




# Memorandum



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To: The Honorable Daniella Levine Cava, Mayor, Miami-Dade County and  
The Honorable Jose "Pepe" Diaz, Chairman  
And Members, Board of County Commissioners

From: Felix Jimenez, Inspector General 

Date: April 5, 2022

Subject: *OIG Final Contract Oversight Report – Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link Commuter Service*; Ref: IG21-0001-O

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Attached please find the above-captioned Final Contract Oversight Report issued by the Office of the Inspector General (OIG). The Final Report details the findings of the OIG's review and inspection of the *Downtown Miami Link Commuter Service* project, a collaborative effort supported by County Transportation Surtax funds to provide an additional Tri-Rail commuter rail line linking downtown Miami to the existing 72-mile-long South Florida Rail Corridor. In 2015, the Miami-Dade Board of County Commissioners (BCC) approved an Interlocal Agreement with the South Florida Regional Transportation Authority (SFRTA). With the commitment of public funds (the County's \$13.9 million, plus \$28.9 million collectively from City of Miami sources), the SFRTA was able to enter into an agreement with the developers of the new rail station, Florida East Coast Industries (FECI). The agreement includes access to 9 miles of existing Florida East Coast Railway (FECR) tracks leading to the Miami Central Station.

When the BCC voted to allocate \$13.9 to support this endeavor, the projected date to initiate service was March 31, 2017. To date, service has not been initiated. The report identifies numerous factors that have delayed the initiation of this *Downtown Miami Link Commuter Service*.

A draft of this report was previously provided to the Miami-Dade County Citizens' Independent Transportation Trust (CITT), the SFRTA, and FECI/Brightline. Their responses are all included in the Final Report as Appendices A, B, and C, respectively. For your reading convenience, an Executive Summary follows.

Please note that the OIG is requesting that the CITT and/or DTPW provide the OIG with a follow-up report in 30 days, on or before May 6, 2022, regarding the three recommendations contained in this final report.

## Attachment

cc: Oscar J. Braynon, Chair, Citizens' Independent Transportation Trust (CITT) Board  
and CITT Board Members  
Javier Betancourt, Executive Director of CITT  
Geri Bonzon-Keenan, County Attorney  
Gerald Sanchez, First Assistant County Attorney  
Jess McCarty, Executive Assistant County Attorney  
Jimmy Morales, Chief Operations Officer  
Eulois Cleckley, Director, Department of Transportation and Public Works  
Cathy Jackson, Director, Audit and Management Services Department  
Yinka Majekodunmi, Commission Auditor, Office of the Commission Auditor  
Jennifer Moon, Chief, Office of Policy and Budgetary Affairs  
Parties previously provided with the Draft Report (under separate cover)

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**EXECUTIVE SUMMARY**

***Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link Commuter Service***

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At the request of the CITT Executive Director, the OIG conducted this review and inspection to determine why the *Tri-Rail Downtown Miami Link* commuter service has yet to launch. A casual observer of the downtown Miami skyline could see the construction of the Miami Central Station, including the Tri-Rail platforms, was completed several years ago. And inter-city rail commuters know the Brightline trains have been running regularly, even before the pandemic. Yet, there has never been a sighting of any Tri-Rail trains in downtown Miami.

During this review, the physical infrastructure to initiate the Tri-Rail commuter service - the bridges, viaduct, and platforms at the Miami Central Station - have all undergone intense scrutiny to determine if the load capacity and the physical dimensions of Tri-Rail trains can be accommodated. Most recently, it has been discovered that the next generation of Tri-Rail locomotives will not clear the platforms - will not fit - in the station as it is currently built. The dimensions of the next generation locomotives present a greater challenge than the platform construction defects that have been identified as interfering with the clearance of the steps on the passenger cars.

The OIG notes that the construction of the Tri-Rail platforms and rails at Miami Central were effectively completed in September of 2018. Our report notes the engineering teams involved in this project knew the as-built platforms departed from the design specifications way back in February of 2018. SFRTA engineering has suggested the matter was not elevated to the SFRTA Board at the time as the variances were determined to be within an acceptable level of tolerance.

It was only after FECI/Brightline issued the Notice of Substantial Completion on March 2, 2021, and the results of a subsequent lidar survey were available, that it became clear that partial reconstruction of the platforms would be needed to ensure adequate clearance of the passenger coach steps. Both vertical and horizontal clearance problems had to be addressed before any Tri-Rail trains could enter Miami Central Station. The latest issue with the exterior dimensions of the next generation locomotives will now likely require a complete rebuild of the platforms.

Questions have also arisen about the Northwest 8<sup>th</sup> Street bridge and the Viaduct supporting the Miami Central Station due to a discrepancy in the initial and the final “live load impact factor” percentages utilized to design the structures. At the request of SFRTA, the Florida Department of Transportation (FDOT) developed bridge design standards for passenger rail and conducted a cursory review of the project to determine if the design standards used were acceptable. FDOT reported “no safety concerns.” The SFRTA Board must now weigh the findings of the FDOT and the observations of its consulting engineer, Railroad Consultants, PLLC, and determine how to proceed.

Beyond the physical impediments, the report also details the challenges of coordinating the acquisition of software and installation of hardware on the corridors to satisfy federal requirements of Positive Train Control (PTC) and the FECR operational requirements for Automated Train Control (ATC). The *Tri-Rail Downtown Miami Link* corridor has now been

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completely equipped with PTC. The OIG has been advised the ATC software required to operate on the FECR corridors will be installed on Tri-Rail trains by June 17, 2022.

Only after the PTC and ATC safety systems are operational and validated will it be possible for SFRTA to begin training its engineers on the corridor. It is anticipated that it will take approximately 3 to 6 months to completely train the SFRTA engineers. Assuming the physical infrastructure of the Miami Central Station is modified, finalized, and accepted by SFRTA in the next 3 or 4 months, the technical safety and training elements should be able to proceed uninterrupted. Given the multitude of variables still in play, the OIG considers a realistic date for the initiation of Tri-Rail revenue service on the *Downtown Miami Link* is early 2023.

To ensure the Tri-Rail Downtown Miami Link service begins revenue service next year, the OIG makes three recommendations:

**RECOMMENDATION 1:** The OIG recommends the County, through the joint monitoring agencies, the CITT and DTPW, strongly encourage SFRTA to appoint or retain a dedicated project manager to make sure the Downtown Miami Link service becomes a reality.

**RECOMMENDATION 2:** The OIG recommends the County, through the joint monitoring agencies, the CITT and DTPW, require the SFRTA to provide the quarterly progress reports stipulated in the ILA and, further, strongly encourages the SFRTA to post monthly progress reports about the Downtown Miami Link until the service is inaugurated. The people of Miami-Dade County, through the voter approved Transportation Surtax, contributions from the City of Miami, our Community Redevelopment Agencies, and the Downtown Development Authority, have a right to know when this substantial public investment will become operational.

**RECOMMENDATION 3:** It is recommended that the County not designate multiple individuals from different departments to monitor a single contract without specifying the different responsibilities to be undertaken. Further, if inspection services are anticipated, the authorization to retain inspectors should be provided at the time of contract award.

The OIG is grateful for the complete cooperation of SFRTA, FECI/Brightline, CITT and DTPW throughout this review and inspection of the Downtown Miami Link project. We are grateful for the opportunity to prepare this report to the Board of County Commissioners and the CITT Board and trust we have provided information that is supportive of the CITT's mission.

# MIAMI-DADE COUNTY OFFICE OF THE INSPECTOR GENERAL



## FINAL CONTRACT OVERSIGHT REPORT

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*Review of Factors Delaying Initiation of  
Tri-Rail Downtown Miami Link Commuter Service*

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**IG21-00001-O**

**April 5, 2022**

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**I. INTRODUCTION**

In October of 2020, frustrated by many years of delay and a growing lack of confidence in the management of a critical project to connect the Tri-Rail system to downtown Miami, the Citizens' Independent Transportation Trust (CITT) asked the Office of the Inspector General (OIG) to determine exactly why the South Florida Regional Transportation Authority (SFRTA) had not initiated service on the proposed *Downtown Miami Link*. In 2015, when the CITT authorized, and the Board of County Commissioners (BCC) approved, the use of County Transportation Surtax funds for this project, the anticipated date for the beginning of commuter rail service was on or before March 31, 2017. As the fifth anniversary of the anticipated start date approaches, numerous obstacles must be overcome before taxpayers see the fruits of their investments.

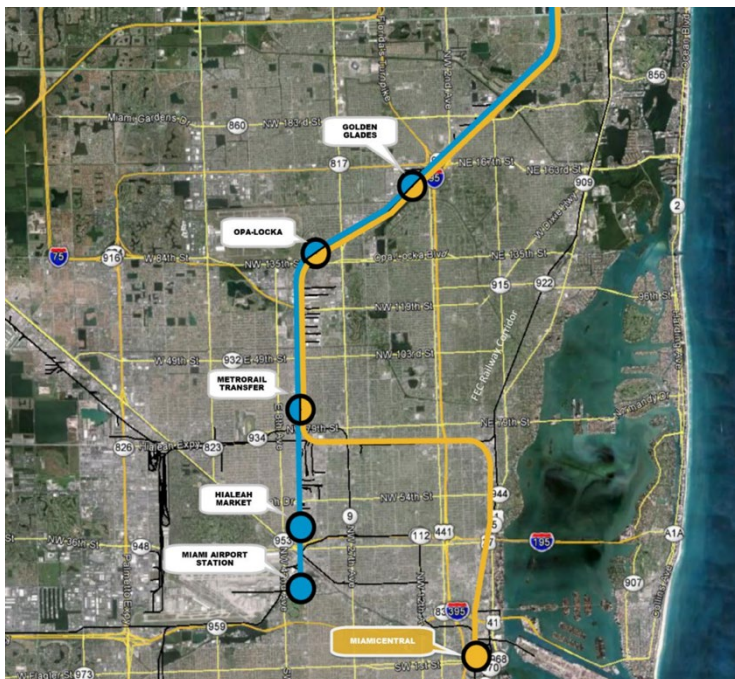


Figure 1. Yellow line depicts future Downtown Miami Link Tri-Rail service. (SFRTA map)

As originally proposed by the SFRTA, the split-service at the southern end of the 72-mile-long South Florida Rail Corridor (SFRC) will be an enhanced service. “Specifically, a total of 50 revenue trains will operate on the SFRC between the Mangonia Park Tri-Rail Station (north terminus) and the Metrorail Transfer Station. Of the 50 trains, 24 trains will remain on the SFRC and continue to the Miami Airport Station (south terminus) and 26 will continue to the Miami Central Station. Additionally, the trains traveling to the Miami Airport Station will be supplemented with 26 train

shuttles operating from the Metrorail Transfer Station to the Miami Airport Station, ensuring no disruption to current revenue operations.”<sup>1</sup>

When this new commuter service begins, commuters will travel on 9-miles of existing track before ascending into the Miami Central Station’s dedicated platforms designed to accommodate the Tri-Rail locomotives and passenger coaches. The \$68.9 million total

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<sup>1</sup> SFRTA Environmental Technical Analysis, *Tri-Rail Downtown Miami Link*. November 2017.

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projected costs for the two (2) additional Tri-Rail platforms involved a public investment of almost \$43 million.

Public dollars were contributed from multiple sources: Southeast Overtown Park West Community Redevelopment Agency (\$17.5 million); Miami-Dade County (\$13.9 million); The City of Miami (\$7.167 million); the OMNI Community Redevelopment Agency (\$3 million); and the Downtown Development Authority (\$1.267 million).<sup>2</sup> The value of the private sector contribution from the developers of the station, Florida East Coast Industries (FECI) / Brightline, was estimated to be the difference in the total projected cost, approximately \$25 million. Above and beyond the \$68.9 million for the Tri-Rail platforms, the South Florida Regional Transportation Authority (SFRTA) and Florida Department of Transportation invested \$21.8 million of additional public funds for the elevated viaduct, bridges, and track improvements to connect the existing railway corridor to the Miami Central Station.

