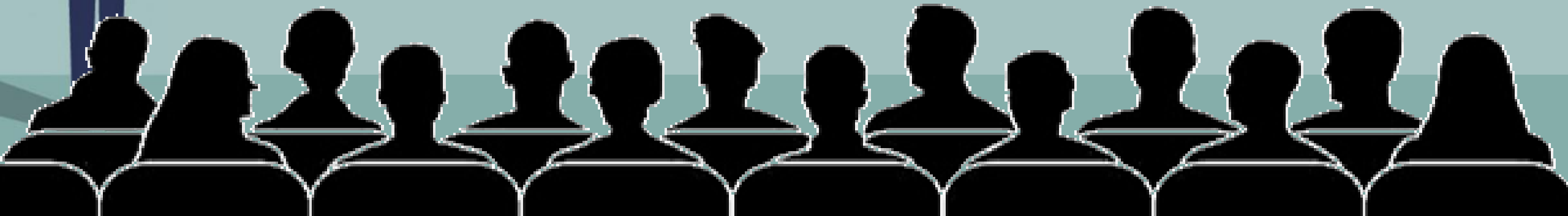




Carlos Cruz-Casas

Chief Innovation Officer | Miami-Dade County
Department of Transportation and Public Works





Introduction to Miami-Dade Project

- **Intro**
Carlos Cruz-Casas & Marta Viciado
- **Miami-Dade Transit Service**
- **Better Bus Network**
- **Transit Rider Experience**
- **Miami-Dade Project**
-





Miami-Dade County Team

Carlos Cruz-Casas

DTPW Chief Innovation Officer

Marta Vicedo

Transit Alliance Miami

Linda Morris

Chief of Service Planning & Scheduling

Toni Phansang

Systems Support Manager

Boon-choo Tan

Systems Support Manager

Jarice Rodriguez

Principal Planner at the Office of Innovation

Julian Guevara

Municipal Manager at the Office of Innovation



Raonel Rodriguez

Manager of Passenger Amenities

Nicholas Duran

Transit Alliance Miami

MIAMI-DADE COUNTY METROBUS SYSTEM

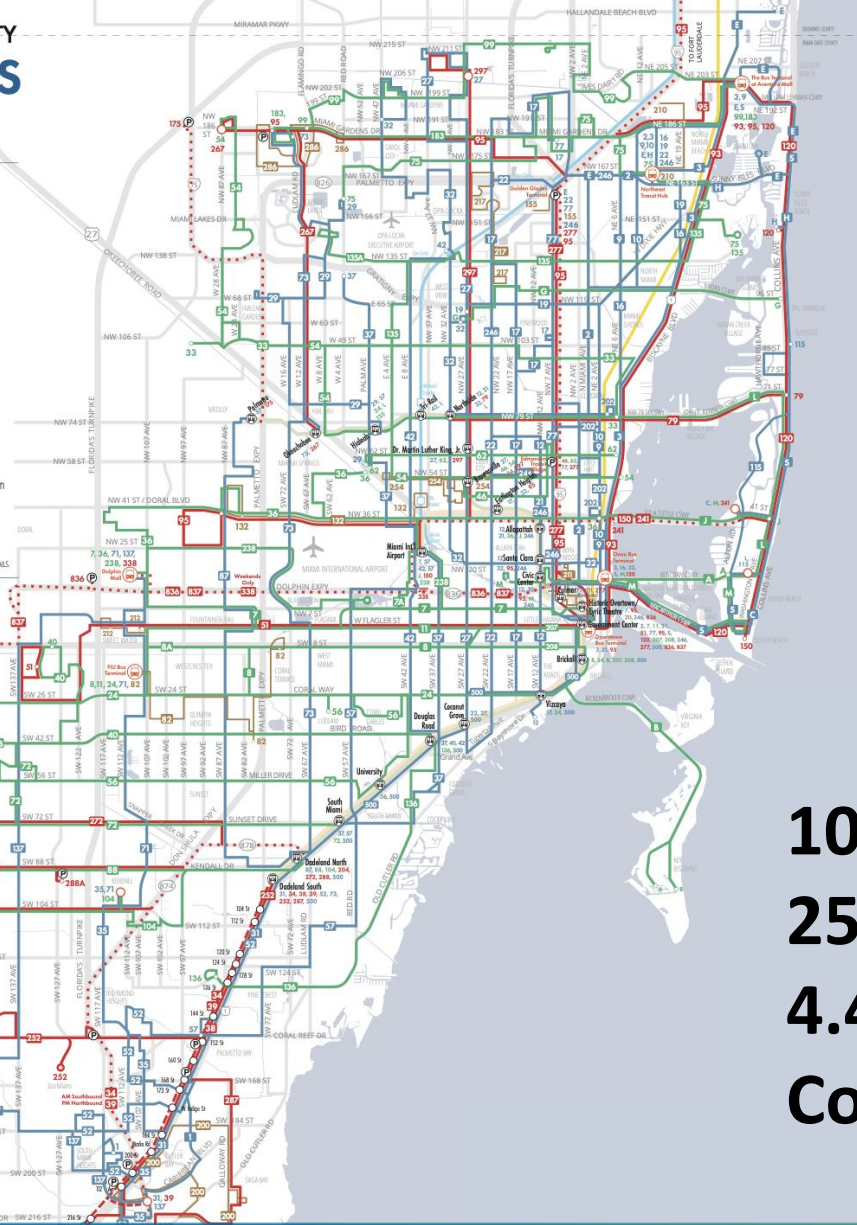
METROBUS ROUTES

- Limited-Stop Service
- Express Service
- Non-stop Service
- East-West Local-Stop Service
- North-South Local-Stop Service
- Local Shuttle or Circulator Service

