



**Palm Tran**  
Public Transportation

**TPA Governing Board Meeting**  
Informational Item

# ZERO EMISSION TRANSITION PLAN




To provide access to opportunity for everyone; safely, efficiently and courteously

1

## Master Fleet Electrification Plan

Objective & Components





### Objective

Phased implementation of a battery electric fleet to reduce Palm Tran's carbon footprint as identified on Palm Tran's Transit Development Plan (TDP) "Accelerate 2031" Goal #2.

### Components

1. Zero Emission Transition Plan (Completed)
2. Fleet Electrification Analysis "Modeling" (In-Progress)
3. Turn Key approach with selected BEB vendor. (After item 2)

**Thank you TPA!**

TPA Governing Board Meeting

2

# Master Fleet Electrification Plan

## Battery Electric Bus Evaluations



### Electric Bus Visits

Hosted By: Palm Tran



May 15, 2019



Coming in July



Coming in June

Coming in June



Coming in August

TPA Governing Board Meeting

3

3



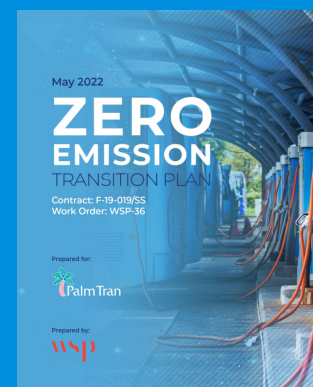
## Zero Emission Transition Plan

Introduction

Fleet Replacement schedule

Funding

Facilities



TPA Governing Board Meeting



4

4

# Zero Emission Transition Plan



## Objective

The Federal Transit Administration (FTA) "Grants for Buses and Bus Facilities Competitive Program and the Low or No Emission Program.

The Bipartisan Infrastructure Law (BIL) amended the statutory provisions for these programs to include the requirement that **any application for projects related to zero-emission vehicles include a Zero-Emission Transition Plan**

## Outcome

Zero Emissions Transition Plan - **Replacement Schedule**



TPA Governing Board Meeting

5

5

# Zero Emission Transition Plan



The Zero Emission Transition Plan evaluates the following areas of Palm Tran's operations:



Fleet



Funding



Regulations



Facilities



Utilities



Work Force



TPA Governing Board Meeting

6

6

# Zero Emission

## Transition Plan – Current Fleet



**ICE:**  
Internal  
Combustion  
Engine

Year	Make	Model	Length	# of Vehicles	Vehicle Type
2011	Gillig	Low Floor	40 ft	9	ICE
2011	Gillig	Low Floor	40 ft	1	hybrid diesel
2012	Gillig	Low Floor	40 ft	7	ICE
2012	Gillig	Low Floor	35 ft	7	ICE
2013	Gillig	Low Floor	40 ft	10	ICE
2014	Gillig	Low Floor	40 ft	9	hybrid diesel
2015	Gillig	Low Floor	40 ft	14	ICE
2015	Gillig	Low Floor	40 ft	5	hybrid diesel
2016	Gillig	Low Floor	40 ft	7	ICE
2016	Gillig	Low Floor	29 ft	3	ICE
2017	Gillig	Low Floor	40 ft	14	ICE
2020	Gillig	Low Floor	40 ft	11	ICE
2021	Gillig	Low Floor	40 ft	45	ICE