On May 19, 2018, passengers began arriving to and departing from the Miami Central Station on the new Brightline intercity rail service. Construction of the Tri-Rail platforms at the Miami Central Station finished in September of 2018. To date, the Tri-Rail platforms at Miami Central Station remain unutilized. This report identifies the major issues that have delayed the initiation of this vital commuter service, provides evidence of the progress that has been made, and concludes with recommendations to be considered by the SFRTA, CITT and DTPW.

## **II. OIG JURISDICTIONAL AUTHORITY**

In accordance with Section 2-1076 of the Code of Miami-Dade County, the Inspector General has the authority to make investigations of County affairs; audit, inspect and review past, present and proposed County programs, accounts, records, contracts, and transactions; conduct reviews, audits, inspections, and investigations of County departments, offices, agencies, and boards; and require reports from County officials and employees, including the Mayor, regarding any matter within the jurisdiction of the Inspector General.

The OIG's review into this project is predicated on the County's investment of \$13.9 million of County Transportation Surtax funds with the SFRTA—an agency that relies on annual County general fund appropriations for operating and capital support. Further, we note that the interlocal agreement approved by the Board of County Commissioners was

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<sup>2</sup> See Cover Memo to Resolution R-570-15, Agenda Item 8G1 (June 30, 2015).



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to be “monitored jointly” by the Executive Director of the CITT and the Director of Miami-Dade Transit (now known as the Department of Transportation and Public Works).<sup>3</sup>

**III. ENTITIES RELEVANT TO THIS REVIEW**

**South Florida Regional Transportation Authority (SFRTA)**

SFRTA is a public transportation authority created by the Florida Legislature in 2003, as a successor to the Tri-County Commuter Rail Authority.<sup>4</sup> The SFRTA has authority to operate any transit system affecting the three South Florida counties: Miami-Dade, Broward, and Palm Beach. The 10-member SFRTA Board is composed of three representatives from each County and an agency official appointed by the Secretary of the Florida Department of Transportation. Miami-Dade County’s three representatives are: County Commissioner Raquel Regalado (representing the BCC); J.C. De Ona (appointed by the BCC); and Carlos A. Penin (appointed by the Governor).

At the time Governor Jeb Bush signed the bill into law, each county government was obligated to contribute \$4.235 million annually the Tri-Rail commuter rail service; \$2.67 million for capital costs and \$1.565 for operating. In FY 2022, Miami-Dade County met this minimum requirement of state law by contributing \$4.235 million to the SFRTA.<sup>5</sup>

Since July 1, 2017, SFRTA has had a bundled contract the with Herzog Transit Services to run train operations, dispatch, and train and station maintenance.<sup>6</sup> Tri-Rail’s train fleet is provided through several manufacturers, including Bombardier Mass Transit.<sup>7</sup> The current Tri-Rail service into and out of Miami-Dade County for the most part runs parallel to NW 37<sup>th</sup> Avenue, with the southernmost station being the Airport Multi-Modal Center.

**Florida East Coast Industries (FECI)**

FECI is headquartered in Miami, Florida and backed by the resources of Fortress Investment Group (Fortress). FECI owns Brightline Trains and is focused on Real Estate Development. FECI consist of three distinct companies: Brightline, the intercity passenger rail service; Flagler Global Logistics, a company with more than 1.5 million square feet

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<sup>3</sup> BCC Resolution (R-570-15) adopted June 30, 2015.

<sup>4</sup> See Florida Chapter Laws 2003-159, codified in Florida Statutes Section 343.51 et seq.

<sup>5</sup> FY 2021-22 Miami-Dade County Budget. Page 126 of Volume 2.

<sup>6</sup> FDOT Inspector General Advisory Report No. 17I-4002, issued September 29, 2017.

<sup>7</sup> SFRTA Operating Budget FY 2019-2020, Page 12.



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(MSF) of industrial space statewide and land available for another 24 MSF of industrial development; and Flagler, a full-service commercial real estate company.<sup>8</sup>

## **Brightline**

Brightline is an inter-city passenger rail service owned by FECI. Initially the rail service was known as “All Aboard Florida” and for a short period of time was branded as “Virgin Trains USA.” Brightline is owned by FECI. (Throughout this report, to reflect the current ownership relationship, all references to FECI, All Aboard Florida, and Brightline will be presented as FECI/Brightline.)

## **Florida East Coast Railway (FECR)**

FECR traces its origins to the railroad built by Henry Flagler, one of the original founders of the Standard Oil company. In 1888, Flagler built the Ponce de Leon Hotel in St. Augustine and then acquired the Jacksonville, St. Augustine & Halifax Railroad system. FECR was officially formed in 1895. By 1896, FECR spanned the entire east coast of Florida down to Biscayne Bay. On January 22, 1912, FECR arrived in Key West, Florida. The line to the Keys was destroyed by a hurricane in 1935 and was not rebuilt.<sup>9</sup> Today, the company “owns all of the 351-mile mainline track from Jacksonville down to Miami. It is the exclusive rail provider for PortMiami, Port Everglades and Port of Palm Beach.”<sup>10</sup> Currently, the southernmost freight terminals are in Miami: the FECR Terminal and Rail Yard at 6875 NW 58<sup>th</sup> Street and the PortMiami Terminal.<sup>11</sup>

When the Miami-Dade County Commission made the decision to invest public funds in the additional platforms and track improvements needed to extend Tri-Rail service on the *Downtown Miami Link*, Fortress Investment Group owned both FECI and FECR. In 2017, FECR was sold to Grupo Mexico, a global Mexican conglomerate invested in mining, transportation, and infrastructure.<sup>12</sup> The OIG has been advised that Fortress negotiated an easement in perpetuity for FECI/Brightline to operate passenger rail service on FECR’s corridors as part of the final sale to Grupo Mexico.

As the owner of the tracks, FECR is considered the host railway and the passenger rail service providers are tenants. As the host, FECR has the authority to impose any

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<sup>8</sup> <http://www.feci.com/companies.html> (retrieved June 19, 2021)

<sup>9</sup> <https://flaglERMuseum.us/history/flagler-biography> (retrieved February 4, 2022)

<sup>10</sup> <https://fecrwy.com/> (retrieved June 19, 2021)

<sup>11</sup> <https://fecrwy.com/network-map/>(retrieved February 4, 2022)

<sup>12</sup> <https://www.gmexico.com/Pages/default.aspx> (retrieved June 19, 2021)

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operating standards it sees fit for the tenant rail services operating on its corridors. The passenger rail services operating on this corridor must abide by all the requirements of the FECR Rule Book.

When Fortress sold FECR to Grupo Mexico, Brightline officials promptly issued a statement assuring the public the sale did not impact their planned services. “The sale of the Florida East Coast Railway does not impact Brightline,” said a spokeswoman, AnneMarie Mathews. “Brightline is a separate company that has dual ownership of the corridor and the right to operate passenger service.”<sup>13</sup> The declaration by the spokeswoman about “dual ownership” may have oversimplified the arrangement.

### **U.S. Department of Transportation, Federal Railroad Administration (FRA)**

The FRA regulates the passenger rail service provided by Tri-Rail and FECI/Brightline. In the wake of passenger rail accidents involving excessive speed, the FRA now requires the implementation of Positive Train Control (PTC) technology to govern operations of all passenger rail service in the United States.<sup>14</sup> The host railway, FECR, must submit a PTC Implementation Plan to the FRA for approval. For PTC to operate, every corridor must be improved with infrastructure for this interactive monitoring technology to engage with the onboard systems. The engineers operating passenger service must be certified to operate on the corridors, demonstrating competency to respond to PTC system warnings. Before passenger service can begin, the FRA must be satisfied all certifications and requirements have been met. To date, Tri-Rail’s proposed *Downtown Miami Link* service has not conducted test runs for interoperability and certification of its engineers, threshold requirements to be designated as compliant with the PTC regulations by the FRA.

### **Citizens’ Independent Transportation Trust (CITT)**

On November 5, 2002, the CITT was established by the voters of Miami-Dade County in conjunction with the approval of a ballot question authorizing the ½ Cent Charter County Sales Surtax. The CITT is a 15-member body created to oversee the expenditure of the surtax funds intended for the implementation of the People’s Transportation Plan (PTP). In 2015, the CITT recommended the Miami-Dade County Commission authorize the expenditure of \$13.9 million of the County’s Transportation Surtax funds for the improvements at the Miami Central Station. In the subsequent interlocal agreement allocating the funds from the County to the SFRTA, the CITT Executive Director was designated as a joint monitor to oversee the County’s agreement with SFRTA.

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<sup>13</sup> “Mexican conglomerate buys FEC Railway for \$2.1 billion.” Miami Herald, Jay Weaver. March 28, 2017.

<sup>14</sup> Rail Safety Improvement Act of 2008 (RSIA).

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**Department of Transportation and Public Works (DTPW)**

In the interlocal agreement allocating the \$13.9 million of County Transportation Surtax funds, the Director of DTPW was designated as a joint monitor to oversee the County's agreement with SFRTA.

**IV. CASE INITIATION AND REVIEW METHODOLOGY**

**Case Initiation**

The Executive Director of the Citizens Independent Transportation Trust (CITT) reached out to the OIG in the latter part of 2020 and requested a review of the unacceptable pattern of delays in the implementation of the *Tri-Rail Downtown Miami Link* commuter service. Based upon the substantial investment of County funds (\$13.9 million) and the multiple public agencies contributing additional funds (\$50 million), the OIG opened a case and assigned it to the Contract Oversight Unit for review and inspection.<sup>15</sup>

**Review Methodology**

At the outset, the OIG obtained and reviewed the County legislative record involving the transfer of surtax funds to the SFRTA<sup>16</sup> and the multi-party agreement for operating and funding the *Tri-Rail Downtown Miami Link* project.<sup>17</sup> A standard review of media coverage, press releases and published reports was also conducted.

The OIG then conducted numerous interviews of the parties involved. During these interviews, the OIG asked to see supporting documentation. As documents were provided and reviewed, follow-up interviews were arranged. Included in this fieldwork was an initial interview of FECI/Brightline representatives, site visits to Miami Central Station, meetings with SFRTA officials, conversations with FRA officials, communications with DTPW and CITT staff, and direct contact with FECR. The nature and substance of these communications is detailed in Section VI of this report, "Identification of Critical Factors Delaying Tri-Rail Service."

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<sup>15</sup> This review was performed in accordance with the Principles and Standards for Offices of the Inspector General, Quality Standards for Inspections, Evaluations, and Reviews, as promulgated by the Association of Inspectors General.

<sup>16</sup> BCC Resolutions R-570-15 adopted June 30, 2015 and R-439-16 adopted May 17, 2016.

<sup>17</sup> *Tri-Rail Downtown Miami Link Access, Operating and Funding Agreement* by and among Florida East Coast Railway, LLC, All Aboard Florida-Operations LLC, and the South Florida Regional Transportation Authority, (September 16, 2016)

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Given the substantial findings pertaining to the platform construction defects blocking passage of Tri-Rail trains into the Miami Central Station, the OIG released an interim report to the CITT on October 27, 2021.<sup>18</sup> The interim report referenced the potential clearance problem. A representative of the OIG attended the CITT Board meeting the following day, on October 28, 2021, prepared to respond to board inquiries. No questions were posed to the OIG representative by the CITT.

Several weeks later, the SFRTA governing board learned of the potential clearance problem when a consultant's report on the matter was issued. A special SFRTA workshop to allow for a detailed presentation by staff was scheduled for December 22, 2021. The OIG attended this meeting at the SFRTA offices in Pompano Beach, FL. During this public meeting, the staff of the SFRTA was tasked with providing specific timelines to address the myriad outstanding issues delaying the initiation of the *Downtown Miami Link* service.

On Friday, January 28, 2022, at a regularly scheduled meeting of the SFRTA Board, after a lengthy discussion of the *Downtown Miami Link* project, Executive Director Steven Abrams acknowledged he had "lost the confidence" of the Board and expressed a willingness to discuss separation arrangements. There were no objections to his pronouncement and the Chair of the SFRTA Board immediately appointed an ad hoc committee to develop the process for recruiting a new executive director.