METROBUS DESTINATIONS

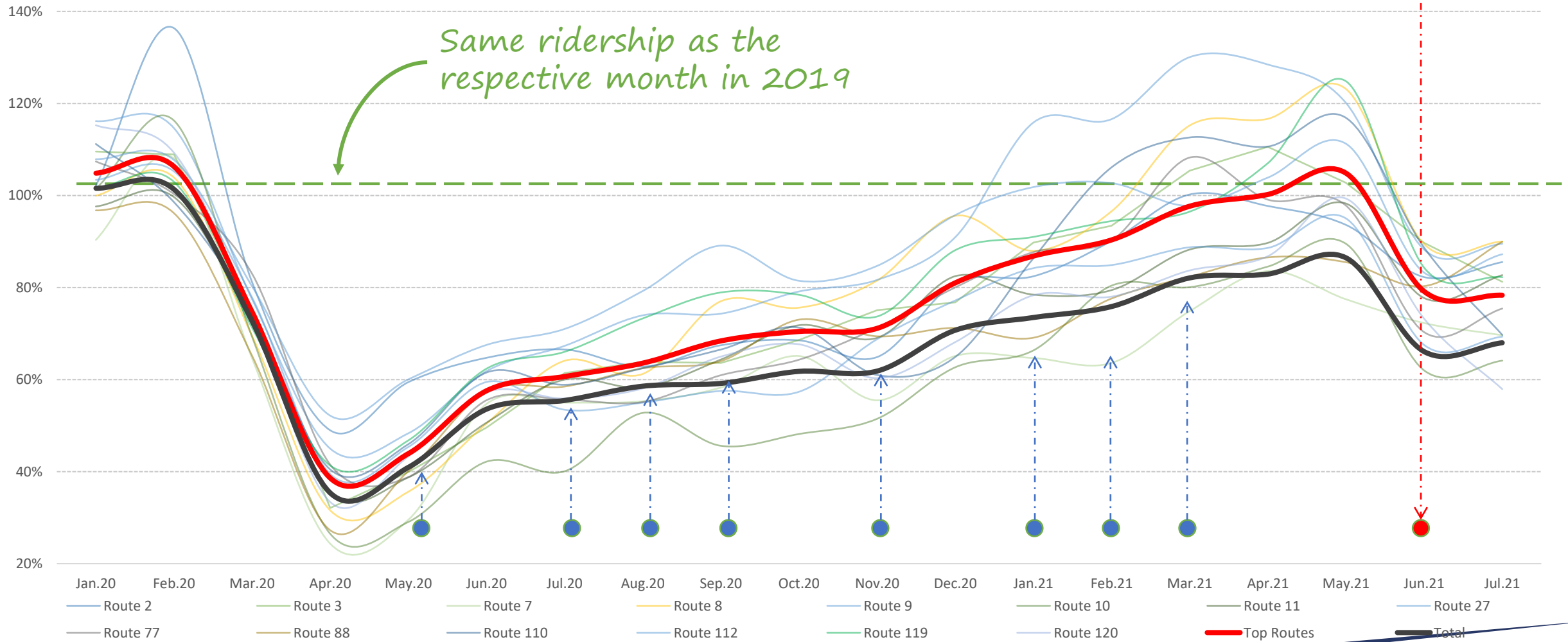
- Service Endpoint - Single Route Type
- Service Endpoints - Multiple Route Types
- Terminal
- Park and Ride Lot
- South Dade Transit Way Station
- Metrorail & Station - Routes Serving Station
- Tri-Rail
- Brightline

THIS IS A GENERAL REFERENCE MAP. CONSULT INDIVIDUAL ROUTE MAPS FOR DETAILS.

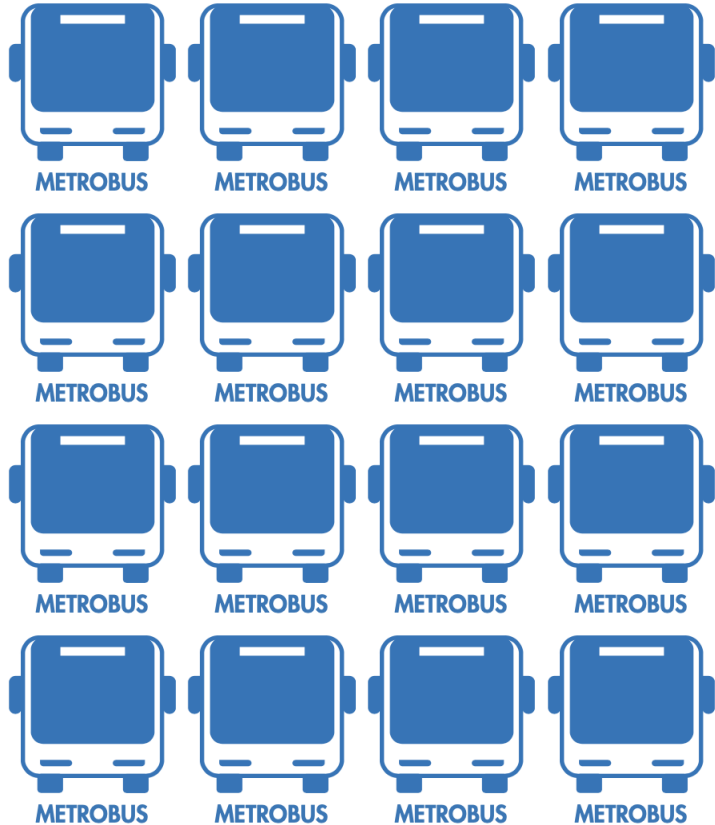


101 bus routes
25-mile elevated heavy rail
4.4-mile elevated automated peplemover
Countywide paratransit program

Percent Change when Compared to 2019



What we Learned



- **Frequency** truly matters
- **Consistent Service** all day is key
- We can **reallocate** services effectively without creating a disparate impact
- **Data** is readily available to help us make important decisions

Elements of a good transit network work. Always.

Collaborative Effort



Transit
Alliance



Jarrett
Walker &
Associates

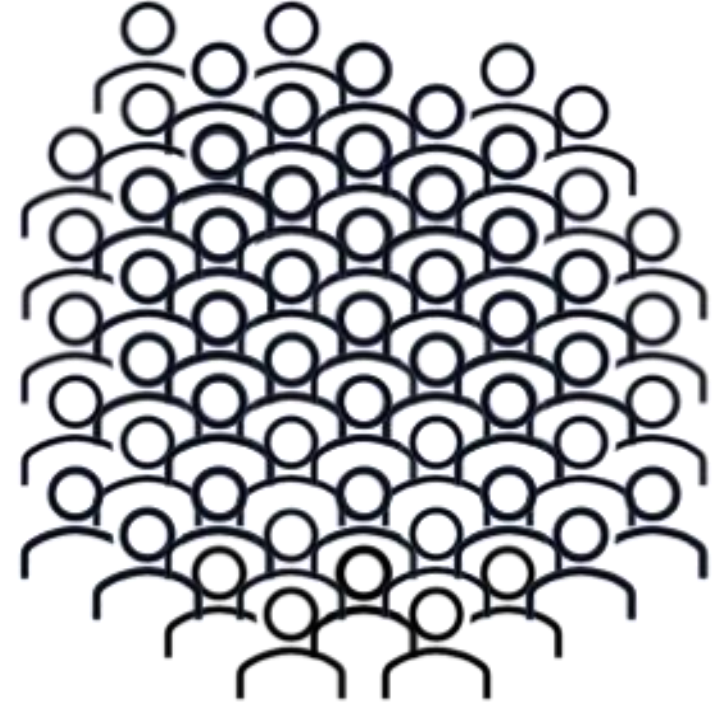


Department of
Transportation
and Public Works

...



