

## Deferred Maintenance

Ć

### Property Management



**Connecting the dots...** 

... for sustainable asset management







- 2017 Facility Conditions Assessment (FCA) commissioned
  - Beginning FY18 FCA used for General Services Major Mod
  - Updated & used when adopting Accelerate Memphis projects

We also gathered and updated any available facility condition assessment information for these facilities.

This study revealed that the current deferred maintenance need is approximately \$126 million dollars, which does not include dollars for over 175 buildings without an existing FCA.

To realize the full need, we recommend a Phase 2 to this feasibility study to complete the missing facility condition assessment information.



#### Path to Solution



Feasibility Study v. Facility Condition Assessment

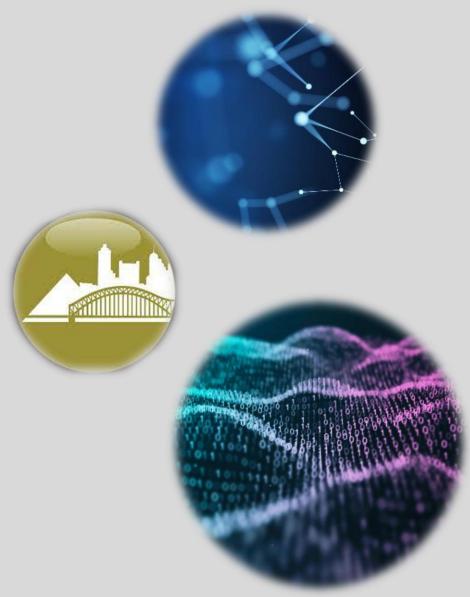
- **Feasibility Study** measures building or facility's usefulness and/or purpose. The goal is the ensure the building or facility is compatible with the existing public needs and services.
- Facility Condition Assessment- a comprehensive evaluation of a building's systems. The purpose is to identify any existing or potential problems that affect the building's performance or integrity.
- Goal of the FCA
  - Routine and/or deferred maintenance
  - Remaining useful life on major building systems
  - Prioritized list of repairs
  - Total building replacement



# Property







Failure to manage/plan full asset lifecycle drives up overall sustainment cost.

#### **Problem/Opportunity**



During this feasibility study, the OT Marshall and All World team worked with the Division of General Services to assemble a list of all buildings, Parks, athletic fields, and golf courses, owned by the City of Memphis. For the following public facing buildings:

- Community Centers
- Police Facilities
- Fire Facilities
- Libraries
- Large Civic Buildings

The structures listed above are approximately 4.5 million sq ft.



City c <u>Mem</u>	f 🏵 phis	Facility Inventory										O.T. Marshall Architects			
ID 🖵	Building Name	Address	- Division -	Original Construction Date 🚽	Building Square Footage 🖵	Renovation Dates 🛩	Date of Assessment 🕎	Current Deferred Maintenance Cost 🟹	Notes 🖵	Escalation	Contingency	Total Deferred Maintenance Cost (2023)	Phase	RUL Report?	
20G04	City Hall	125 N. MAIN	Executive	N/A	418800	2022	2/27/2017	\$38,661,500	*Add Cladding amount	\$23,196,900.00	\$6,185,840.00	\$68,044,240.00	Phase 1	No	
19P12	Cordova Library	8457 TRINITY	Library	N/A	28781	N/A	6/20/2019	\$185,113	FCA Completed	\$92,556.50	\$27,766.95	\$305,436.45	Phase 1	Yes	
19P28	Cornelia Crenshaw Library	531 VANCE AVE	Library	1939	6650	N/A	6/14/2019	\$36,770	FCA Completed	\$18,385.00	\$5,515.50	\$60,670.50	Phase 1	Yes	
15F25	Creative Arts Building	MISSISSIPPI	Executive	N/A	55400	N/A	11/18/2021	\$1,129,922	FCA Completed	\$169,488.30	\$129,941.03	\$1,429,351.33	Phase 1	No	
15C27	Cunningham Community Center	3773 OLD ALLEN RD	Community Center	1997	18018	N/A	8/4/2021	\$150,221	FCA Completed	\$22,533.15	\$17,275.42	\$190,029.57	Phase 1	Yes	
15C03	Dave Wells Community Center	915 CHELSEA	Community Center	1997	17930	N/A	8/4/2021	\$59,668	FCA Completed	\$8,950.20	\$6,861.82	\$75,480.02	Phase 1	Yes	
15C04	Davis Community Center	3371 SPOTTSWOOD	Community Center	N/A	29408	N/A	8/4/2021	\$353,551	FCA Completed	\$53,032.65	\$40,658.37	\$447,242.02	Phase 1	Yes	
15G06	Davy Crockett Club House	4380 RANGE LINE ROAD	Golf Clubhouse	N/A	2473	N/A	10/16/2018	\$33,325	FCA Completed	\$16,663	\$4,998.75	\$54,986.25	Phase 1	No	
15C05	Douglass Community Center	1616 ASH	Community Center	1956	17772	N/A	8/4/2021	\$74,821	FCA Completed	\$11,223.15	\$8,604.42	\$94,648.57	Phase 1	Yes	
15502	Douglass Outdoor Pool	1616 ASH	Pools	1957	6329	N/A	7/31/2018	\$76,902	FCA Completed	\$38,451	\$11,535.30	\$126,888.30	Phase 1	No	
D0255	East Shelby Branch Library	7200 East Shelby Dr	Library	1999	30000	N/A	6/19/2019	\$379,936	FCA Completed	\$189,968.00	\$56,990.40	\$626,894.40	Phase 1	Yes	
15505	Ed Rice Frayser Outdoor Pool	2907 N. WATKINS	Pools	N/A	4585	N/A	6/26/2018	\$116,838	FCA Completed	\$58,419	\$17,525.70	\$192,782.70	Phase 1	Yes	
13F101	Fire Alarm Office	79 S. FLICKER	Fire	1956	50461	N/A	4/15/2021	\$199,160	FCA Completed	\$29,874.00	\$22,903.40	\$251,937.40	Phase 1	Yes	
13F57	Fire Prevention Bureau	2668 AVERY	Fire	N/A	44655	N/A	3/22/2021	\$9,025	FCA Completed	\$1,353.75	\$1,037.88	\$11,416.63	Phase 1	Yes	
13F10	Fire Station-10	148 SOUTH PARKWAY	Fire	1954	12647	N/A	4/6/2021	\$336,181	FCA Completed	\$50,427.15	\$38,660.82	\$425,268.97	Phase 1	Yes	
13F11	Fire Station-11	1826 UNION	Fire	1941	13982	N/A	4/14/2021	\$184,450	FCA Completed	\$27,667.50	\$21,211.75	\$233,329.25	Phase 1	Yes	
10D14 / 13F13	Fire Station-13	333 EAST PARKWAY	Fire	1973	10115	N/A	4/14/2021	\$69,383	FCA Completed	\$10,407.45	\$7,979.05	\$87,769.50	Phase 1	Yes	
13F14	Fire Station-14	980 E. MCLEMORE	Fire	1983	11752	N/A	4/7/2021	\$446,486	FCA Completed	\$66,972.90	\$51,345.89	\$564,804.79		Yes	