The OIG has been in regular communications with the entities involved throughout this review. The continuing cooperation of the parties has afforded us the opportunity to compile this record for consideration by the decisionmakers with a stake in this matter and for the interested public. We are grateful to all who have assisted.

**V. CHRONOLOGY OF IMPORTANT EVENTS**

**2014**

- Suffolk Construction (contracted by FECI/Brightline) began site clearing and demolition for the Miami Central Station.

**2015**

- June 30, 2015: BCC approves Resolution (R-570-15) authorizing an Interlocal Agreement (ILA) with SFRTA and providing \$13.9 million in financial support of

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<sup>18</sup> <https://www.miamidadeig.org/resources-oig/pdf/2021-reports/2021-10-26-surtax-funds-for-miami-central-station-ig-21-0001-o.pdf>

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County Transportation Surtax funds for the *Tri-Rail Downtown Miami Link* station improvements.

- December 11, 2015: SFRTA approves Term Sheet for the *Tri-Rail Downtown Miami Link* Service Project.

**2016**

- May 17, 2016: BCC approves Resolution (R-439-16) amending the ILA with SFRTA to authorize the immediate release of \$11,815,000 the County's financial support to SFRTA (net retainage).
- August 8, 2016: Multi-party agreement between SFRTA, All Aboard and FECR executed by all parties.

**2017**

- March 28, 2017: Grupo Mexico announces the purchase of FECR.<sup>19</sup>
- March 31, 2017: Tri-Rail service anticipated to begin "on or before" this date.
- April 18, 2017: FRA approves of proposed *Tri-Rail Downtown Miami Link* operations on the FECR tracks.

**2018**

- May 19, 2018: Brightline initiates rail service from Miami Central Station to Fort Lauderdale and West Palm Beach.
- September of 2018: Construction of Tri-Rail platforms and rails at Miami Central Station concludes.<sup>20</sup>

**2020**

- March 9, 2020: SFRTA submits 2019 Annual PTC Progress Report to FRA (CSX Transportation and Amtrak interoperability only).<sup>21</sup>
- March 26, 2020: Brightline suspends service due to Covid-19 pandemic.
- March 27, 2020: Tri-Rail suspends fares and adjusts service schedule due to pandemic.
- Spring of 2020: After suspending service on March 26, 2020, Brightline transitioned to a new system for PTC, the same system (I-ETMS) in use by SFRTA.
- December 31, 2020: Federal deadline for passenger railways. FRA-certified and interoperable PTC system implementation.

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<sup>19</sup> Miami Herald, "Mexican conglomerate buys FEC Railway for \$2.1 billion," Jay Weaver. March 28, 2017.

<sup>20</sup> Miami Today, "Tri-Rail targets third quarter 2019 runs to downtown Miami," August 7, 2018.

<sup>21</sup> SFRTA SFRV-2019 Annual PTC Progress Report. OMB Control No. 2130-0553

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**2021**

- March 2, 2021: SFRTA received Notice of Substantial Completion for the two Tri-Rail platforms from FECI/Brightline.<sup>22</sup>
- March 31, 2021: SFRTA submits 2020 Annual PTC Progress Report to FRA (CSX Transportation and Amtrak interoperability only).<sup>23</sup>
- April of 2021: SFRTA receives field survey results from Brightline revealing clearance issues with the platform construction for Tri-Rail's trains.
- June 30, 2021: FECI/Brightline completes installation of PTC infrastructure on the 9-miles of FECR corridors needed for the *Downtown Miami Link*.
- December 2, 2021: SFRTA releases report from Railroad Consultants that details the extent of the clearance issues and raises additional concerns about the load capacity of the bridges and viaduct into Miami Central Station.

**VI. IDENTIFICATION OF CRITICAL FACTORS CAUSING DELAYS**

**A. Positive Train Control (PTC)**

The SFRTA has repeatedly been certified as PTC compliant for its existing service on the CSX railway corridor that runs between the Miami International Airport Multi-Modal Station to Mangonia Park Station in Palm Beach County. SFRTA is not certified for PTC compliance on the FECR corridor.

PTC compliance involves three elements: the corridor must have infrastructure installed to communicate with passing locomotives; an interoperable system must be installed onboard the locomotives; and the railroad engineers must be trained to use the integrated PTC operating system and become familiar with the corridor (there are no simulators to achieve certification).

The PTC issue was initially complicated by the fact that SFRTA and FECI/Brightline were using different systems. PTC technology is supplied by multiple vendors. At the outset, FECI/Brightline opted for a less-expensive PTC system, Enhanced Automatic Train Control (E-ATC). SFRTA was using a more widely accepted and stable PTC system, (I-ETMS). After the suspension of inter-city rail service in March of 2020, FECI/Brightline decided to invest over \$30 million to acquire the I-ETMS PTC system.<sup>24</sup>

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<sup>22</sup> SFRTA has yet to accept FECI/Brightline's contention that substantial completion has been achieved.

<sup>23</sup> SFRTA SFRV-2020 Annual PTC Progress Report. OMB Control No. 2130-0553

<sup>24</sup> Interview with FECI/Brightline representatives, October 14, 2020.

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Even with similar PTC systems, progress on improving the corridors with the necessary infrastructure was halting. The multi-party agreement expressly stated SFRTA was *not* responsible for the installation of PTC equipment on the North/South Segment or the East/West Segment of the FECR corridors. However, the multi-party agreement did not clearly identify the party responsible for installing the infrastructure.

In January of 2021, the OIG learned FECI/Brightline was conducting test runs to secure PTC certification on the North/South Segment.<sup>25</sup> The PTC had been obviously installed on the North/South Segment for the benefit of Brightline. However, SFRTA was still waiting for the PTC infrastructure on the East/West Segment. Further, the OIG was able to confirm that the FECR had filed a PTC Implementation Plan (PTCIP) with the FRA that included PTC equipment installations on the East/West Segment.

The SFRTA provided the OIG federal regulatory language indicating “each Class I railroad and each railroad providing or hosting intercity or commuter passenger service shall progressively equip its lines as provided in its approved PTCIP.”<sup>26</sup> Based on this reading of the regulations, the OIG contacted a senior FECR official in Jacksonville, Florida to ask when the host railway would be equipping the East/West Segment with the PTC infrastructure needed by SFRTA. In no uncertain terms, the FECR made clear it was not their responsibility to install the equipment.<sup>27</sup>

When the OIG directly questioned FECI/Brightline officials about the missing infrastructure on the East/West Segment, it was confirmed their contractors were installing the equipment.<sup>28</sup> Finally, on June 30, 2021, the installation of PTC equipment on the entire 9-mile FECR corridor needed by SFRTA to provide the *Tri-Rail Downtown Miami Link* was completed. However, to date, the interoperability testing for certification of the PTC system has not begun.

According to federal regulations, FECR, as the host railway, is responsible for scheduling the conduct of these test runs for the SFRTA engineers and submitting the records of PTC interoperability testing to the FRA. As explained below, SFRTA does not yet have access to the corridor to commence the PTC interoperability tests. When the interoperability testing begins, the SFRTA has estimated it will take 3 to 6 months of test runs to complete the PTC interoperability training process.

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<sup>25</sup> Miami Herald, “Brightline trains are on the move in South Florida once again – without any passengers,” Michelle Marchante, January 28, 2021.

<sup>26</sup> 49 CFR 236.1005 (b)(1)

<sup>27</sup> Robert Ledoux, Jr. VP of FECR telephone conversation on June 9, 2021.

<sup>28</sup> On April 22, 2021, FRA issued an approval letter for the PTC Implementation Plan jointly filed by FECR and Brightline Trains Florida LLC on March 26, 2021.



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**B. Automatic Train Control (ATC)**

Independent of the federal requirement of PTC equipment mandated by the Rail Safety Improvement Act of 2008, the FECR deployed an ATC system on its corridors. At its most fundamental level, ATC provides engineers wayside signal information in the cab of the locomotive. This messaging system is designed to prevent engineers from missing wayside signals due to poor visibility around curves or in poor weather. In addition to the PTC requirements noted above, the FECR requires all tenant users of the corridor to equip their locomotives with ATC technology. Despite assertions by SFRTA that this ATC system is redundant and not federally required, as noted in the multi-party agreement, the FECR has express authority to establish the rules for operating on its corridors. SFRTA must satisfy this requirement to gain access to the corridor.

SFRTA had indicated the supplier of ATC technology has been non-responsive to requests for software upgrades it needs to enable interoperability with the FECR system. The supplier is Alstom. As noted below, there are greater obstacles than this software upgrade, but unless and until SFRTA satisfies FECR's rail requirement, it will not be able to access the corridor and begin the test runs and training for PTC compliance.

At the SFRTA Board meeting on January 28, 2022, the OIG and the SFRTA Board learned why Alstom had been less than responsive to SFRTA. The contract with Alstom had expired. A representative of Alstom expressed a readiness to upgrade the software to be compatible with the version in use by FECI/Brightline. SFRTA Board Members debated the merits of investing over \$300,000 in the software upgrade now or waiting until the platform defects are cured and trains can access the corridor, in the event another upgrade is needed. FECI/Brightline executives provided assurance there are no plans for another software upgrade until sometime after their service expands to Orlando. The OIG has recently learned that, pursuant to a new contract with Alstom, the ATC software is to be installed by June 17, 2022.<sup>29</sup>

**C. Miami Central Station Platform Construction Defects that Conflict with the Steps on Tri-Rail's Passenger Coaches**

Even if the ATC matter is resolved, Tri-Rail trains will not be able to enter the Miami Central Station until SFRTA is assured its trains will fit. To enable level-boarding of Tri-

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<sup>29</sup> The installation of the ATC software is a condition precedent for SFRTA to be granted access to the corridor. As noted previously, SFRTA has advised there is a 3-to-6-month period of test runs on the corridor to certify the PTC interoperability to the FRA, putting the completion date for testing within October and December of 2022.

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Rail trains at the Miami Central Station, the station was designed to allow the extended steps of the passenger coaches to travel underneath the platforms.

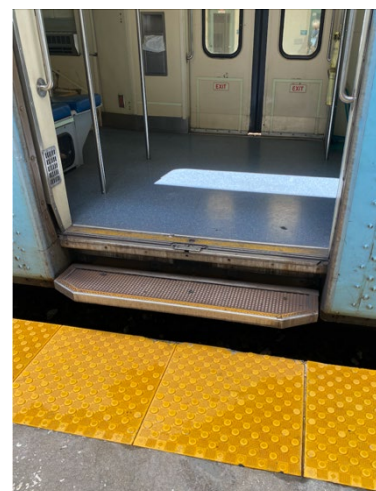
On June 23, 2021, the OIG met with FECI/Brightline officials and learned there are construction defects in the understructure of the Tri-Rail platforms at Miami Central Station. The OIG has since learned that SFRTA staff and its engineering consultant T.Y. Lin were aware of these defects back in late February of 2018.<sup>30</sup> It had become known that the actual construction varied from the original design plans, which required a certain amount of clearance between the edge of the platform and the steps of the train. Initially, the parties acknowledged the construction variance, but believed that the clearance was within an acceptable tolerance. Later, in 2021, SFRTA commissioned a precision field survey and determined that construction defects were more significant than originally thought.

### **1. Level Boarding Design**

The Miami Central Station Tri-Rail platforms are built to be 24” above the rails. These higher platforms were designed to afford passengers a level-boarding experience at the Miami Central Station, without using the extended step that is needed at all other Tri-Rail platforms that are only 8” higher than the rail.

