

Date: October 18, 2023

To: Honorable Chairman Oliver G. Gilbert, III
and Members Board of County Commissioners

Agenda Item No. 2(B)(4)
November 7, 2023

From: Daniella Levine Cava
Mayor



Subject: Report Regarding Alternate Ways to Provide Maintenance Services of Conveyance Systems – A Combined Response to Directive Nos. 230307 and 230187

Executive Summary

This report is in response to Directive Nos. 230307 and 230187, stemming from a discussion on Resolution No. R-115-23 (resolution), sponsored by Commissioner Eileen Higgins and adopted on February 7, 2023, by the Board of County Commissioners (Board).

- Directive No. 230307, requested by Commissioner Eileen Higgins, directed the County Mayor or County Mayor's designee to analyze and consider alternate ways to provide maintenance services of conveyance systems to enhance such systems through the use of Miami-Dade County staff or special purpose entities such as a 501(c)(3), including an analysis of the results of the alternate means in both the long and short term, and the status of conveyances at Miami International Airport (MIA) and other transit facilities.
- Directive No. 230187, requested by Commissioner Juan Carlos Bermudez, directed that the report include a cost analysis to determine the benefit of hiring additional in-house employees versus retaining an external entity.
- Under the same Directive No. 230187, requested by Commissioner Kevin M. Cabrera, directed the administration to include in the analysis a status update on the functionality of the elevators and escalators located at the MIA and the Department of Transit Public Works (DTPW). Commissioner Cabrera also requested the report detail the plan and timeframe for when the elevators and escalators including, moving walkways would be fully operational.

Ensuring all residents and visitors can access County services is a top priority for my administration and a core obligation to our community. Elevators and escalators are key to providing this access, and my administration is focused on improving the performance and ongoing maintenance of these units. Through the Internal Services Department (ISD), all departments with conveyances receive weekly reports on the statuses of their conveyances. Several concerns were recently raised regarding the conveyances at transit stations specifically; at my request the DTPW and ISD focused their efforts on returning those units to service. I am happy to report that since April 2023, 63 percent of those DTPW units in question have been returned to service. Furthermore, this Board approved an item on July 18, 2023, which will see more than half of the existing units at MIA upgraded or fully modernized. The replacement and modernization creates opportunities to further improve the way the county maintains these units; the county will require non-proprietary units with remote monitoring capabilities allowing the county to transition to predictive maintenance. Despite the number of aging units requiring major renovation or repair, less than ten percent of the 605 units at MIA are out of service for maintenance on an average day.

Recommendations

In the short term, the County will continue with its contracted maintenance with changes to better elicit contract compliance and desired system performance. A focus on requiring universal standards for the maintenance and repair of units across all departments is critical. To be more effective in managing these

services countywide and ensuring best results, there needs to be a centralized format and repository for equipment reliability data, as well as a consistent process for verifying receipt of the services that we pay for. Currently, these responsibilities are spread across the various user departments, each of which has its own approach with varying results and levels of efficacy without standardization. In order to have a centralized repository of elevator performance data and a standardized approach, we have prioritized the implementation of standard maintenance and real-time/remote monitoring.

Furthermore, ISD has published minimum recommended elevator specifications for the installation and modernization of new units. The current recommended specifications developed by ISD require that all new and modernized equipment be completely non-proprietary, so the County has the ability to determine the service provider – without being beholden to a specific vendor solely because it is that vendor's equipment. These include a remote monitoring system which, among other things, will provide real-time status of equipment and alert staff to potential failures before they occur. Predictive maintenance can reduce elevator downtime.

Additionally, the County will:

1. Pilot a program to test the efficacy of utilizing in-house Elevator Mechanics to perform routine maintenance and repairs on a subset of County units as a possible means to meet immediate repair needs and improve response items. Provide accurate analysis of the efficacy of the program and make determinations as to expansion or termination according to the results.
2. Standardize the specifications of all new units requiring, at a minimum, capabilities for remote monitoring.
3. Standardize future solicitations of Maintenance and Repair contracts.
4. Expand ISD's Office of Elevator Safety Contracts Unit to support the standardization and conduct interdepartmental audits for contract compliance.