#### **Path to Solution**



- Division of Engineering is updating Standard Construction Manual
- Enterprise Solution- Standardized Construction Project Management purchased to track Construction (Procore)
- Enterprise Solution- Tying into the existing ArcGIS system, we worked with Division of Information Technology and AllWorld Project Management to rebuild our Property Maintenance Work Order System.



## FCA - WOMs Workflow



Enhancing the General Service Work Order management system



### FCA Dashboard

FCA Beale Street Dashboard Tenant Space: 149 Beale

Sq Ft Replacement Cost: \$260

Elec Panel Dist Type: Electrical

Deficiency Cost Total: \$26,953.00

Life Cycle Cost Total: \$14,810.00

Sq Ft Replacement Cost: \$260 Total Replacement

Elec Panel Dist Type: Electrical

Deficiency Cost Total: \$6,430.65 Life Cycle Cost Total: \$32,605.00

Tenant Space: 159 Beale

Sq Ft: 2,495

Panel

Sq Ft: 5,232

Electric

Panel

Cost: \$1,360,320 FCI: 5.4

Elec Panel Amps: 200 Elec Panel Manufacturer: General

Total Replacement Cost: \$648,700 FCI: 4.2

Elec Panel Amps: 200 Elec Panel Manufacturer: Siemens



Total

41

**Replacement Cost Total** 

\$44.2M

**Deficiency Cost Total** 

\$2.1M

Life Cycle Cost Total

\$1.3M

#### **Functions**

- Overview of Operation
- Data-driven planning of CIP project
- Evaluate Costs



Dashboard to quickly assess the status of the

3k1 5k 2k 4 3k5 2k6 4k6 9k9 4k1 3k1 4k17 4k7 5k9 121 322 525 1

**Deficiency Cost Total by Address** 

Facility Condition assessments as well as total

costs

#### Tools

- Assessment Total
- Life Cycle Costs

- Deficiency Cost
- **Property Filter**





## FCA Field Application

#### Purpose

Allows user to conduct Facility condition assessment in the

field.