This level-boarding design feature of the Miami Central Station was often listed as an agenda item of the bi-weekly meetings between SFRTA and FECI/Brightline from the moment the project commenced until the station construction was finished. There are multiple references to survey work that needed to be completed to ensure the platform construction is built exactly as planned. For example, on February 14, 2018, the minutes of the bi-weekly meeting state:

*AAF (FECI/Brightline) to survey location of current platform construction for verification of clearances. Clearances include platform edge. Pending from AAF 11/8*



*Figure 2. Current step system at a Tri-Rail Station with a platform 8 inches above the rail.*

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<sup>30</sup> Email: (February 2, 2018) Jim Eriksen of T.Y. Lin. Subj: AAF/SFRTA Coordination Meeting Agenda

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The construction plans were drawn using the specifications of new steps that are to be installed on the Tri-Rail passenger coaches. To close the gap between the platform and the passenger coach floor, a top-step insert is needed. With the new top-step insert, it follows that the second step must be extended an equal distance. SFRTA received the replacement steps in 2018. These new steps have not been installed and remain in storage.

At every other Tri-Rail station, passengers must use a step to board or exit the trains. The steps on the passenger coaches jut out like the running board on large SUVs. The platforms at Miami Central Station were designed to allow the steps to travel freely underneath the platform. The as-built platforms do not afford the clearance the design drawings intended. The solution offered by FECI/Brightline to prevent a possible collision is to have SFRTA modify the new steps before installing them on the Tri-Rail passenger coaches. The modification would involve reducing the extension of the second step an inch or two to provide horizontal clearance of the extruding concrete.

## **2. Subsequent Field Surveys**

After the formal notice of substantial completion was issued on March 2, 2021, the 30-day period for SFRTA to provide its Final Acceptance commenced. This is when the matter of possible “material defects” began to be addressed. In April of 2021, FECI/Brightline conducted a crude survey of the platforms using a static, mock-up jig with the dimensions of the Tri-Rail locomotives and passenger coaches. FECI/Brightline confirmed there was a lack of clearance for the steps in several spots under the platforms. This information was shared with SFRTA.

SFRTA was not confident in the surveying results derived from using the static, mock-up jig – an array of levels and rulers. SFRTA then hired an engineering firm to survey the platforms using lidar<sup>31</sup> to map every inch of the construction of the platforms.

On September 9, 2021, the OIG was present when the survey team deployed a lidar scanning device along set intervals of the rail to map the exact dimensions of the Tri-Rail platforms in relation to the rails. The consultant published a report on December 2, 2021. The results indicated there was a horizontal clearance problem in certain locations *and* vertical clearance deficiencies the entire length of the platform. Unless the platform was rebuilt, to avoid possible impact, the passenger coach steps would have to be both

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<sup>31</sup> Light Detection and Ranging (LIDAR) uses light in the form of a pulsed laser to measure variable distances. <https://www.americangeosciences.org> (retrieved February 8, 2022)

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*withdrawn* to afford horizontal clearance and *lowered* to provide sufficient vertical clearance.<sup>32</sup>

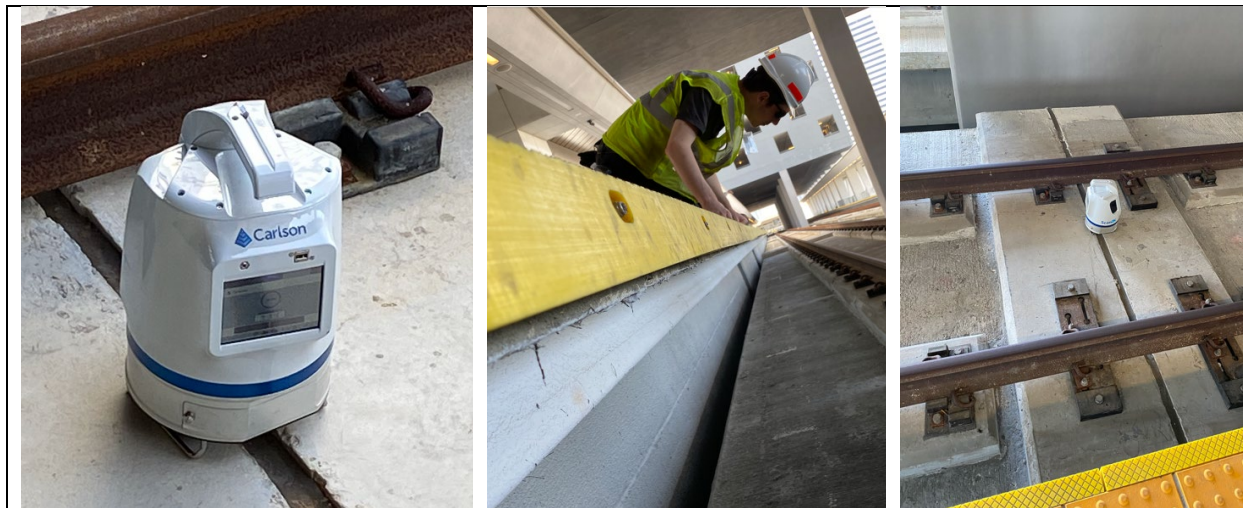


Figure 3. Lidar instrument mapping Tri-Rail platforms at Miami Central Station

The consultant specified the extent of the step adjustments for both the Bombardier and Hyundai-Rotem passenger coaches used by Tri-Rail. For both coach types, the step would have to be shortened by 1.72 inches to provide the minimum designed horizontal clearance. To achieve proper vertical clearance, the step on the Bombardier coach would have to be lowered 2.50 inches and the step on the Hyundai-Rotem coaches would have to be lowered by 1.58 inches.<sup>33</sup>

On December 22, 2021, the SFRTA held a special workshop meeting to consider the survey consultant's report and make general inquiries of the staff about possible remedies. Staff noted any adjustments to the steps would have to be evaluated from a cost-factor and risk perspective. This review was then assigned to a consultant.

On Tuesday, February 1, 2022, SFRTA officials and their consultant, Raul V. Bravo Associates, Inc. (RVB+A), met with FECI/Brightline executives to survey the Tri-Rail platforms at Miami Central using a rolling jig with a mock-up of the level-boarding step system. The OIG was present for the survey and discussions. The discussion focused on two separate issues, horizontal and vertical clearance.

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<sup>32</sup> Railroad Consultants, "Tri-Rail Miami Central Station Defects" pp. 8-10, December 2, 2021.

<sup>33</sup> Railroad Consultants, "Tri-Rail Miami Central Station Defects" report. December 2, 2021, pp.10-11.



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*Figure 4. SFRTA and FECI/Brightline officials evaluating options to resolve clearance problem.*



*Figure 5. The rolling jig with a mock-up of the level-boarding step to be installed on Tri-Rail passenger coaches.*

RVB+A, as the design firm of the inserts, confirmed that the horizontal separation between the steps and the platform noted in the design was a result of calculation and not intended as a clearance guide. There is no specified horizontal clearance as rail cars do not move side to side. Ultimately, it is up to SFRTA to decide what is an acceptable horizontal clearance. If the horizontal extension of the step clears the most restrictive area of the platform once, it clears always.

Vertical clearance does require tolerance for the movement of the rail cars as they roll into the station. The shifting weight of passenger movement and variance in wheel dimensions must be considered. In reviewing the results of the lidar survey reports, the vertical clearance problems are concentrated in a stretch of platform for about 80 feet. This same area presents the most limited horizontal clearances as well.

At this meeting, FECI/Brightline expressed a willingness to demolish and rebuild the 80 feet of the platform to address the clearance problems. If the RVBA site assessment confirms this is an acceptable solution, SFRTA will not need to modify the new steps that are in storage. FECI/Brightline indicated the delivery of construction materials would require 8-12 weeks.

**D. Platform Clearance Problem for Next Generation Tier 4 Locomotives**

In the response to the draft report, SFRTA informed the OIG the next generation of Tri-Rail locomotives will not fit in the Miami Central Station. SFRTA has plans to acquire Tier 4 Brookville locomotives, which are configured to meet AMTRAK specifications. The more expansive envelope (i.e., exterior dimensions) of these locomotives takes the current clearance problems to another dimension. There are ongoing discussions with FECI/Brightline and SFRTA to determine the final design specifications of the platforms that will be needed to accommodate the Tier 4 locomotives and allow for level-boarding at Miami Central Station. It is generally agreed that any demolition and rebuilding of the

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platforms must be based on this new information. As of the date of the release of this Final Report, negotiations are ongoing.

**VII. OTHER EXTENUATING FACTORS**

**A. Load Rating Analysis of Viaduct and Viaduct Load Bridges**

SFRTA also tasked Railroad Consultants with conducting a load rating analysis of the railroad bridges leading into Miami Central Station and the entire length of the Miami Central Station Viaduct. From the north, the rail elevates to enter Miami Central Station Viaduct, passing above Northwest 11<sup>th</sup> Street, 10<sup>th</sup> Street, and 8<sup>th</sup> Street (the Viaduct bridges). Railroad Consultants was asked to inspect all the Viaduct bridges and the Viaduct to the end of the Miami Central Station.



Figure 6. Viaduct construction on July 29, 2016. Photo by Phillip Pessar, posted on Flickr

The platform clearance problem led to doubts about the quality of construction and adherence to design plans, and even whether the weight differential of the Tri-Rail locomotives had been taken into consideration (i.e., Tri-Rail's trains are heavier than FECI/Brightline's trains). According to the minutes of bi-weekly meetings between SFRTA and FECI/Brightline, there should have been no question that the load of the SFRTA locomotives was made available for the design firms. On November 9, 2016,<sup>34</sup> the load was addressed with SFRTA and their engineering representative, T.Y. Lin International (TYLI):

*“AAF (FECI/Brightline) requested information on the anticipated vehicle loads for the station on 11/7/16. SFRTA/TYLI to confirm details and send 11/10/16-SFRTA/TYLI.”*

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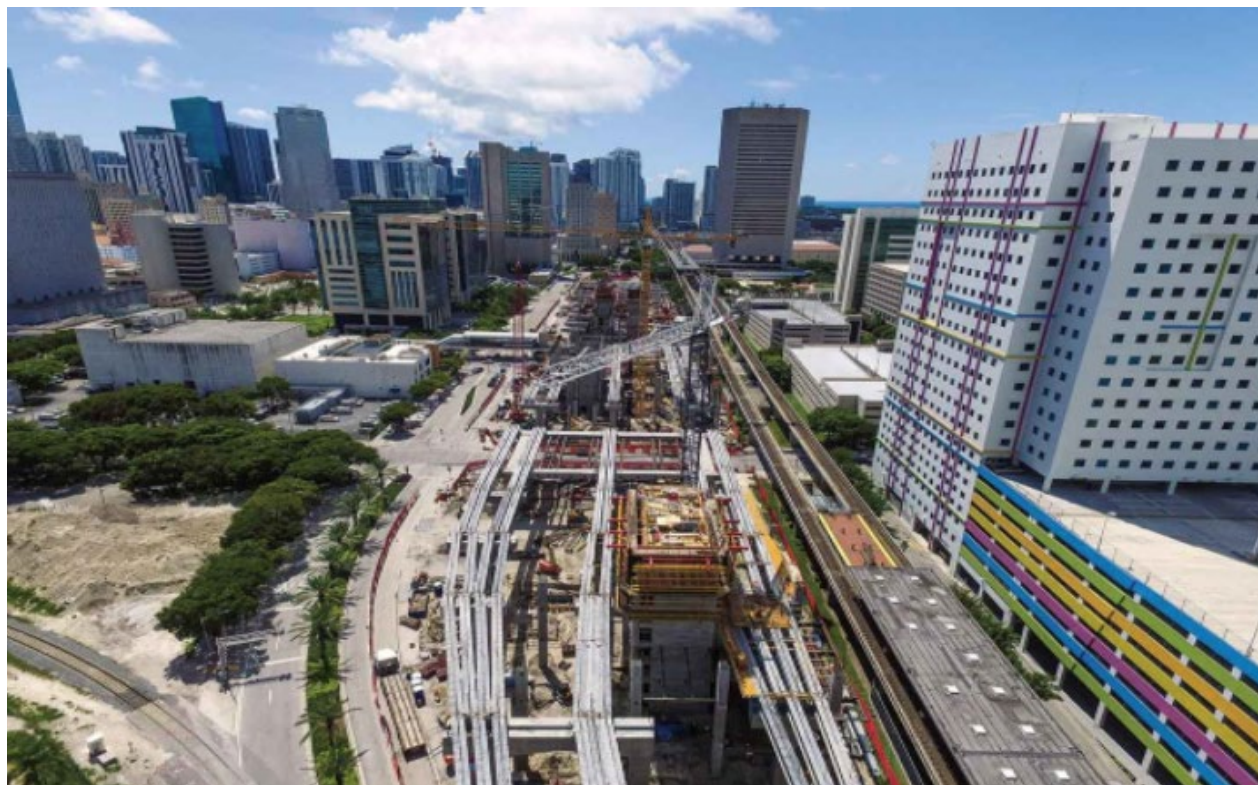
<sup>34</sup> SFRTA has advised the weights of the vehicles had been provided to FECI/Brightline in 2015.