Local stakeholders
and partner
agencies



Riders and Residents



Public Engagement

- Online Survey
- Community Meetings
- Stakeholder Meetings
- Text Message Line
- Phone Scheduler
- Email Desk
- At Stop

MIAMI-DADE COUNTY
Existing Network

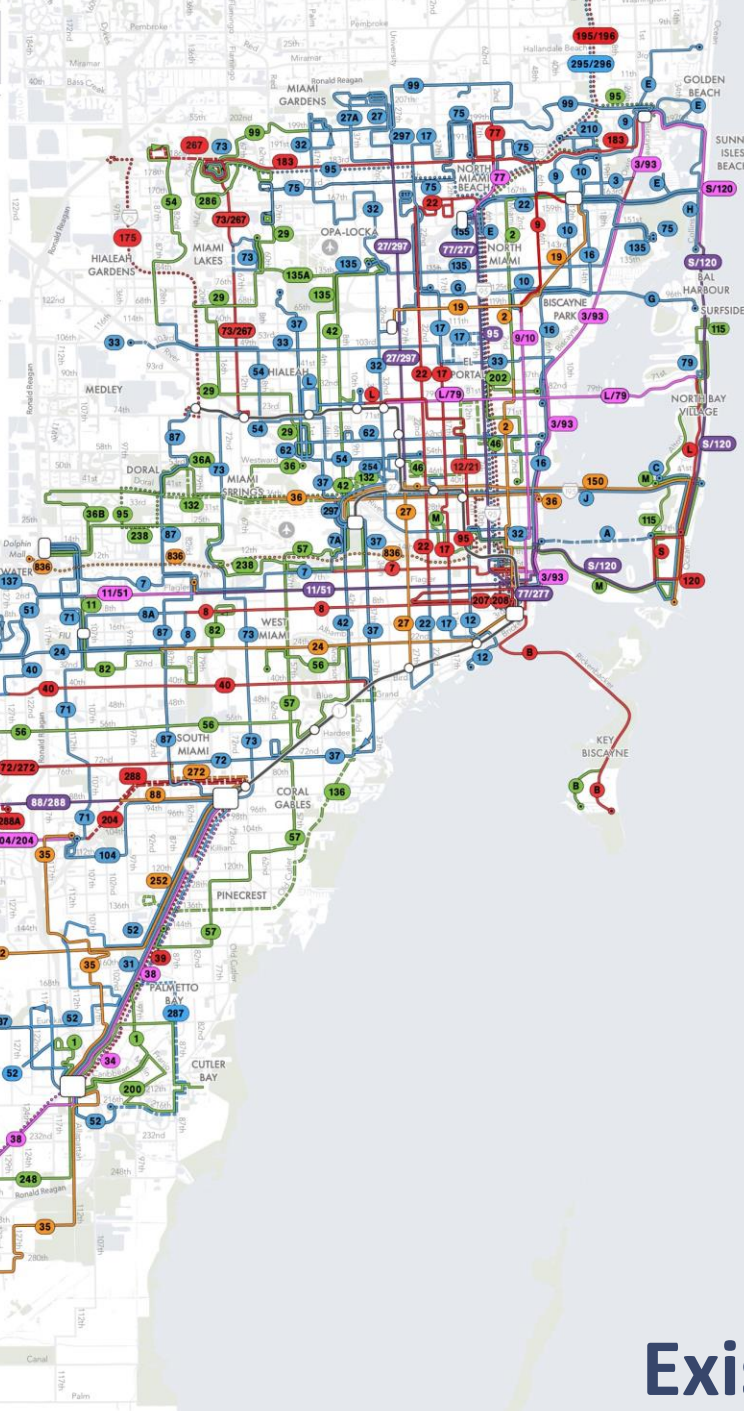
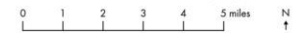
Routes by Weekday Peak Hour Frequency

- 7.5 minutes or less / 8 buses per hour
- 10 minutes / 6 buses per hour
- 15 minutes / 4 buses per hour
- 20 minutes / 3 buses per hour
- 30 minutes / 2 buses per hour
- 40-60 minutes / 1 bus per hour

Overlapping MAX service based on buses per hour, actual frequencies may differ.

Map Symbols

- Rail
- Transit Hub
- Peak Hour Route
- Express Service
- End of route
- Route continues at lower frequency