Background

Miami-Dade County currently owns and operates 1,377 (1,259 active and 118 inactive) conveyance units. Inactive units are comprised primarily of units that have been or are scheduled to be permanently demolished or are no longer used due to operational changes such as building reconfigurations, remodels, and extensive renovations. In order to accomplish the ongoing maintenance and repairs, the County utilizes several contracts including three Original Equipment Manufacturing (OEM) contracts, as well as a contract awarded to TK Elevator Company, Southwest Elevator Company, and Evolution Elevator Company. An emergency contract was also awarded to Schindler Elevator Corporation under emergency procedures to ensure uninterrupted maintenance of 418 units. The Board recently approved a new contract on behalf of Miami-Dade Aviation Department (MDAD) and DTPW for the purchase of maintenance and repair services for conveyance equipment.

Pursuant to Resolution No. R-115-23, I have directed ISD to expand on a recent elevator study which previously found the use of in-house staff for maintenance of conveyances was not cost effective. This report focuses on the consideration of in-house labor to meet the immediate demands and increase response rates, while maintaining access to a limited number of contracts for major repairs, emergencies, and large renovation and modernization projects. Resolution No. R-115-23 specifically requested the analysis of using a 501(c)(3) to undertake some or all the required maintenance. This report contemplates a "pilot" to test the effectiveness of using such a program to maintain a portion of the existing conveyances.

The report provides an analysis of current maintenance practices and consideration of alternate ways to provide maintenance services of conveyance systems. It also provides a roadmap to enhance such systems using Miami-Dade County staff or special purpose entities, such as a 501(c)(3), while also

examining ways the existing practices can be improved in the short term. Furthermore, it includes a status of the conveyances at MIA and DTPW facilities.

Alternate Solutions

In seeking alternatives to the current contract maintenance program, ISD worked with G.D. Barri and Associates. They developed a program to provide qualified Elevator Mechanics through the International Union of Elevator Constructors (IUEC). This unique program has led G.D. Barri and Associates to obtain licensure as a qualified contractor for elevator maintenance, modification, and inspection. Ultimately, a program such as this would allow the County to staff and control work product more directly through an Elevator Preventive Maintenance and Repair Unit. This program would allow the County to create a pilot to perform in-house maintenance, which would be designed to start and expand in several phases, over a multi-year period. If the pilot is successful, the County could ultimately complete the assimilation of all elevators and escalators under the in-house maintenance program by the end of five years. In the interim, to facilitate the transition and provide uninterrupted maintenance, existing contracting methods should remain in place until those contracts expire, at which point the units previously covered by those contracts would be brought into the in-house program.

We also identified various opportunities that will give the County maximum flexibility in maintaining the units, such as a universal standard for monitoring conveyance units remotely. Using remote monitoring enhances the tracking of uptime, provides holistic dashboards, all allowing the County to move towards predictive maintenance and repairs. As the aging units are replaced, adhering to this County standard will allow the County to better manage data sets and improve uptime across all conveyances.

Additionally, the incorporation of an industry best practices real-time electronic maintenance monitoring would allow the County to monitor and manage contract measures to ensure greater contract adherence. This program will lay out specific maintenance tasks and frequency for all equipment and allow for real-time insight into the vendors' performance. The County will add this program to units where currently feasible and add it to all future RFPs.

Cost Analysis

Pursuant to the directive to evaluate a 501 (c)(3), G.D. Barri and Associates presented the following information on costs for a pilot which contemplates the maintenance of 180 units countywide using the workforce provided in the table below.