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*Figure 7. "Brightline passenger rail service 65% built," Miami Today, September 27, 2016.*

The Railroad Consultants' report described the bridges over Northwest 11<sup>th</sup> and Northwest 10<sup>th</sup> Streets as "structurally adequate" for the Tri-Rail equipment. The consultant noted more information was needed to provide an accurate load rating for the bridge over Northwest 8<sup>th</sup> Street and the Miami Central Station Viaduct. Railroad Consultants asserted a 200% Live Load impact factor rather than the 20% Live Load impact factor should have been used to design the structure. At the SFRTA workshop on December 22, 2021, representatives of FECI/Brightline disputed the findings of the consultant hired by SFRTA and defended the work overseen by HNTB, the project's engineering firm. The SFRTA staff informed the appointed board that further testing, as recommended by Railroad Consultants, would be conducted prior to acceptance.

The OIG views this review process as appropriate due diligence prior to acceptance of the project. When the OIG questioned why SFRTA did not task its engineering consultant, T.Y. Lin International, with this work at the time the structures were completed in 2018, SFRTA explained it was beyond their scope as neither SFRTA nor any of its funding partners paid for the costs of construction of the viaduct bridges.



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To resolve this dispute pertaining to load ratings, SFRTA asked the Florida Department of Transportation (FDOT) to review the matter. FDOT was asked to develop a standard for bridge design for passenger rail, review FECI/Brightline's design standards, and issue a report comparing the design standards to the bridges in question. FDOT has affirmed the design standards utilized by FECI/Brightline as appropriate, and based on its review, found no safety concerns.<sup>35</sup> On the other hand, the consultants to SFRTA, Railroad Consultants, PLLC, continue to express reservations. Further, Railroad Consultants, PLLC, reminds the SFRTA that the FDOT opinion comes with a caveat: "...the state shall not be deemed liable for any actions or omissions in inspecting or failing to inspect railroad facilities."<sup>36</sup> The SFRTA Board will have to weigh the body of evidence presented by FDOT and Railroad Consultants, PLLC, and decide if it is prepared to accept the project as is, or pursue structural changes based on different design standards.

### **B. Tier 3 Environmentally Rated Locomotives**

Once it is determined the bridges and viaduct support structures are safe, only the Tier 3 locomotives of the Tri-Rail fleet will be allowed access to Miami Central Station. The FECR has included this requirement to protect air quality in the partially enclosed space of the Miami Central Station. This requirement for Tier 3 rated locomotives may present challenges to SFRTA. The OIG sees two issues: the first involves certification versus compliance; the second involves availability.

First, SFRTA has 12 Brookville BL 36PH locomotives in its fleet. These were acquired in 2013 and are currently in service. When the transaction was executed between SFRTA and Brookville, the locomotives had not yet received a "Certificate of Conformity" (COC) from the EPA indicating the vehicles satisfied the Tier 3 air pollutant exhaust emission standards in 40 C.F.R. Part 1033, Subpart B. Failure to have the COC issued prior to the sale and delivery was a regulatory violation by Brookville Equipment Corporation. As a condition of the settlement with the EPA<sup>37</sup>, Brookville has affixed labels to each of the 12 Tri-Rail locomotives declaring:

*This locomotive is not EPA certified, but is legal for sale pursuant to the terms of a settlement agreement with the USA EPA, Docket AED/MSED &8191. Brookville Equipment Corporation has committed to perform any*

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<sup>35</sup> FDOT Letter. Will Potter, P.E., State Structures Design Engineer, to Steven Abrams, Executive Director of SFRTA. Subject: Review of Brightline Miami Central Station. February 24, 2022.

<sup>36</sup> Railroad Consultants Letter. Derek B. Godwin, PE, President and CEO to Steven Abrams, Executive Director of SFRTA. Subject: Response to FDOT letters to SFRTA. March 24, 2022.

<sup>37</sup> Administrative Settlement Agreement, Docket No. AED/MSED #8191, July 30, 2015.

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*and all requirements under the Clean Air Act and applicable regulations as though it was a certified model year 2014 locomotive.*

At the SFRTA Workshop on December 22, 2021, the OIG heard a representative of FECI/Brightline, proclaim there is no issue with the Tier 3 status of Tri-Rail locomotives. While it is reassuring to hear the FECI/Brightline representative recognize there is not an emissions compliance issue with the SFRTA Brookville locomotives, the ultimate decision rests with FECR as to whether SFRTA is deemed to be in compliance and authorized to operate on the corridor.

Second, depending on when revenue service begins, it may be a challenge to operate the *Downtown Miami Link* service as envisioned. The 12 locomotives that are Tier 3 compliant will soon need to undergo major overhaul. As such, the availability of Tri-Rail trains may be impacted by the schedule of past-due major overhauls—an issue recently brought to the attention of the SFRTA Board.

### **C. Retainage Requirement**

The ILA between the County and SFRTA included a retainage requirement that 15% of the funds from each reimbursement request be retained. Retainage is released, as a final payment not exceeding \$2,085,000 upon final acceptance of the project by SFRTA. The 2016 amendment to the ILA, approved by the BCC, authorized the immediate payment of all available funding (up to \$11,815,000) to cover all improvement costs incurred to date for costs of improvements made to date.<sup>38</sup> In other words, release of funding under the ILA did not require apportionment to the entire project costs, however, the retainage requirement was not waived.

The OIG learned Miami-Dade County had not withheld the \$2,085,000 in retainage as required in the ILA with the SFRTA. Based on a review of internal County communications, the CITT Executive Director noted on September 15, 2020, that the County had paid SFRTA \$13,151,828 of the \$13.9 million allocated. The remaining balance of \$748,172 was only 5% of the full contract amount, which was far less than the \$2,085,000 that was supposed to have been retained. While noting the administrative error, the CITT Executive Director deferred to the DTPW Director “to determine how to address the difference of \$1,336,828 or 10% which was prematurely paid that should have been retained.”<sup>39</sup> The CITT Executive Director informed DTPW’s Director at the

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<sup>38</sup> R-439-16 Amendment 1 to Interlocal approved by BCC May 17, 2016.

<sup>39</sup> Email (September 14, 2020) Javier Betancourt, Subj. *Tri-Rail Downtown Miami Link* retainage.

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time, Alice Bravo, that no additional payments to SFRTA would be authorized by CITT until the project was complete.

On January 12, 2022, current DTPW Director, Eulois Cleckley, sent a letter co-signed by CITT Director Javier Betancourt asking SFRTA Executive Director Steven Abrams to refund the \$1,336,828 in “prematurely paid funds.” On January 21, 2022, communications from SFRTA Executive Director Abrams acknowledged “an inadvertent mutual administrative oversight” regarding retainage and pledged to refund the \$1,336,828. As it relates to retainage, the County agencies are now in compliance with the ILA.

**VIII. OIG OBSERVATIONS AND RECOMMENDATIONS**

The OIG is satisfied that the public funds committed to this project have resulted in the construction of tracks and rail platforms at the Miami Central Station for use by Tri-Rail. We have also confirmed the PTC infrastructure has been installed by FECI/Brightline on all segments of the FECR tracks to be used by SFRTA. We know the SFRTA has executed a contract with Alstom to upgrade its ATC software, which will allow it to gain access to the FECR tracks as a tenant in the coming months. The OIG has also learned FDOT has affirmed the bridge design standards, an assurance the SFRTA Board had requested.

SFRTA engaged an engineering firm, T.Y. Lin International, to serve as its engineering consultant during the construction of this project. The OIG has been advised that SFRTA staff and the consultant were aware of the close clearance issue (the distance between the platform and passenger train steps) years ago and had agreed it was within tolerance. As represented to the OIG, it was not until the lidar survey was conducted that the extent of the problem became fully apparent. There was clearly a failure to timely transmit this critical information to the SFRTA Board at the time, making it highly unlikely for the County officials responsible for monitoring this project to learn of this situation.

Based on the information gleaned from attending the recent meeting of engineers on the Tri-Rail platform, the OIG saw a solution, at the time, to cure the construction irregularities and allow clear passage of the steps. The newest development involving the expanded envelope of the next generation Brookville Tier 4 locomotives will likely require much more extensive reconstruction of the platforms. Once the final dimensions are agreed upon, the parties have an opportunity to remedy all the clearance issues by reconstructing the Miami Central Tri-Rail platforms to address all facets of this problem. Clearly, no retainages held by SFRTA or the County should be released until these matters are resolved.

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We do note the SFRTA did retain a consulting engineer to attend the bi-weekly meetings with FECI/Brightline during the construction of this project. Construction of the station and viaduct aside, this project involved a multitude of complex operational elements. Further, SFRTA had to adjust its operations to comport with new requirements as a tenant on the FECR railway. The OIG believes SFRTA missed an opportunity to assign a project manager with the responsibility for the entirety of the *Downtown Miami Link* service.

**RECOMMENDATION 1:** The OIG recommends the County, jointly by the CITT Executive Director and DTPW Director, strongly encourage SFRTA to appoint or retain a dedicated project manager to ensure the *Downtown Miami Link* service becomes a reality.

**RECOMMENDATION 2:** The OIG recommends the County, jointly by the CITT Executive Director and DTPW Director, require the SFRTA to provide the quarterly progress reports stipulated in the ILA and, further, strongly encourage the SFRTA to post monthly progress reports about the *Downtown Miami Link* until the service is inaugurated. The people of Miami-Dade County, through the voter approved Transportation Surtax, contributions from the City of Miami, our Community Redevelopment Agencies, and the Downtown Development Authority, have a right to know when this substantial public investment will become operational.

For the past 16 years, it has been the policy of the BCC to have County Departments monitor contracts within their purview and jurisdiction.<sup>40</sup> The policy provides that a specific individual be identified and assigned to each contract. When the Interlocal Agreement with SFRTA for this project was approved, the BCC was advised, in 2015 and again in 2016, that the agreement would be monitored by the Executive Director of the CITT and the Director of DTPW.

The OIG found little to no evidence of any regular monitoring of this project by either the former CITT Executive Director or the prior DTPW Directors. The involvement of the DTPW was limited to processing SFRTA invoices. The OIG reviewed the record of meetings and agendas of the CITT Board throughout this project and found only periodic updates. After a presentation to the CITT Board by the SFRTA Director in May of 2017 there was not another update until July of 2018, over a year later. The next such update occurred in June of 2020, almost two years later. Even when the updates became more frequent, the presentations were short on specifics and generated minimal discussion

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<sup>40</sup> Resolution R-275-05, Legistar File # 050307, adopted March 1, 2005.

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among the CITT members for the edification of the public.<sup>41</sup> It was not until the current CITT Executive Director engaged the OIG in September of 2020 that the County began an active review of the delays.

The County commitment to monitor this project, we believe, fell flat due to a lack of direction and, perhaps also, coordination. Without explicit direction, the CITT defaulted to its standard fiduciary functions of ensuring the County Transportation Surtax funds were being expended as intended. In the response to the OIG Draft Report (Appendix C), the Executive Director of the CITT asserts it is not the role of the CITT to provide technical project oversight. The Executive Director also accurately notes that the Interlocal Agreement obligates the SFRTA to exercise all responsibilities of the owner under the design and construction contract for the improvements, including inspections. However, Section 1.8 of the Interlocal Agreement also expressly recognizes the right of the County to “assign an inspector to participate in the routine daily inspections.” This could have been easily accomplished by tasking a member of DTPW’s engineering or construction management staff to attend threshold inspections, etc. After all, the Miami Central Station is located right next to DTPW’s offices. As such, the DTPW technical staffer may have learned of the platform’s horizontal clearance issues in 2018 when it was first brought to light. The ILA also requires SFRTA to provide Quarterly Reports to the County/CITT on the progress of the project. Clearly, it would have been the responsibility of the County’s identified monitors to hold SFRTA to this requirement.