MIAMI-DADE COUNTY
Draft Better Bus Network

Routes by Weekday Peak Hour Frequency

- 7.5 minutes or less / 8 buses per hour
- 10 minutes / 6 buses per hour
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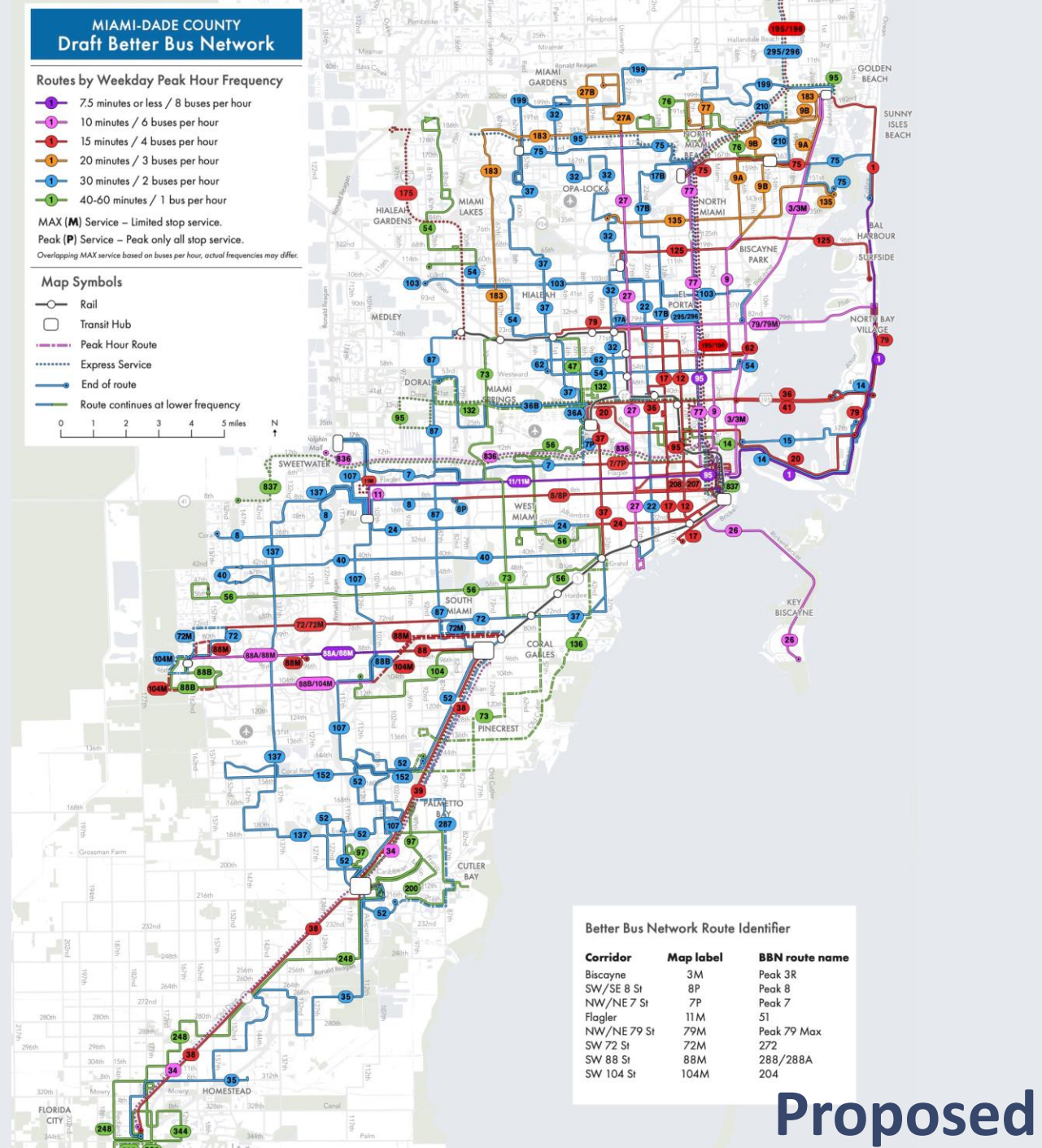
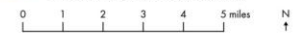
MAX (M) Service – Limited stop service.

Peak (P) Service – Peak only all stop service.

Overlapping MAX service based on buses per hour, actual frequencies may differ.

Map Symbols

- Rail
- Transit Hub
- Peak Hour Route
- Express Service
- End of route
- Route continues at lower frequency



Better Bus Network Route Identifier

Corridor	Map label	BBN route name
Biscayne	3M	Peak 3R
SW/SE 8 St	8P	Peak 8
NW/NE 7 St	7P	Peak 7
Flagler	11M	51
NW/NE 79 St	79M	Peak 79 Max
SW 72 St	72M	272
SW 88 St	88M	288/288A
SW 104 St	104M	204

Existing

Proposed

MIAMI-DADE COUNTY
Existing Network

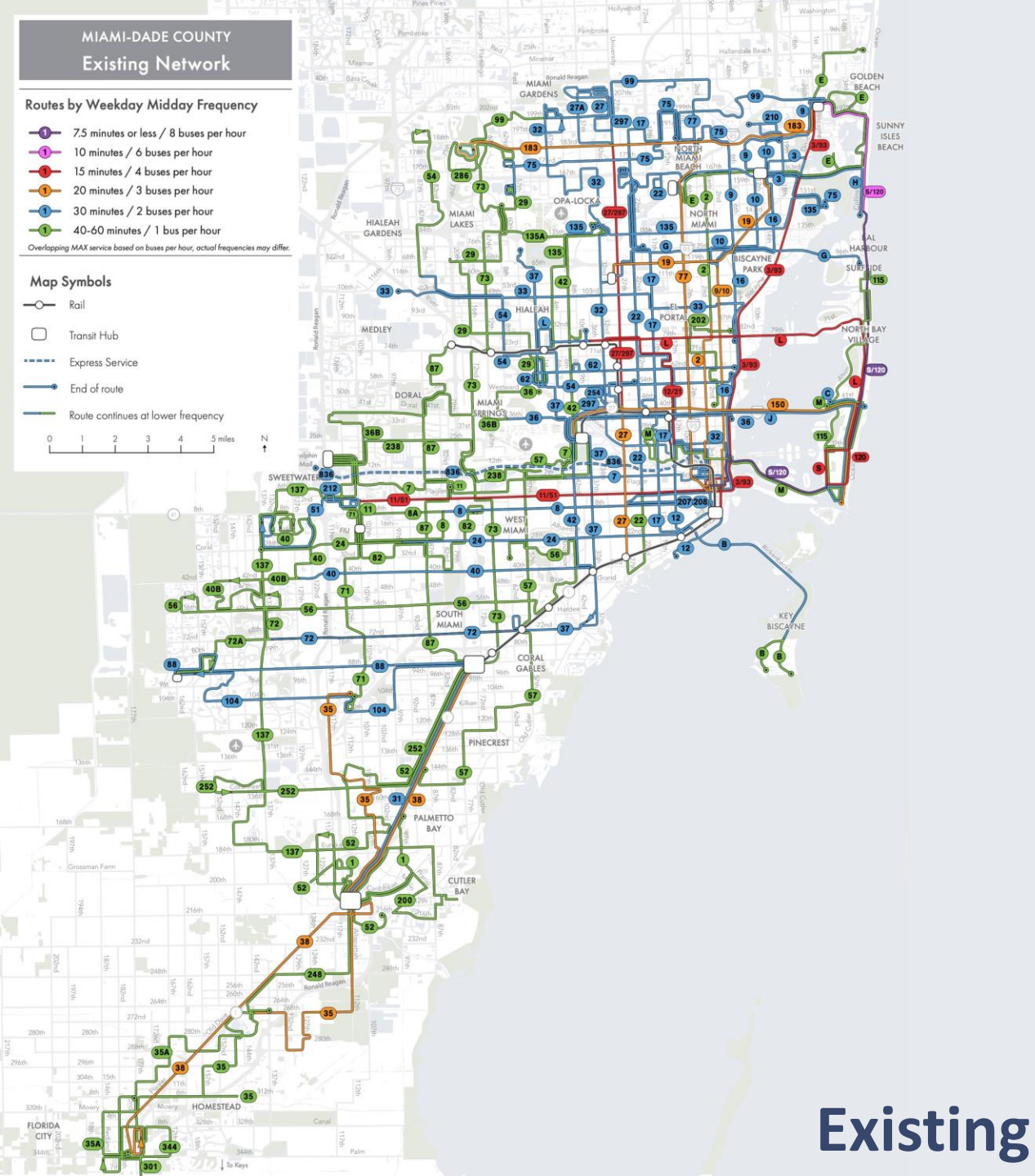
Routes by Weekday Midday Frequency

- 7.5 minutes or less / 8 buses per hour
- 10 minutes / 6 buses per hour
- 15 minutes / 4 buses per hour
- 20 minutes / 3 buses per hour
- 30 minutes / 2 buses per hour
- 40-60 minutes / 1 bus per hour

Overlapping MAX service based on buses per hour, actual frequencies may differ.