	Standard Time	Overtime	Premium Time	Holiday	Totals
Journeyman Route Mechanic (four in total)	\$ 942,215	\$ 189,102	\$ 5,588	\$ 16,794	\$ 1,153,701
Journeyman Inspection/Testing Mechanic (two in total)	\$ 471,107	\$ 94,551	\$ 2,794	\$ 8,397	\$ 576,850
Lead Mechanic in Charge	\$ 255,423	\$ 51,748	\$ 1,533	\$ 4,723	\$ 313,429
Third year Apprentice Mechanic	\$ 185,823	\$ 36,233	\$ 1,061	\$ 2,884	\$ 226,003
Total	\$ 1,854,568	\$ 371,634	\$ 10,976	\$ 32,798	\$ 2,269,983

The table above illustrates G.D. Barri and Associates' total cost of \$2,269,983. This reflects an estimated 23 percent increase on a per unit maintenance costs basis when compared to existing maintenance costs.

Status of MDAD and DTPW Equipment

Overall, it should be noted that 790 of the 1,259 units are operated by MDAD and DTPW.

Status of Units at MDAD

MDAD currently is responsible for maintaining a total of 304 elevator units (152 traction and 152 Hydraulic), of which fourteen of these units are currently shut down for planned modernization with an estimated back in service date between second to third quarter of 2024.

MDAD is also responsible for maintaining a total of 204 escalator units, of which twelve of these units are currently shut down for planned modernization with an estimated back in service date between second and third quarter of 2025. MDAD is also responsible for maintaining a total of 96 moving walkway units, of which twelve of these units are currently shut down for planned modernization with an estimated back in service date fourth quarter of 2025.

In addition, MDAD is also responsible for maintaining a dumbwaiter (small freight elevator) unit which is currently shut down for planned replacement or modernization. Data for the total number of active units MDAD has had in service over 30 years is currently being collected by Schindler, along with other data related to the individual units. MDAD plans to perform 25 plus modernizations each year for the next ten years across all contracts.

In total, MDAD manages and operates 605 conveyance units. The average five-month performance uptime for all active conveyance units is 90 percent.

Status of Units at DTPW Transit Facilities

DPTW currently is responsible for maintaining a total of 99 elevator units (34 traction and 65 hydraulic). Two of these units are currently shut down, Government Center Elevator No. 6 and the Fifth Street Metromover Station Elevator No. 1. Elevator No. 6 at Government Center Station is currently shut down due to a planned modernization of this unit currently in the negotiation phase. The Fifth Street Metromover Station Elevator No. 1 is currently under repair and is anticipated to be placed back in service by late August 2023. Average three-month performance uptime of all 99 active elevator units is 97.6 percent.

DPTW is also responsible for maintaining a total of 86 escalator units, of which four of these units are currently shut down. The units are located at the Financial District Metromover Station, Adrienne Arsht Center Metromover Station, Eleventh Street Metromover Station, and the School Board Metromover Station. All four of these escalators will be replaced with brand new escalator units. The average three-month performance uptime of all active escalator units is 94.8 percent.

The units under DTPW have an average age of 33 years. The total number of units include 110 rail units and 30 mover units. In addition, DTPW also manages 11 units located in their maintenance buildings. As part of DTPW's capital program, DTPW has identified 27 units, ten elevators and 17 escalators, for modernization as part of RFP-20230.

The location of these units are as follows:

- Dadeland South Station - Two Escalators
- Dadeland North Station - Two Escalators and One Hydraulic Elevator
- Government Center Station - Six Escalators, Two Traction Elevators, and One Hydraulic Elevator
- Civic Center Station - Four Escalators, Two Traction Elevators, and Two Hydraulic Elevators
- Tri-Rail Station- Three Escalators and Two Hydraulic Elevators

In total, DTPW manages and operates 185 units.

Pursuant to Rule 5.06(j), this report will be placed on the next available Board agenda. Should you require additional information, please contact Alex Muñoz, Director, Internal Services Department, at 305-375-5893.

c: Geri Bonzon-Keenan, County Attorney
Gerald K. Sanchez, First Assistant County Attorney
Jess M. McCarty, Executive Assistant County Attorney
Office of the Mayor Senior Staff
Department Directors
Alex Muñoz, Director, Internal Services Department
Jennifer Moon, Chief, Office of Policy and Budgetary Affairs
Yinka Majekodunmi, Commission Auditor
Basia Pruna, Director, Clerk of the Board
Eugene Love, Agenda Coordinator