Had there been active monitoring by professional staff of the County, many of these issues hobbling this project would have, we believe, come to light years ago. With proper presentation to, and input from, the CITT Board and the BCC, timely interventions to address the program obstacles may have allowed the public to enjoy this new commuter service much sooner than 2023.

**RECOMMENDATION 3:** It is recommended that the County assign a technical member of DTPW’s staff to monitor the remaining remedial work that needs to be done to the platforms regarding the clearance issues relating to level boarding and the envelope of the new locomotives.

**IX. RESPONSES TO THE DRAFT REPORT AND OIG COMMENTS**

This report, as a draft, was provided to Mr. Steven Abrams, Executive Director of SFRTA; Mr. Jose Gonzalez, Sr., VP Development, FECl; Mr. Patrick Goddard, President of

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<sup>41</sup> SFRTA *Downtown Miami Link* presentations to the CITT Board: July 25, 2018; June 25, 2020; May 27, 2021; October 28, 2021; and January 27, 2022

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Brightline; Mr. Javier Betancourt, Executive Director of CITT; and Mr. Eulois Cleckley, Director of DTPW. Responses were received from Mr. Betancourt, Mr. Abrams, and Mr. Gonzalez. The respective correspondence is attached as **Appendices A, B, and C**.

In the attached **Appendix A**, the CITT expressed gratitude for the OIG's investigation into the matter and, for the most part, agreed with the findings and recommendations provided in the draft report. The CITT did take exception to OIG's criticism of the CITT for its lack of diligence in monitoring this project. The OIG acknowledges project oversight of the construction was the primary responsibility of the SFRTA, as stipulated in the ILA, and has modified language in the report accordingly. However, despite the assertions of the CITT to the contrary, the OIG maintains the record of the CITT monitoring of this ILA does not reveal a diligent, regular pattern of review.

The OIG reviewed the minutes and videos of CITT Board meetings from January of 2016 to January of 2022 and found only sporadic agenda items referencing the *Tri-Rail Downtown Miami Link*. After the first update on the project on September 15, 2016, it was almost eight months until the second update on the project was scheduled (May 11, 2017). After that 2017 meeting, it was more than a year before the CITT had another project update (July 25, 2018). Then, for almost two years (until June 25, 2020), the CITT had no agenda items pertaining to the project. The OIG watched the videos and notes the presentations were cursory in nature – very high level summaries indicating progress was occurring, without disclosing many of the problems identified in this report. The OIG notes that the SFRTA is required to provide “Quarterly Reports to the County/CITT on the progress of the project” (Section 1.8 of the ILA). These required quarterly reports, if ever received from SFRTA, were not published on the CITT agendas.

In **Appendix B**, the response from the SFRTA provided additional information and made several suggested editorial changes, all of which have been incorporated in the Final Report. The OIG is grateful for SFRTA's thorough review of the draft report and valuable assistance in improving the quality of the document. The revelation about the expanded envelope on the next generation Tier 4 Brookville locomotives seems to put all other “clearance” issues at Miami Central Station as secondary considerations. It does appear that extensive demolition and reconstruction of the platforms will be necessary to ensure future operations of the *Tri-Rail Downtown Miami Link*. This important new information has been included in the Final Report.

In **Appendix C**, the response received from FECL/Brightline, additional information was provided to clarify the timeline, which was incorporated in the Final Report. Further, FECL/Brightline noted the PTC systems switch on the Brightline trains “had no impact on

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SFRTA's development and implementation of its own PTC system." The OIG did not see a need to modify the report based on this assertion. We are satisfied there are no further delays associated with the PTC requirements.

**X. CONCLUSION**

The OIG was asked by the CITT to identify and explain the delays affecting the launch of the *Tri-Rail Downtown Miami Link* service. The original target date to launch this new commuter rail service was March 31, 2017. We know there are certain delays associated with the validation of the ATC system and the certification for PTC interoperability. These technical compliance matters will take until October or December of 2022 to complete. Based on our assessment of all the other outstanding factors, a more realistic start date for revenue service may be early 2023.

Based on all that has transpired during this review, the OIG is confident the SFRTA will be able to eventually provide Tri-Rail service into downtown Miami. The private sector partners in this project have installed rails and built platforms to be used by Tri-Rail trains at the Miami Central Station. While there are issues remaining that must be resolved before the acceptance of the construction project, the OIG is confident FECL/ Brightline and SFRTA will continue to work as public-private partners, modify the platform construction to accommodate the dimensions of the Tier 4 locomotives and allow level-boarding, and execute the leases and operating agreements in a timely manner.

In 2015, when public officials were approached to invest in this project, the project appeared to a straightforward proposition: add platforms at the new Miami Central Station and Tri-Rail will be able to use existing tracks to expand service to downtown. In retrospect, the decision to design "level-boarding" 24-inch-high platforms at the Miami Central Station, when the other 18 Tri-Rail stations have 8" platforms that require the use of steps, should have been subjected to greater scrutiny. The lower platforms would have been easily integrated to the system. Beyond the physical infrastructure, this project requires extensive coordination of operating technology and training requirements. The OIG has learned there are serial complexities associated with operating passenger rail service on a freight corridor.

As the BCC entertains the prospect of adding additional rail stations and contracting for local commuter rail service between Miami Central Station and the new Aventura Station, due diligence must be taken to properly assess any such proposals. The critical milestones of any plan must be identified and the responsibilities among the parties clearly delineated. If a multi-party agreement for commuter service on this Northeast



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Corridor is reached, the County monitoring and tracking assignments must apply the lessons learned from the *Tri-Rail Downtown Miami Link* project.

**The OIG requests that the CITT and/or DTPW provide the OIG with a follow-up report in 30 days, on or before May 6, 2022, regarding the three recommendations contained in this final report.**

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***The OIG appreciates the cooperation and courtesies extended to us by the SFRTA, FECI/Brightline, CITT, and DTPW throughout this entire review process.***

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**FINAL CONTRACT OVERSIGHT REPORT**

**APPENDIX A**

**CITT's Response**  
(3 pages)

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*Review of Factors Delaying Initiation of  
Tri-Rail Downtown Miami Link Commuter Service*

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**IG21-00001-O**

**April 5, 2022**




## Memorandum

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**Date:** February 24, 2022

**To:** Felix Jimenez, Inspector General  
Office of the Inspector General

**From:** Javier Betancourt, Executive Director   
Office of the Citizen's Independent Transportation Trust

**Re:** OCITT Response to OIG Draft Report dated February 9, 2022

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Thank you for allowing the Office of the Citizens' Independent Transportation Trust ("OCITT") to review the Office of Inspector General's ("OIG") Draft Report re: the "Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link Commuter Service ("Project")" ("Draft Report"), and for the opportunity to provide a response. We greatly appreciate the OIG's investigation into this matter, initiated at our request on September 25, 2020. Since then, we understand that the County Mayor also requested that your investigation and the report be expanded to include an analysis of the County's own roles and responsibilities as they relate to this matter.

For the most part, the OCITT agrees with the findings and recommendations provided in the report, but we do take some issue with the section on County Oversight, which we understand was informed at least in part by the Audit and Management Services Department working in concert with your office. We agree with the Report's assertion that assigning two County agencies with joint monitoring responsibilities and not clearly defining each of their roles was problematic. We also agree that, moving forward, one lead agency should be assigned with this responsibility, with any supporting agencies provided with more clearly defined roles, anchored by well-defined inter-agency coordination and reporting protocols.

This Office takes exception, however, with certain findings and statements that imply, incorrectly, but perhaps unintentionally, that the OCITT may not have fulfilled its assigned role. Most notably, pg. 20 of the report states that, "There is little to no evidence of any oversight of this Project by either the CITT Executive Director or the DTPW Director." In fact, OCITT and DTPW were not charged with project "oversight" of this Project as implied in this sentence. That responsibility was assigned to the South Florida Regional Transportation Authority ("SFRTA") in provision 1.8 of the Interlocal Agreement (a fact oddly omitted from the OIG's draft final report). As a trusted public sector transportation partner, the County looked to the SFRTA, with its qualified professional staff and consultants, to provide the necessary design/engineering/construction oversight role for this Project. They, and they alone, are responsible, and should be held accountable, for any failures associated with any lack of proper oversight of this Project.

Indeed, the County's responsibilities, specifically provided for in Section 2 of the Interlocal Agreement, did not include any mention of project oversight responsibilities. The only responsibilities specifically assigned to the County were those related to the reimbursement of project costs and processing payments. While the Cover Memo to the Interlocal agreement did assign the Department of Transportation and Public Works ("DTPW") and OCITT with **monitoring** "compliance with the terms of the Interlocal Agreement," this should not be confused with **oversight** of the Project's design, engineering, or construction, as this was clearly assigned to SFRTA and its consultants as referenced above.

Even if that "monitoring" responsibility might be interpreted to imply some level of project oversight, which we dispute, that role could not have logically fallen to the OCITT, as our office is neither authorized, organized, traditionally engaged in, nor equipped with the requisite professional staff or resources, to provide that technical project oversight function, just as we do not do so with other County projects or People's Transportation Plan (PTP)-funded municipal projects. Logic and common sense would dictate that, even if such a role were to be undertaken by the County, it would naturally fall to DTPW, as they alone are qualified and in a position to perform the required technical project oversight function for a transportation project of this scale and complexity.

The OCITT's official and proper function is to (1) oversee the proper use of surtax funds for eligible expenses (i.e., act as fiduciaries of the money), (2) monitor and track a project's general progress, and (3) investigate/report on any concerns that arise. The OCITT performed and fulfilled its role in every way: (1) we ensured that all invoices were first certified by qualified professional DTPW staff as eligible and appropriate before processing payments, and later led the recovery effort—and secured the refund—of prematurely paid retainage funds (which, incidentally, is in no way a factor in the delayed initiation of the Project); (2) we regularly (not "sporadically" as written in the report) requested and received updates from both SFRTA and FECI/Brightline on the progress of the Project; and (3) we questioned and pressed SFRTA and FECI/Brightline on numerous occasions as to the Project's lack of progress, culminating in our request to your office on September 25, 2020 to investigate the matter further when our concerns grew.

With respect to that last point, it must be noted that even the OIG's Preliminary Report, submitted to the OCITT on October 26, 2021 (13 months after it was originally requested by the OCITT) did not reveal or flag any of the major design/engineering/construction issues that have subsequently come to light. This is contrary to the assertion at the top of pg. 7 of the OIG's Draft Final Report that seems to indicate that the OIG's Preliminary Report had flagged the platform issue, implying that the CITT missed an opportunity to question the OIG on the matter. We see no evidence in the Preliminary Report to support that statement. The Preliminary Report stated only that platform tests were being conducted, but raised no warnings that anything might be wrong, either with the platform or with the viaduct... two of the primary design/engineering/construction issues that are the subject of recent scrutiny. If the CITT did not ask the OIG any questions about the Preliminary Report at its meeting on October 28, 2020, as stated in the OIG's Draft Final Report, it is only because the Preliminary Report (received only two days prior to the meeting) did not highlight any major issues of concern that would have invited any such questions. In short, even after twelve months of active investigation, the OIG's

own Preliminary Report did not identify or address the very issues that its Draft Final Report seems to indicate should have been addressed by the County, even as it failed to do so itself.

The statement on pg. 21 of this report that “the County provided no oversight or monitoring of this Project of any value,” is false and needlessly inflammatory. Any conclusions to the contrary would have to also extend to the OIG’s own investigation and Preliminary Report which missed the very issues of concern that this Draft Final Report seemingly criticizes the County for missing. That the SFRTA knowingly and intentionally withheld critical information when communicating with all County agencies is a failure that should strictly and exclusively fall on the SFRTA. The fact is, the County was properly relying on the SFRTA, with its qualified professional staff and consultants, and as a trusted public sector transportation partner, to perform the project oversight role for this Project, as specifically directed to do so in the Interlocal Agreement, and the fault for any failures to do so should fall squarely on that agency’s shoulders.