Map Symbols

- Rail
- Transit Hub
- Express Service
- End of route
- Route continues at lower frequency



Existing

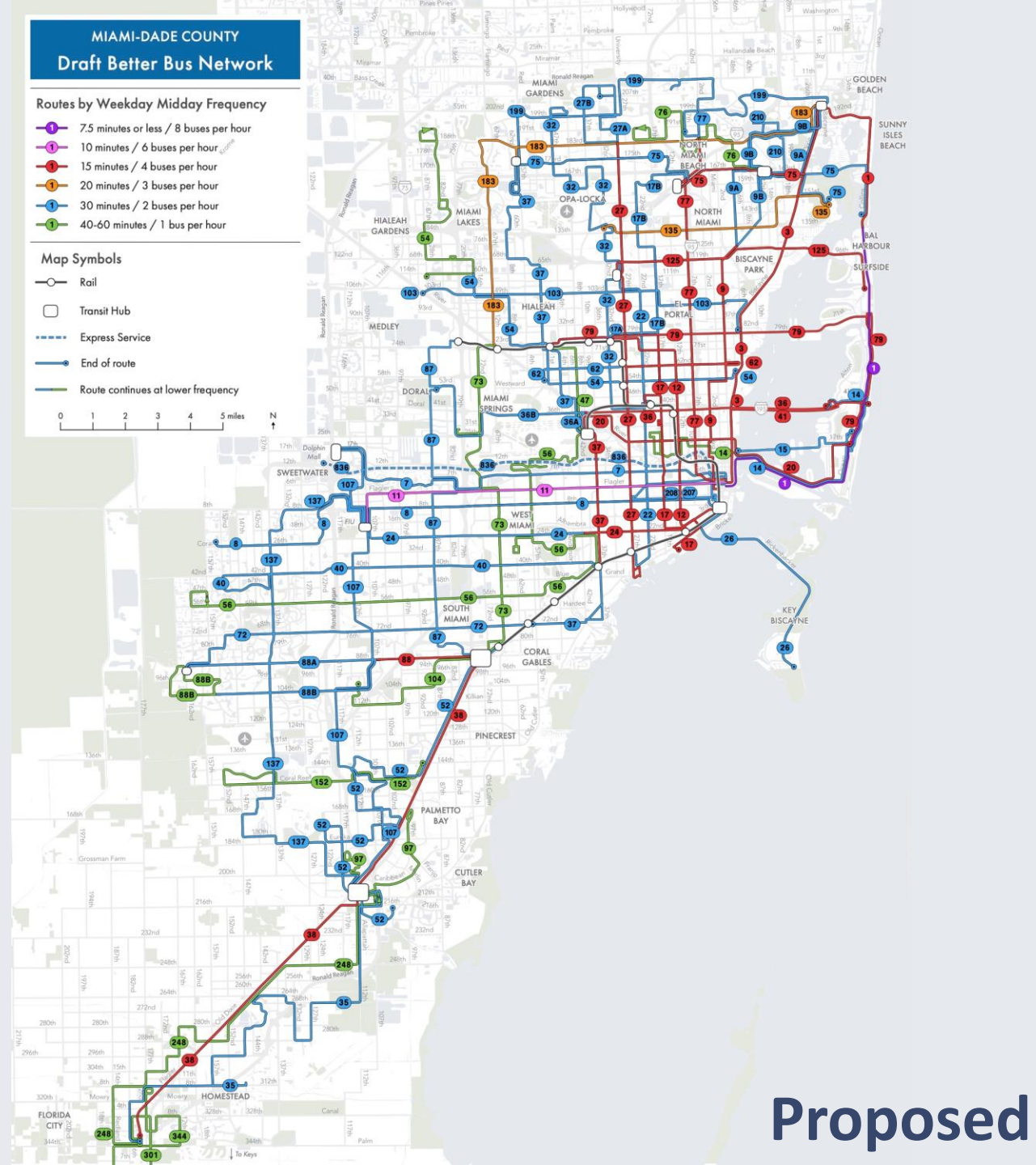
MIAMI-DADE COUNTY
Draft Better Bus Network