#### **Functions**

- Conduct Facility Condition Assessment
- Conduct Life Cycle Analysis

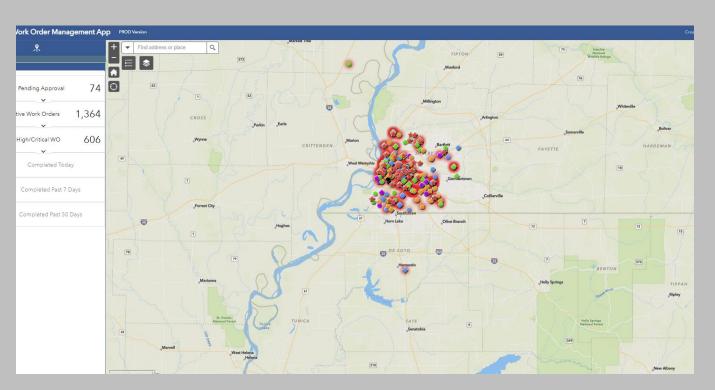
#### Tools

- Logistical Editing
- Picture Attachment
- Voice Recognition



## **WOMS Website Application**





#### Purpose

Main Application for creating, managing and

tracking effort for work orders

#### **Functions**

- Creating Work Orders
- Updating Work Orders
- Creating Excel and PDF Reports

#### Tools

•

- Attribute Table
- Query
- Filter Info Summary

## **Dashboard Application**

**Total Closed** 

No. of Emergency POs



15Z09 - NW PASSAGE - SEA LION NIGHTHOUSE @ N Parkway & N Mclean Blvd - Zoo

19P01 - MEMPHIS BROOKS MUSEUM OF ART @ 1934 POPLAR - General Services Work Order Id: 525493 opened on 3/27/2023, 2:27 AM

20M25 - PROPERTY MAINTENANCE COMPOUND @ 3720 KNIGHT ARNOLD RD - General Services Work Order Id: 522732 opened on 3/27/2023, 2:22 AM

Lights out on Charlie shift and Lt. office also lights need to replaced outside bldg and gas pump. Total Cost: \$0.

Work Order Id: 522030 opened on 3/27/2023, 2:20 AM

14P08 - RAINES STATION @ 791 EAST RAINES - Police Work Order Id: 526020 opened on 3/27/2023, 2:27 AM

hower trailer install for tornado damage at cottonwood apar

Broken cable

Check generato

Select a category

#### **Functions**

- Customized Overview of Operation
- Prioritized View Of Project
- Real Time Cost and Budget Evaluation

#### \$746,648.31 25 \$35,032,720 15X15 - LIBERTY BOWL STADIUM @ 335 S. HOLLYWOOD - Parks Work Order Id: 526106 opened on 3/27/2023, 2:27 AM Replace boiler with new boiler, vent, controls, pump, gauges, thermometers, electrical. Install by local and st codes. Total Cost: \$35862.1 19P07 - CENTRAL LIBRARY @ 3030 POPLAR - General Services No. of work orders opened by division Work Order Id: 528520 opened on 3/27/2023, 2:33 AM Remove and replace cooling tower contractor G&J QUOTE \$575,420.00 START DATE CALLED 3-3-20 - 1 WEEKS TO COMPLETE Total Cost: \$575420 13F24 - FIRE STATION #24 @ 4472 POWELL - Fire <u>Work Order Id</u>: 529282 opened on 3/27/2023, 2:35 AM PM EQUIP Total Cost: \$0 15T11 - WOODDALE TENNIS COURTS @ 3391 CASTLEMAN - Work Order Id: 529291 opened on 3/27/2023, 2:35 AM PM EQUIP Total Cost: \$416.7 15M04 - MISSISSIPPI MAINT. SHELTER @ 4364 HORN LAKE ROAD - Parks Work Order Id: 532216 opened on 3/27/2023, 2:39 AM om equip Total Cost: \$15 20G50 - GROUNDS MAINTENANCE @ 2873 FARRISVIEW RD, 38118 - Grounds Work Order Ld: 535281 opened on 3/27/2023, 2:43 AM MONITORING Cleanup of trash and debris at Walter Simmons Total (Cost 50) 15C30 - BERT FERGUSON C/C @ 8505 TRINITY - Parks Work Order Id: 535860 opened on 3/27/2023, 2:46 AM heck chiller #2 north motors not coming on. General Service Ground Division 14P05 - OLD ALLEN STATION @ 3633 OLD ALLEN RD - Police No. of work orders closed by division Emergency POs executed Map Total Opened by Division of work orders opened by division No. of work orders closed by craft

Active

Total Cost of Emergency POs

#### Purpose

87,575 86,138

Dashboard for quickly accessing data and gauging quality and quantity of General Service Operation

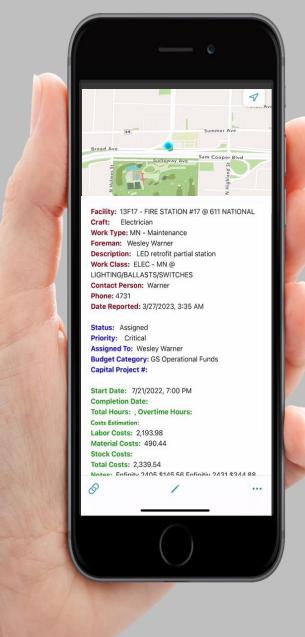
#### Tools

- Work Order List KPI Calculations
- Work Order Chart
   Filter

me

**Total Opened** 

**Total Costs** 



## **WOMS Field Application**

#### Purpose

Allows maintenance team to manage and update work orders in the field.

#### **Functions**

- Updating Work Orders
- Filtering and managing Work orders

#### Tools

- Logistical Editing
- Picture Attachment



The way to get started is to quit talking and begin doing.

- Walt Disney



## Thank You