Indeed, the OCITT believes it *has* added significant value by way of monitoring the progress of the Project via regular requests for SFRTA/FECI/Brightline presentations before the Trust, continuous communications with involved parties, and, ironically, this very request to the OIG when those actions began proving fruitless. To claim that the County provided little value is simply incorrect, unfair and inappropriate.

Perhaps the OCITT has misread this Draft Final Report, and its true contention is not that the County (inclusive of the OCITT) did not perform its assigned roles, but rather that, as a recommendation for the future, the County should consider expanding those roles to include greater technical oversight over a project’s design, engineering, and construction (a task that would naturally fall to DTPW due to their role and professional technical abilities, not to the OCITT). If that is the case, then we strongly encourage the OIG to revise its Draft Final Report to make that distinction crystal clear, as it may not necessarily read that way to others. If, however, the Report is insinuating that the County failed to adequately perform its assigned role, an assertion we vehemently disagree with, then it should at least clarify that this responsibility did not, and could not, fall on the OCITT for all of the reasons referenced previously.

In conclusion, we reiterate our gratitude to the OIG for its Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link Commuter Service and its subsequent Draft Final Report, yet we believe that the Report’s contention that there is no evidence of any oversight by the OCITT starts off on a false premise; mistakenly assigns the OCITT with a role for which it was not assigned, authorized, nor traditionally equipped to perform; and incorrectly insinuates that the OCITT did not provide any monitoring of this Project of any value. We respectfully request that the report be revised as appropriate to reflect these points more accurately.

Should the OIG honor our request to revise its Draft Final Report accordingly, we would ask that this memo not be included with the Final Report, as its only purpose is to convey our perspective and concerns to your office so that they may influence appropriate revisions to the Report, but we retain the right to provide a final response upon the Final Report’s release.

As always, please do not hesitate to contact me should you wish to discuss this matter further. Thank you for your time and consideration.

**MIAMI-DADE COUNTY  
OFFICE OF THE INSPECTOR GENERAL**



**FINAL CONTRACT OVERSIGHT REPORT**

**APPENDIX B**

**SFRTA's Response**  
(9 pages)

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*Review of Factors Delaying Initiation of  
Tri-Rail Downtown Miami Link Commuter Service*

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**IG21-00001-O**

**April 5, 2022**

## RESPONSE TO OFFICE OF INSPECTOR GENERAL DRAFT REPORT REGARDING DOWNTOWN MIAMI LINK COMMUTER SERVICE

South Florida Regional Transportation Authority  
February 24, 2022

No one wants to get into Miami Central Station more than the South Florida Regional Transportation Authority (SFRTA) does.

That is why the factors resulting in the delays outlined in the draft Office of Inspector General's Report<sup>1</sup> (hereinafter OIG Report or Report) are so regrettable. As the Report indicates, the delays have been due to both avoidable and unavoidable circumstances caused or experienced by multiple parties. The Report raises specific concerns related to SFRTA as one of the several parties involved (see section entitled, "Entities Relevant to This Review"); however, the Report also cites myriad other concerns and, moreover, concludes that there are "serial complexities associated with operating passenger rail service on a freight corridor" (p.23).

To be clear, SFRTA takes full responsibility for the factors that are identified as its fault, and SFRTA is doing its utmost to take whatever actions are within its power that are necessary to complete the Downtown Miami Link project and enter Miami Central Station (MCS) safely as soon as possible.

As the Report points out, SFRTA cooperated with the Inspector General in its review. SFRTA is appreciative of the Inspector General seeking to gain a thorough understanding of all the complexities of the project and fairly reporting its findings. SFRTA nonetheless would like to clarify, expand upon, or respond to certain matters covered by the Report. SFRTA has also included an Appendix consisting of factual information that SFRTA would respectfully request the Inspector General consider incorporating in the final report.

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<sup>1</sup> OIG Report – Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link Commuter Service, Ref. IG21-0001-O, Draft Report issued Feb. 9, 2022.

## **New Development**

Before providing its response, SFRTA wishes to update the Inspector General on a concerning development in this matter that was revealed to staff just recently and reported to the SFRTA Governing Board at its workshop meeting on February 16, 2022.

SFRTA has been reviewing future locomotive needs in anticipation of having to eventually acquire Tier 4 locomotives as next-generation replacements for the Tier 3 locomotives required for use in the MCS.<sup>2</sup> SFRTA consultants brought to staff's attention that Tier 4 locomotives currently being built in the United States are constructed within a so-called "Amtrak envelope," which Tri-Rail's portion of MCS is not designed to accommodate. This prompted further examination of SFRTA's existing Brookville locomotives, notwithstanding that SFRTA staff in 2015-16 took measurements and advised that the locomotives would conform to the station platform. It is now confirmed that at least one of the Brookville's will not fit because of a protruding service ladder that is attached to the vehicle.

SFRTA is currently taking measurements of its remaining Brookville fleet and determining possible next steps and solutions. Since Brightline work crews are currently correcting other platform defects at the station (see Report, p.15), it may be advantageous for SFRTA to engage crews to perform additional remedial work to facilitate entry for the locomotives (note, however, that the work being currently performed involves remediating a portion of the underside of the platforms, and the locomotive issue would have to address the entire top or cantilevered portion of the platforms). Any solution would have to consider compliance with the federal requirements for level boarding and the Americans with Disabilities Act. As for future procurements, unless the platform is corrected, SFRTA's alternative would be to custom order new Tier 4's, at greater cost to the agency.

## **Construction Defects at MiamiCentral Station**

Turning now to to the draft Report, SFRTA begins its response by referring to the "Chronology of Important Events Relevant to This Report" (p.7). The Chronology omits a milestone date that in fact provides significant context to events relevant to the factors delaying service. Namely, on March 2, 2021, SFRTA received its Notice of Substantial Completion for the two Tri-Rail platforms for MCS from Brightline.

If this fact were added to the chronology and then compared against a prior timeline entry that is included in the Report—that in September, 2018, "construction of Tri-Rail platforms and rails at MiamiCentral Station conclude[d]" (p.8)—it would indicate a 30-month gap before SFRTA

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<sup>2</sup> For discussion of tiered ratings of locomotives and their relevance to the Downtown Miami Link project, see page 17 of the Report.



obtained its Notice of Substantial Completion for the platforms.<sup>3</sup> (Notably, SFRTA has yet to receive its Notice of Substantial Completion for the trackage improvements, i.e. track and signals.)

This two-and-a-half-year interruption in providing SFRTA with the Notice of Substantial Completion for the platforms is unexplained and represents a major part of the delay. The Report's observation that the Tri-Rail platforms were "undisturbed and vacant" (p.2) should not create an inference that nothing was happening due to inaction on the part of SFRTA. Moreover, the Report's timeline omits (understandably due to length considerations) months of actions and activity by SFRTA between March and December, 2021. A full timeline prepared by SFRTA of its actions has been publicly distributed and is available.

The Notice of Substantial Completion is important because it was the trigger for the thirty-day period for SFRTA to provide its Final Acceptance or, alternatively, to notify Brightline of any material defects (as that term is defined in the Development Agreement between Brightline and SFRTA for design and construction of the Tri-Rail Improvements at the MCS). At this critical juncture, SFRTA requested that FECR assist it in pulling a test train into the station as the best way to determine if the improvements were complete.<sup>4</sup> Despite an earlier indication from Brightline that a test train would be possible, the request was denied. Instead SFRTA was provided not a "rolling jig" as identified in the Report (p.13), and is more standard industry practice, but a less useful stationary jig, to check only the horizontal clearances. The rolling jig was not produced by Brightline until late December, 2021 once further problems with the construction of the platforms were discovered.

The Report discusses what SFRTA knew and did not know about the clearance issues and when. SFRTA responds that between 2017 and 2020, Brightline performed three limited station surveys known as "typicals," which were shared with SFRTA. Two of the surveys included only horizontal measurements of portions of the under-platform areas and did not indicate any problems with the level boarding. On April 22, 2021, during a joint field inspection, Brightline representatives confirmed to SFRTA that there was a platform clearance issue on the north end of one platform. The stationary jig, which is a metal triangle that supports a measuring stick underneath, takes only horizontal measurements. It has limited reliability, as it only measures the locations where it is placed. SFRTA was only able to measure five locations on its two 1000-foot station platforms as Brightline had not provided the federally required track protection that day. And, again, the jig only provided a horizontal measurement, not vertical dimensions, which are equally critical to determining whether the clearances are acceptable. In fact, the vertical platform non-

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<sup>3</sup> The SFRTA Executive Director, Steven L. Abrams, wishes to note that he was not executive director in 2018 when the platform was constructed, a year that is the subject of several critical references in the Report (see pp. 2, 8, 12, 17, 21).

<sup>4</sup> SFRTA needed FEC Railway's assistance for several reasons, one of which, as noted in the Report (p.5), was that SFRTA has not yet conducted test runs for PTC interoperability and certification of its engineers. By way of explanation, SFRTA determined it would not perform the intensive training until much closer to the time when service would begin so as not to have to repeat it.

conformities were not known until the LiDAR survey was completed by SFRTA's consultant, Railroad Consultants (RC), and included in RC's final Report issued in December, 2021 (see OIG Report, p.13).

In any event, a test train will still be required to ensure that Brightline has modified the platforms in all places to in fact confirm the accuracy of whether the level boarding extension of the steps will always clear if it clears once (p.14). See also SFRTA engineering manager's comment in Appendix below, note 8.

SFRTA also wishes briefly to report other construction defects it discovered, which are not discussed in the Report. They bear mentioning not only because of the sensitivities of these kinds of issues in Miami-Dade County, but because the flaws raise concerns about increased future maintenance costs. RC was aware, based on inspection reports it had reviewed, that previously in 2019, an exposed piece of rebar observed on the platform was subsequently corrected. However, RC recommended that SFRTA perform a sonar scan on the entire platform to identify if the repair was properly made and to determine if this was an isolated instance or if there were similar defects possibly elsewhere on the platform. In addition, the sonar scan will help determine if extensive cracking observed on the platform is a design or construction issue and assist SFRTA in developing an appropriate solution. As of this writing, protocols are being worked out with Brightline to perform the recommended sonar scanning. In addition to the cracking, other observations were noted and photographed, including torn bearing seals, heavy leakage, anchor bolts not tied down, and ponding.

### **Load Rating Analysis of Viaduct and Viaduct Load Bridges**

Upon issuance of the Notice of Substantial Completion, SFRTA received live load ratings from Brightline for the MCS bridges comprising the viaduct. SFRTA's structural consultant, T.Y. Lin, reviewed the information and concluded that the information provided did not include a summary of the rating analysis based on a Tri-Rail live load, and so additional information was requested from Brightline. Instead, Brightline told SFRTA it should perform its own load rating analysis, which RC then conducted.

RC's load rating analysis concluded that the MCS viaduct bridges were not designed and constructed in accordance with Brightline's internally developed and adopted structural design criteria. Moreover, per Brightline's structural design criteria, the live load impact factor used should have been 200 percent based on industry standards developed by AREMA (American Railway Engineering and Maintenance-of-way Association), which was a part of the design criteria. Instead, a live load impact factor of 20 percent was used in the original design for two of the four bridges. The other two bridges were built at the 200 percent factor.<sup>5</sup>

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<sup>5</sup> According to AREMA, ballasted track uses 20% and direct fixation (DF) track uses 200%. There are three distinctive structures, one at 11<sup>th</sup> Street (ballasted), one at 10<sup>th</sup> Street (ballasted) and from 8<sup>th</sup> Street to the end of

SFRTA in fact sent Brightline the weight of its vehicles back in 2015, so it is unknown why in November, 2016 Brightline would again be requesting the information (p.16). In response to the question as to why T.Y. Lin was not tasked in 2018 with performing the load rating analysis (p.17), SFRTA responds that neither SFRTA nor any of the funding partners paid for the costs of construction of the viaduct bridges, so Brightline's construction of them was not subject to oversight.