Routes by Weekday Midday Frequency

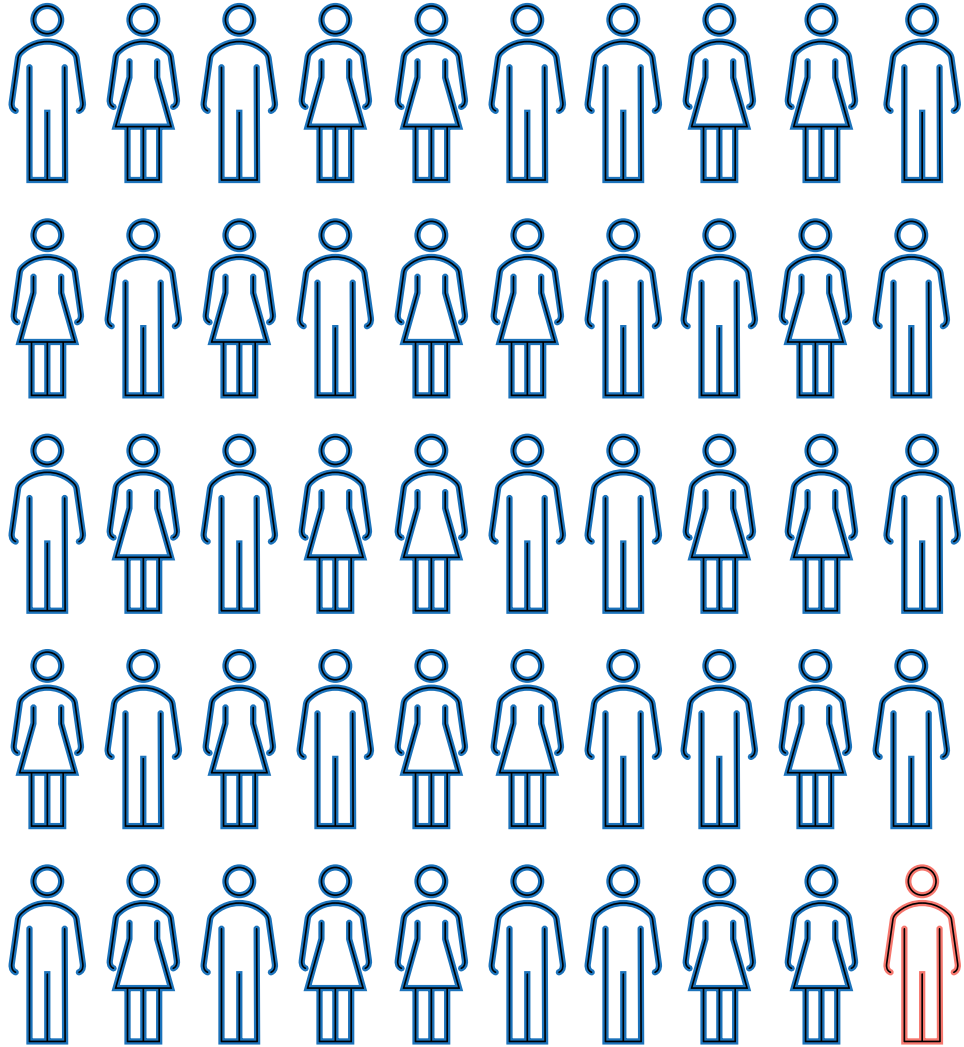
- 7.5 minutes or less / 8 buses per hour
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Map Symbols

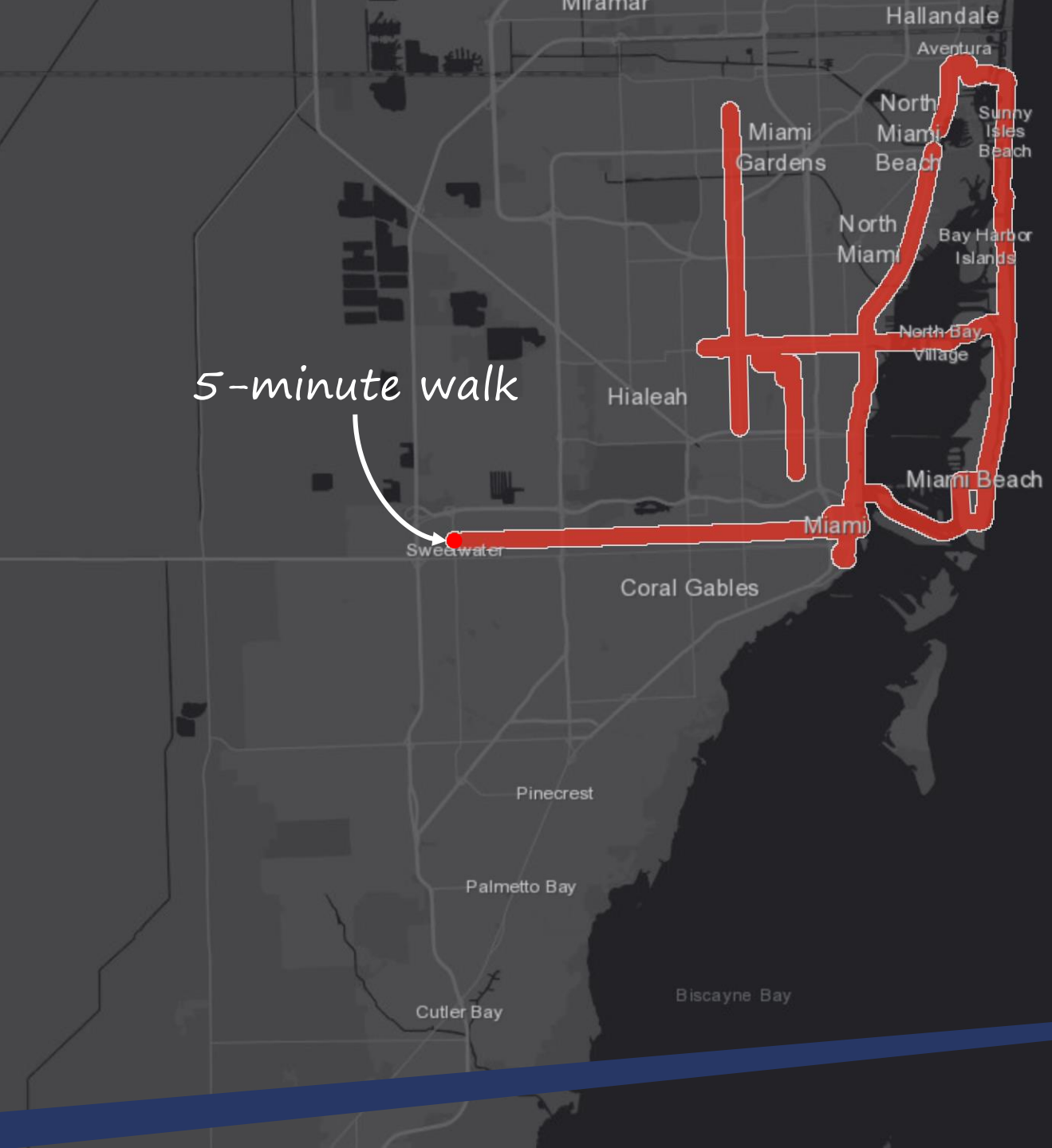
- Rail
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- Route continues at lower frequency



