	234422
0017656	TB230 TURBINE BLOWER CROSSWINDS MTCE	4/28/15	6,727.00	Parks - Golf	Other	AgriMetal TB-28	33196
0017751	GREENSMASTER 3150-Q S/N 311000437 #L8011	3/30/16	6,665.00	Parks - Golf	Workm:	3150-Q	04357-311000437
0017753	GREENSMASTER 3150-Q S/N 311000463 #L9311	3/30/16	6,615.00	Parks - Golf	Workm:	3150-Q	04357-311000463
0017754	GROUNDSMASTER 3500-D S/N 311000287 #L1011	3/30/16	8,411.00	Parks - Golf	Workm:	3500-D	30839-311000287
0017755	GROUNDSMASTER 3500-D S/N 311000288 #2011	3/30/16	8,597.00	Parks - Golf	Workm:	3500-D	30839-311000288
0017756	GROUNDSMASTER 3500-D S/N 311000289 #L3011	3/30/16	8,411.00	Parks - Golf	Workm:	3500-D	30839-311000289
0017757	WORKMAN HDX S/N 311000139 #L7011	3/30/16	5,104.00	Parks - Golf	Workm:	3500-D	07367-311000139
0017758	WORKMAN HDX S/N 311000140 #L6011	3/30/16	5,104.00	Parks - Golf	Workm:	3500-D	07367-311000140
			62,579.00				
Crosswinds Golf Pro Shop							
0017445	Utility Vehicle Beverage Cart	6/13/12	8,100.00	Parks - Golf	Other	Yamaha Adventi	JWF-F4236-51
0017419	CrossWinds Ranger Cart	6/13/12	5,600.00	Parks - Golf	Other	Yamaha Adventi	JWF-F4236-50
0017446	Yamaha Utility Vehicle 4-seater	6/13/12	8,100.00	Parks - Golf	Other	Yamaha JCO	YDRAZ2-PTV
0015229	Defibrillator	4/5/03	2,558.00	Parks - Golf			
			24,358.00				
Crosswinds Maintenance Building							
0016532	Buffalo Turbine Blower Model #CKB3 (CW Maint Shop)	3/14/04	6,360.00	Parks - Golf			
0015563	UTILITY VEHICLE BEVERAGE #2	4/29/04	5,721.00	Parks - Golf	Club C:	TURF2	
0015562	UTILITY VEHICLE BEVERAGE #1	4/29/04	5,721.00	Parks - Golf	Club C:	TURF2	
0015677	Verticutter	7/27/04	5,850.00	Parks - Golf			
0015697	Carryall II Vehicle	8/27/04	5,838.00	Parks - Golf	Club C:	Carryall 2	
0016399	Turf II Utility Vehicle	6/27/06	5,922.00	Parks - Golf	Club C:	Carryall 2	
0017113	CLUB CAR Carryall Turf 2 Utility Vehicle	5/15/09	7,456.00	Parks - Golf	Club C:	H-44	060310
0009063	MYERS PUMP 40 HP (2 IN THE WELL AND 1 SPARE)	9/15/93	5,352.00	Parks - Golf			
0012029	BOBCAT SKIDSTEER LOADER #763H	11/15/96	26,850.00	Parks - Golf	Bobcat	763h	512220476
0013536	JOHN DEERE 5200 UTILITY TRACTORLV5200E620861	12/5/97	17,045.00	Parks - Golf	John D:	s200	LV5200E620861
0014048	Toro spray rig 80316	8/14/98	23,400.00	Parks - Golf	Toro	multi pro	80316
0014343	TORO RIDING FAIRWAY MOWER 90229	9/15/99	33,604.00	Parks - Golf	Toro	6500	90229
0014430	2000 JOHN DEERE 4600 TRACTOR LV4600P362106	1/13/00	18,679.00	Parks - Golf	John D:	4600	LV4600P362106
0014431	AEROMOTOR PUMP W/ACCESSORIES NO SERIAL NUMBER (f	1/18/00	5,000.00	Parks - Golf			
0014459	2000 CHEVY 1 TON TRUCK #0816 CROSSWINDS MAINT/TONY	3/6/00	21,764.00	Parks - Golf	Chevro	CC30943	1GCGC33RXYF475889
0014465	2000 CHEVY 1 TON TRUCK #0822 1GBHC34R3YF473067	3/10/00	22,211.00	Parks - Golf	Chevro	CC31403	1GHHC34R3YF473067
0006735	TORO FAIRWAY MOWER 90141	6/27/89	15,562.00	Parks - Golf	Toro	90141	
0001819	SOD MACHINE	1/1/79	9,125.00	Parks - Golf			
0013764	1998 CHEV 1TON 2WD PICKUP 812B 1GCGC34RXWZ237387	4/30/98	18,596.00	Parks - Golf	Chevro	CC30903	1GCGC34RXWZ237387
0014163	8014: TWI FLATBED GOOSENECK TRAILER 1T93E2GCXX1192	11/24/98	5,749.00	Parks - Golf	Other	FSTG	1T93E2GCXX1192109
0014776	DAKOTA 410 TOPDRESSER 3900090	5/26/00	10,705.00	Parks - Golf			
0017500	TOPDRESSER DC41111 CW	6/12/13	12,938.00	Parks - Golf	Other	DAKOTA 410	243-12
0014761	Hustler 6400 Hillsider #8054 S/N: 99104648	5/9/00	24,998.00	Parks - Golf	Hustler	6400	99104648
0017215	Salsco Greens Roller #1	3/31/10	12,410.00	Parks - Golf	Other	9066	10031900090662934

REPLICATING THE PROGRAM

If financial software is not an option, other organizations can easily replicate this project using spreadsheets. The data required are asset numbers, descriptions, locations, and the responsible department. Optional data that are extremely helpful to the staff members locating assets are the acquisition date, acquisition cost, manufacturer, model number, and serial number. It is recommended that the data should be sorted in the following order: depart-

> Employees see the value of the program firsthand and have asked how they can improve their reporting. Some have even conduct ad-hoc inventories outside of the biennial cycle.

ment, location, and asset number (or acquisition date), and then distributed electronically to the appropriate point of contact in each department. The point of contact will either locate the assets themselves or assign that task to other personnel. The assigned staff will report their findings to the point of contact, who will then update the spreadsheet with comments, changes, or other feedback. The point of contact will return the completed inventory spreadsheet to the finance department,

which will then review and process any required changes.

The entire process should be thoroughly tested and reviewed before implementation. It may also be helpful to form a small task force of super users from different departments to create the process and elicit buy-in from other users.

GFOA BEST PRACTICE

In its *Inventories of Tangible Capital Assets* best practice, GFOA recommends that state and local governments conduct a periodic inventory of its tangible capital assets, at least on a test basis, and at least once every five years. This is crucial because well-designed and properly maintained perpetual inventory systems can eliminate the need for an annual inventory, no inventory system is so reliable as to eliminate completely the need for a periodic physical inventory.

> A truly exceptionally program is not managed alone by one person or department, but by the efforts of each department and employee involved in the process.

CONCLUSIONS

Bowling Green's physical inventory has undergone a number of improvements since it was implemented in 2008. The process is embedded in the city's financial software, so minor changes can be automatically uploaded from inventory batches directly to the capital asset file. As a result, the number of variances being reported during the inventory has radically decreased; compliance with the purchasing division's surplus program requirements has improved; and the process also reconnects department with the city's overall mission of focusing on fiscal responsibility.

ERIN BALLOU is the assistant chief financial officer for the City of Bowling Green, Kentucky.