As an update to the Report, at the SFRTA Board's request, FDOT has become involved in helping resolve the load rating issue. In particular, FDOT is developing a standard for bridge design for passenger rail. It will then review Brightline's design standards, basis of design, and the bridge structures. Finally, it will issue a report comparing FDOT's design standards to the bridges in question, along with any recommendations. FDOT anticipates completion of these tasks by the end of February, 2022.

### **Conditional Status of Tier 3 Brookville Locomotives**

SFRTA's Brookville overhaul program has commenced. The work plan will not impact the ability to provide service into MCS in compliance with the agreements among the funding partners. Even so, for good measure, SFRTA is looking into the possibility of accelerating the overhaul work plan.

### **Retainage by Miami-Dade County**

In December 2018, a former SFRTA Finance Director sent the County two invoices (invoice no. 8 for \$1,120,779.04 and invoice no. 9 for \$383,542.74) for the County's proportionate share of amounts invoiced by Brightline. The two invoices should have recognized the agreement between the two parties and deducted the retainage amount (\$13.9 million less the \$2,085,000). The County inadvertently paid a portion of the retainage (\$1,336,828), which was returned to the County on January 24, 2022 immediately after the County brought this matter to SFRTA's attention.

### **OIG Observations and Recommendations**

Regarding the dispute about the viaduct bridge construction, SFRTA has updated the OIG on FDOT's involvement in the matter and timing for completion under the relevant heading above.

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the station (DF). 11<sup>th</sup> and 10<sup>th</sup> Streets were designed with 20%, correctly; from 8<sup>th</sup> to the end was also designed with 20%, but since it is DF track the correct application should have been 200%.

SFRTA has explained above that the critical vertical variances were not known to SFRTA until it was able to perform a LiDAR survey after it concluded that the stationary jig provided by Brightline could only measure horizontal clearances and then only at the locations where it was placed. SFRTA has undertaken an investigation of what its consultant T.Y. Lin knew and did or did not report to SFRTA and whether it deemed any variances to be within acceptable tolerances at the time of its review. SFRTA would like to clarify that its contract with T.Y. Lin required T.Y. Lin to not only participate in bi-weekly meetings, but also to conduct weekly site visits and provide a dedicated internal project manager.

SFRTA only put aspects of the project on hold that were affected by the lack of Brightline's PTC infrastructure being in place. SFRTA was engaged in weeks of actions and activity following the Report's timeline reference in April, 2021, when Brightline made SFRTA aware of the clearance issues with the platform construction. A full timeline prepared by SFRTA of its actions is available for review.

SFRTA fully acknowledges and intends to carefully consider the OIG's observations and recommendations in this matter and again thanks the Inspector General for his office's thorough review. If the Office of Inspector General requires any further information or has any additional questions, please do not hesitate to contact SFRTA Executive Director Steven L. Abrams.

For additional comments, see Appendix below.

## APPENDIX

### Corrections, Clarifications or Updates for OIG's Consideration

1. Page 2 – The cost of the Tri-Rail Station Improvements was \$50.4 million (stated as such in Exhibit B of the Access, Operating and Funding Agreement between Brightline and SFRTA), plus about \$850,000 for additional improvements such as ticket booths, etc. paid for by SFRTA. SFRTA contributed approximately \$4 million towards the improvements.
2. Page 3 – Gov. Bush signed law that “each county government was obligated to contribute \$2.67 million . . . . Miami-Dade Also contributed \$1.565 million.” The new legislation obligated counties for the first time by law to contribute \$4.235 million each; \$1.565 towards operating (which they had been doing, but not by statute) and an additional \$2.67 million.
3. Page 3 – States rolling stock is provided “through a contract with Bombardier.” SFRTA has a number of different OEMs for its rolling stock, including Bombardier.
4. Page 4 – Typographical error. Year should read 1888.
5. Page 8 – March 2021 – Brightline issues Notice of Substantial Completion to SFRTA.
6. Page 9 - States the Operating Agreement with Brightline and FECR does not address which party had obligation to install PTC on 8.5 miles (just that SFRTA doesn't have to pay for it). Federal government requires host railroad to install PTC and host was FECR, so federal law would control and agreement only references who pays to install; here is relevant language from agreement:

SFRTA's locomotives and cab cars shall be equipped with PTC equipment which is compatible with the PTC facilities on the Corridor and Viaduct/Station Segment, if applicable ("SFRTA PTC Equipment"). The cost of acquisition, installation and maintenance of the SFRTA PTC Equipment shall be borne by SFRTA. SFRTA shall have no other capital PTC obligations associated with the initial installation of PTC equipment on the North/South Segment for the SFRTA Commuter Rail Service or on the East/West Segment, except for any PTC costs included in the Cost of the Tri-Rail Trackage Improvements and/or any capital improvements required as a result of changes in law or regulation or written requirements issued by FRA prior to the initial installation of PTC equipment on the Corridor.

7. Page 10 – Implies that training of engineers is just for PTC, not the physical characteristics of the corridor, and that it will take six months. The six months for training engineers on the territory is subject to further discussion with host railroad, FECR. This timeline is important because it will measure six months from the date Alstom states the software will be completed.
8. Page 11 – Pursuant to the new contract, Alstom has agreed to install the new software by June 17, 2022.
9. Page 12 – SFRTA received the level board modification in 2018, not ordered. They were not installed pending outcome of Raul Bravo recommendations regarding corrective measures due to protruding platform. The reason the level boarding was not installed was that SFRTA needed to inspect the platform once it was finished to ensure it complied with the requirements.
10. Page 13 – A stationary jig, not a rolling jig, was offered and used by SFRTA for the initial survey of the platform, which is why SFRTA was not confident of the results and retained its own survey team.

11. Page 18 – The Passenger Rail Fleet list provided in the cited SFRTA Transit Development Plan is not up to date. Updated list can be provided.

The following suggestions for revisions or clarification are provided by SFRTA’s Engineering Manager:

1. End of page 11, top of 12: The close clearance discussed was known by both teams and was agreed to be within tolerance (email from Brightline dated 1/17/19). However, and even though the survey data reflected a close clearance, it was not until the LiDAR survey, and later confirmed by Brightline, that the close clearance was more pronounced than initially reported.
2. Page 12: The inspection on April 2021 did not include the rolling jig, rather, a stick jig was used which limited the extend of the platform inspection. The first time the rolling jig was used was on January 19, 2022. A suggested rewording might be: “After the formal notice of substantial completion was issued to SFRTA in April of 2021, FECEI/Brightline conducted a crude survey using a **stick jig that limited the extend of the inspection as this jig didn’t provide all the information necessary to determine the correctness of the platform. Nevertheless,** FECEI/Brightline confirmed the lack of clearance in **some** spots under the platform ... “.
3. Page 12: Paragraph under The Steps on Tri-Rail’s Passenger Coaches: “This level boarding design feature of the MiamiCentral Station was **included on various** agenda items of the bi-weekly meetings ...”
4. Page 12: The last paragraph is proposed to read: “The construction plans were drawn using specifications **approved by SFRTA that allow the vehicle steps to traverse under the platform with sufficient clearance. To close the gap between the platform and the passenger coach floor requires an insert that will extend not only the passenger coach floor, but also the step.** SFRTA received the **inserts** in 2018. These **inserts** have not been installed and remain in storage.”
5. Page 13: If the text is edited as shown on the previous note, the second sentence of the first paragraph can be removed.
6. Page 13, first paragraph is suggested to read: “The solution offered by FECEI/Brightline to prevent the possible collision is to have SFRTA modify **the inserts or the** steps before installing them on the rolling stock of Tri-Rail. The modification would involve reducing the extension of **the step enough** to provide **sufficient** horizontal clearance of the extruding concrete. **SFRTA retained a consulting team in order to verify the accuracy of the rolling jig developed by FECEI/Brightline”.**
7. Page 13, last paragraph: “1.72 inches to provide the **minimum designed** horizontal clearance.”
8. Page 14, third paragraph: “**RVB+A, as the design firm of the inserts, confirmed** that the horizontal separation between the steps and the platform notes I the design was a result of calculation and not intended as a clearance guide. ~~RVBA had obtained this information in prior communications with the design firm. There is no specified horizontal clearance as rail cars do not move side to side.~~ It is a decision of SFRTA to **provide** an acceptable clearance. If the horizontal extension of the step clears **the most restrictive area of the platform**, it clears always.
9. Page 14, last paragraph: “In reviewing the results of the LiDAR survey reports, the **horizontal** clearance problems are.... ~~This same area affords the most ...~~ . At this meeting, FECEI/Brightline expressed a willingness to demolish and rebuild the 80 feet of the platform to address the **horizontal** clearance problem. If the RVB+A site assessment confirms this is an acceptable solution, SFRTA will not need to modify the **inserts** that are in storage.”
10. Page 16: References to the “load factor” of the first paragraph should state only “load.”
11. Page 21, Section VII, second paragraph: “If FECEI/Brightline and SFRTA agree on the location(s) where corrective action is needed to resolve the vertical **and horizontal** clearance concerns . . .”

12. Page 21, last paragraph: The close clearance discussed was known by both teams and was agreed to be within tolerance (email from Brightline dated 1/17/19). However, and even though the survey data reflected a close clearance, it wasn't until the LiDAR survey, and later confirmed by Brightline, that the close clearance was more pronounced than initially reported.

# MIAMI-DADE COUNTY OFFICE OF THE INSPECTOR GENERAL



## FINAL CONTRACT OVERSIGHT REPORT

### APPENDIX C

**FECI's Response**  
(1 page)

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*Review of Factors Delaying Initiation of  
Tri-Rail Downtown Miami Link Commuter Service*

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**IG21-00001-O**

**April 5, 2022**





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February 24, 2022

**VIA E-MAIL AND FAX**

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Re: OIG Draft Report – Review of Factors Delaying Initiation of the Tri-Rail Downtown Miami Link  
Commuter Service, Ref IG21-0001-O

Dear Mr. Jimenez:

Thank you for providing a copy of the Office of Inspector General’s (OIG) draft report regarding the above referenced matter. We appreciate the opportunity to review and comment on the OIG report.

We have two points of clarification that we would like to bring to your attention. The first, relates to the date on which SFRTA first became aware of certain locations on the platforms where the structure encroached on the required clearances. The report specifies on pages 11 and 12 that “The OIG has since learned that SFRTA’s engineering consultant T.Y. Lin knew of these defects back in early 2018”. Brightline retained Maser Consulting to perform an instrument survey of the Miami Station platforms in late 2017. This survey revealed that the as-built platforms departed from the design dimensions in certain locations along the boarding edge. This survey was shared with both T.Y. Lin and SFRTA staff, as acknowledged by SFRTA by email dated February 28, 2018.

The second point relates to the implementation of Positive Train Control (PTC). The timeline set forth in the OIG report at page 8 states “Spring of 2020: After suspending service on March 26, 2020, Brightline acquires PTC system that is compatible with SFRTA.” PTC technology can be supplied by a few potential vendors. At the outset, Brightline opted for a PTC system (E-ATC) that leveraged the existing cab signal system on the Brightline and FECR locomotives and met the federal requirements for PTC but differed in its underlying technology from the system selected and in use by SFRTA. After the suspension of intercity rail service in March 2020, Brightline opted to invest over \$30 Million to acquire the I-ETMS system in use by SFRTA. Both the E-ATC and I-ETMS systems evaluated by Brightline could have been configured to be compatible with the I-ETMS system used by SFRTA; Brightline opted to implement the I-ETMS system because we thought it was a more stable and better platform for the PTC system overall. Our choice of system had no impact on SFRTA’s development and implementation of its own PTC system.

Thank you for the opportunity to provide input. Please do not hesitate to contact me if you have further questions.

Sincerely,

A handwritten signature in black ink that reads "Jose Gonzalez".  
Jose Gonzalez

Senior Vice President, Corporate Development