Proposed



49 out of
every 50
will have same or
better transit service



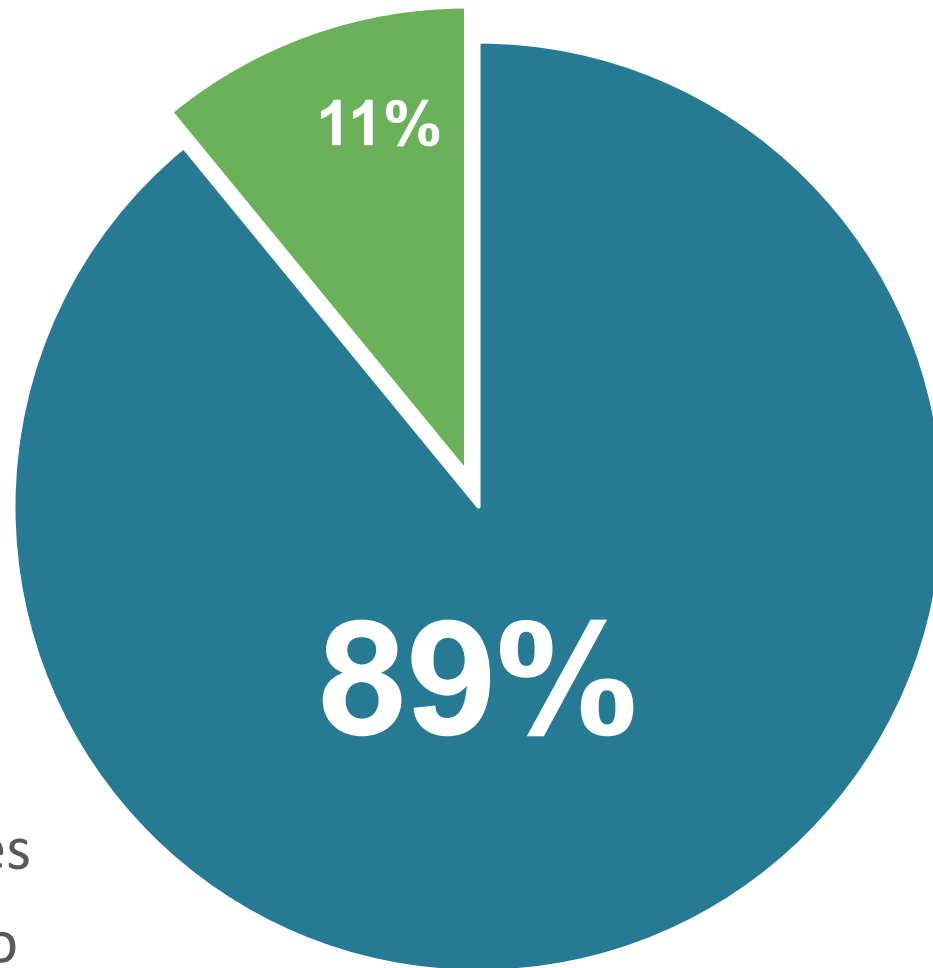
5-minute walk

EXISTING FREQUENT CORRIDORS WITH A 0.25 MILE BUFFER



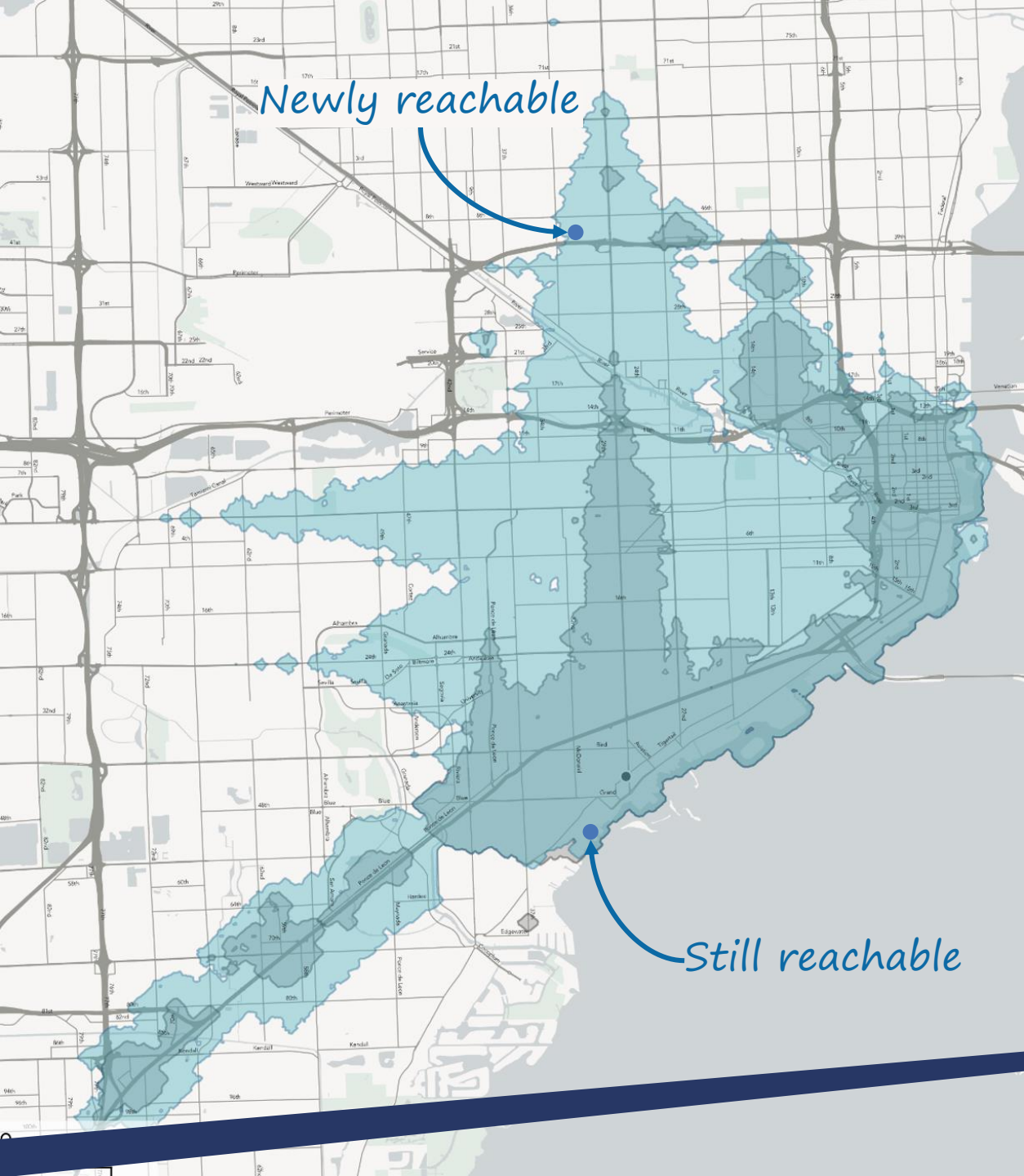
PROPOSED FREQUENT CORRIDORS WITH A 0.25 MILE BUFFER

2021 SURVEY RESULTS



Having reviewed the proposed Better Bus Network, would you like to see the changes implemented?

