MIAMIBEACH

COMMISSION MEMORANDUM

TO: Honorable Mayor and Members of the City Commission
FROM: Vice-Mayor Ricky Arriola
DATE: May 17, 2023

SUBJECT: REFERRAL TO THE FINANCE AND ECONOMIC RESILIENCY COMMITTEE TO DISCUSS INVESTING IN TROLLEY RIDERSHIP AUDITING TECHNOLOGIES.

ANALYSIS

I am asking the Finance and Economic Resiliency Committee (FERC) to discuss a potential investment in advanced passenger tracking hardware and software for our public trolley system. This system upgrade would be aimed at improving the accuracy of our ridership tracking and audit capabilities, allowing us to optimize our services and resources more effectively.

We should consider integrating the latest camera technologies that offer advanced methodologies for accurate passenger counting in this initiative. These include:

1. Video analytics-based passenger counting: These systems utilize cameras mounted within the vehicles, combined with sophisticated algorithms to analyze images, identify, and count passengers as they enter and exit.

2. Stereo vision-based passenger counting: This innovative technology uses dual cameras to create a 3D depth map of the vehicle's interior, enhancing accuracy in passenger detection and counting.

3. Time-of-flight (ToF) cameras: These advanced cameras measure the time it takes for light to travel from the camera to the object and back, allowing the creation of a 3D depth map, thus improving passenger counting accuracy.

With these technologies in mind, I've compiled a list of companies that provide services in public transit ridership measurement, software platforms for tracking, as well as those who conduct public transit surveys:

Ridership Measurement Companies:

1. Cubic Transportation Systems
2. INIT Innovations in Transportation, Inc.
3. Conduent Transportation

4. Trapeze Group
5. Luminator Technology Group
6. Clever Devices
7. IVU Traffic Technologies
8. EOS Uptrade

Software Platforms for Ridership Tracking:

1. Automatic Passenger Counting (APC) by INIT
2. NextBus by Cubic Transportation Systems
3. Trapeze's TransitMaster Suite
4. Conduent's Advanced Passenger Information System (APIS)
5. Clever Devices' Intelligent Transportation Management System (ITMS)
6. Luminator's Passenger Information System
7. IVU.suite by IVU Traffic Technologies
8. MOBILEticket by EOS Uptrade

Companies Offering Advanced Camera Technologies for Ridership Measurement:

1. GmbH (Video analytics-based passenger counting)
2. Hella Aglaia Mobile Vision GmbH (Stereo vision-based passenger counting)
3. Xovis AG (Time-of-flight (ToF) cameras)
4. FLIR Systems, Inc. (Video analytics-based passenger counting)
5. DILAX Intelcom GmbH (Both video analytics and stereo vision-based passenger counting)
6. Eurotech (Video analytics-based passenger counting)
7. Passio Technologies (Video analytics-based passenger counting)

Companies Conducting Public Transit Surveys:

1. TransPro Consulting
2. Four Nines Technologies
3. CJI Research Corporation
4. ETC Institute
5. National Research Center, Inc.
6. RSG
7. WBA Research
8. Market Strategies International

Finally, I ask that whatever company is ultimately chosen be directed to report directly to FERC for transparency and accountability. Ensuring our trolley ridership numbers are accurate will enhance the efficiency and transparency of our public transit service, ultimately improving user satisfaction.

SUPPORTING SURVEY DATA

N/A

FINANCIAL INFORMATION

N/A

Applicable Area

Citywide

Is this a "Residents Right to Know" item, pursuant to City Code Section 2-14?	**Does this item utilize G.O. Bond Funds?**
Yes	No

Strategic Connection

Mobility - Increase multi-modal mobility citywide and connectivity regionally.

Legislative Tracking

Vice-Mayor Ricky Arriola