Source: WSP

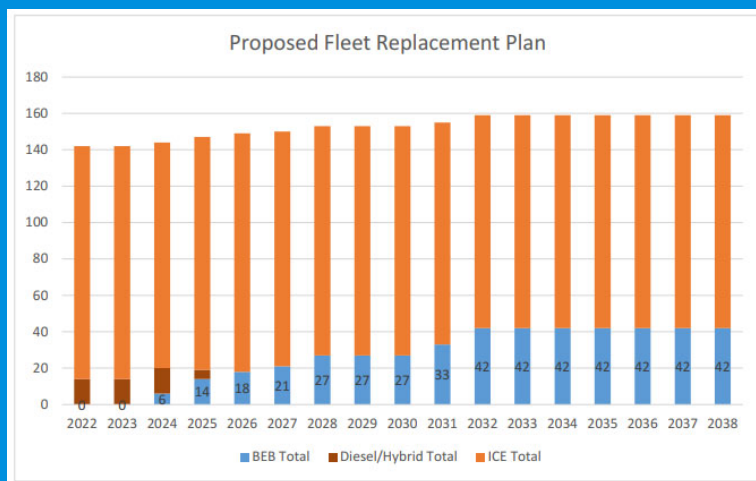
TPA Governing Board Meeting

7

7

# Zero Emission

## Transition Plan – Replacement Schedule



**Goal:**  
25% Zero  
Emission Fleet  
by 2032

TPA Governing Board Meeting

8

8



# Zero Emission

## Transition Plan - Funding



Funding Source	Capital Funding	Description	Procurement Year	Supplemental Funding
TPA LI Funds	\$4,336,388	3 electric vehicles / charging stations	FY 2024	Toll Revenue Credit
VW Settlement Funds	\$1,800,000*	6 electric vehicles	FY 2024	5307/5339 Funds
TPA LI Funds	\$5,000,000	4 electric vehicles / charging stations	FY 2025	Toll Revenue Credit

\* This funding is to cover the additional costs to purchase a BEB vs a diesel bus.

Thank you TPA!

TPA Governing Board Meeting

9

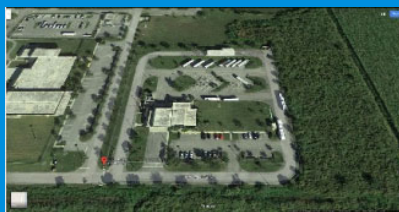
9

# Zero Emission

## Transition Plan - Facilities



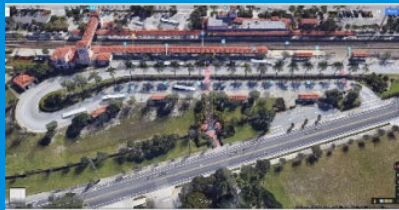
South County - Delray Beach



West County - Belle Glade



North County - West Palm Beach



Intermodal - West Palm Beach



Electrification Ready!

10

10

# Zero Emission

## Transition Plan - Workforce

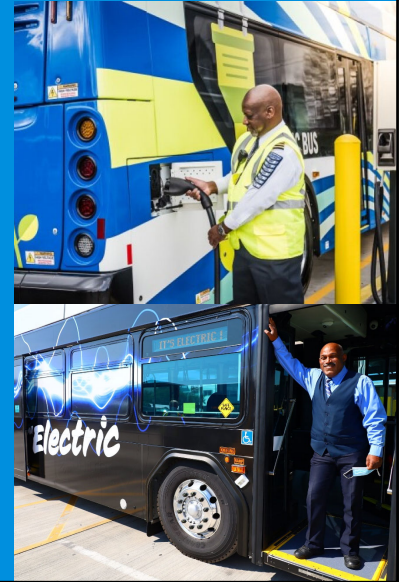


### Staffing Job Impact

1. Key training needs by Job Classification
2. Skill Gap Assessment

Position	Job Impact
Maintenance Supervision	High
Mechanics & Technicians	High
Training Instructors	High
Bus Operations Supervision	Medium
Facility Technicians	Medium
Planners/Schedulers	Medium
Safety	Medium
Transit Field Supervisors	Medium
Cleaners	Low
Dispatchers	Low
Operators	Low

TPA Governing Board Meeting



11

# Fleet Electrification Analysis (Modeling)

## Next Step



### Objective

- Analysis of current energy versus battery electric technology.
- Computer simulation or modeling of Palm Tran's current services.
- Identify potential benefits resulting from the implementation of BEB's.
- Phased implementation strategy.
- Develop ZEB specifications needed to select a battery electric bus manufacturer and facilitate such process.

### Outcome

BEB Specifications  
BEB Vendor Selection

TPA Governing Board Meeting



12

# Zero Emission

## Transition Plan – Peer Exchange



BCT Technical Visit



13

13



To provide access to opportunity for everyone; safely, efficiently and courteously



# Thank you!

14

14