(From >1,800 transit user respondents)

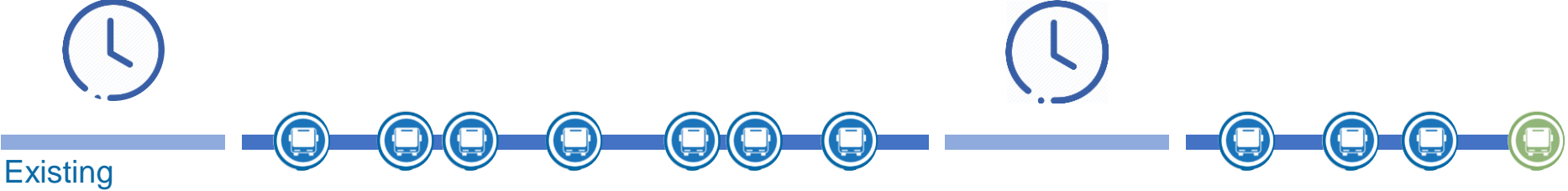


How far can I travel in
45 minutes from **Coconut
Grove** at noon?

60% more jobs ^{105,000}
165% more residents ^{216,000}

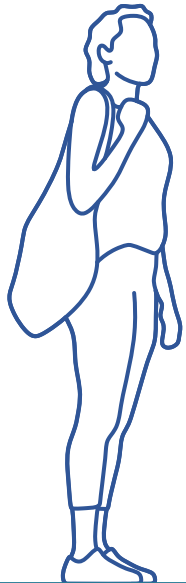
Faster Journeys

Average wait time.
(estimated as half the time between buses)



Transit Experience

*Long Wait Times.
not everyone will have access to a frequent service*



From Sorry to Superb: Everything You Need to Know about Great Bus Stops



***“Better bus stops
create better transit.”***

***“Great bus stops
encourage ridership and
improve the experience
of taking the bus.”***

***“A bus shelter is not a luxury; it
provides a basic level of comfort and
dignity to people waiting for transit.”***

From Sorry to Superb: Everything You Need to Know about Great Bus Stops



Riders ranked simple amenities like bus stop benches, schedules, and safe street crossings as essential as shelters.

Missed Opportunity





The Miami-Dade Project

The Ask

obtain knowledge of how heat impacts transit use

What we don't know

how long riders wait for transit, the experienced heat

Better rider experience



What we know

local temperatures, ridership by stop, transit service

How it will be used

prioritize investments, focus on greater impacts



The Miami-Dade Project

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obtain knowledge of how heat impacts transit use

What we don't know

how long riders wait for transit, the experience

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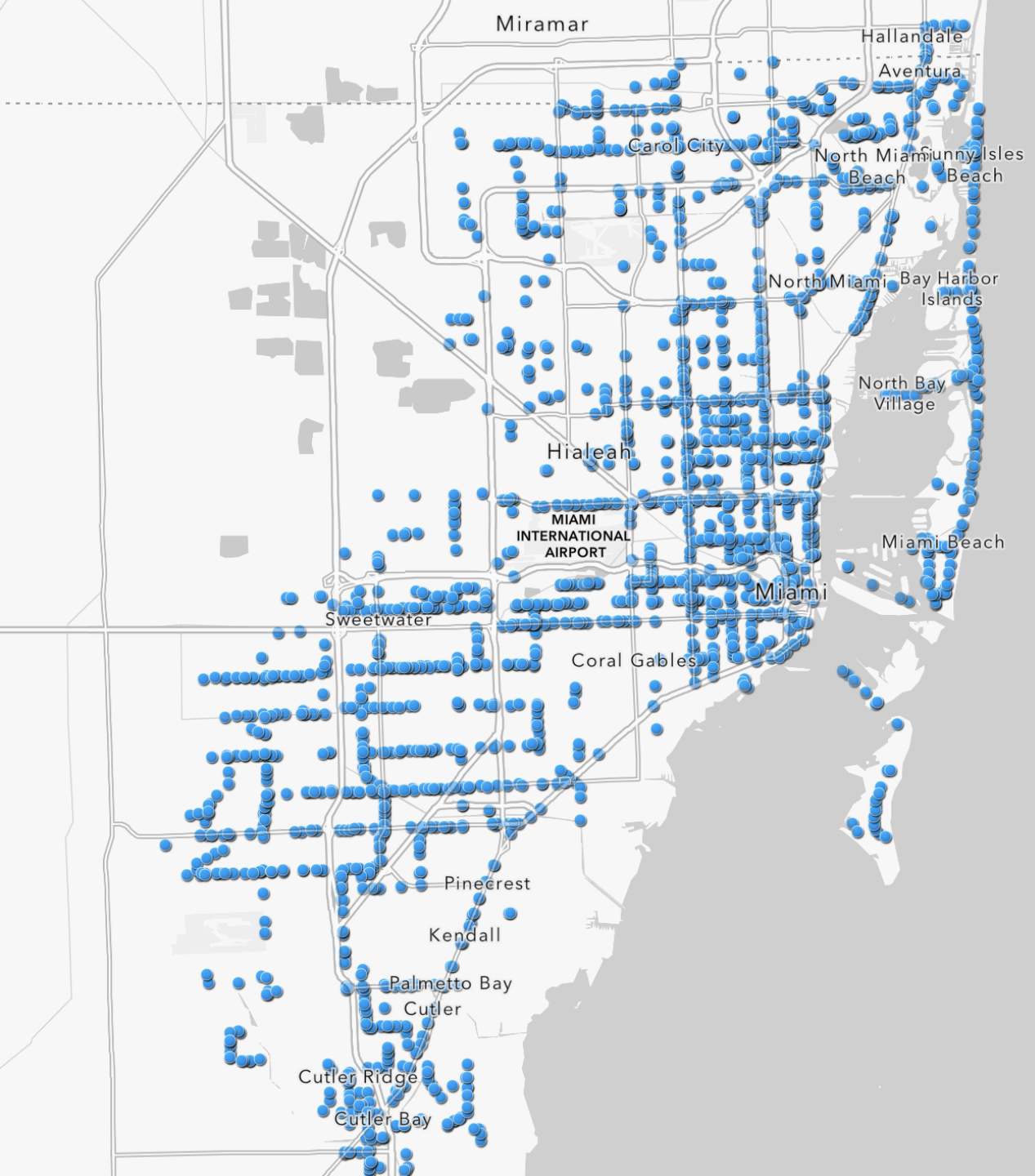


What we know

local temperatures, ridership by stop, transit service

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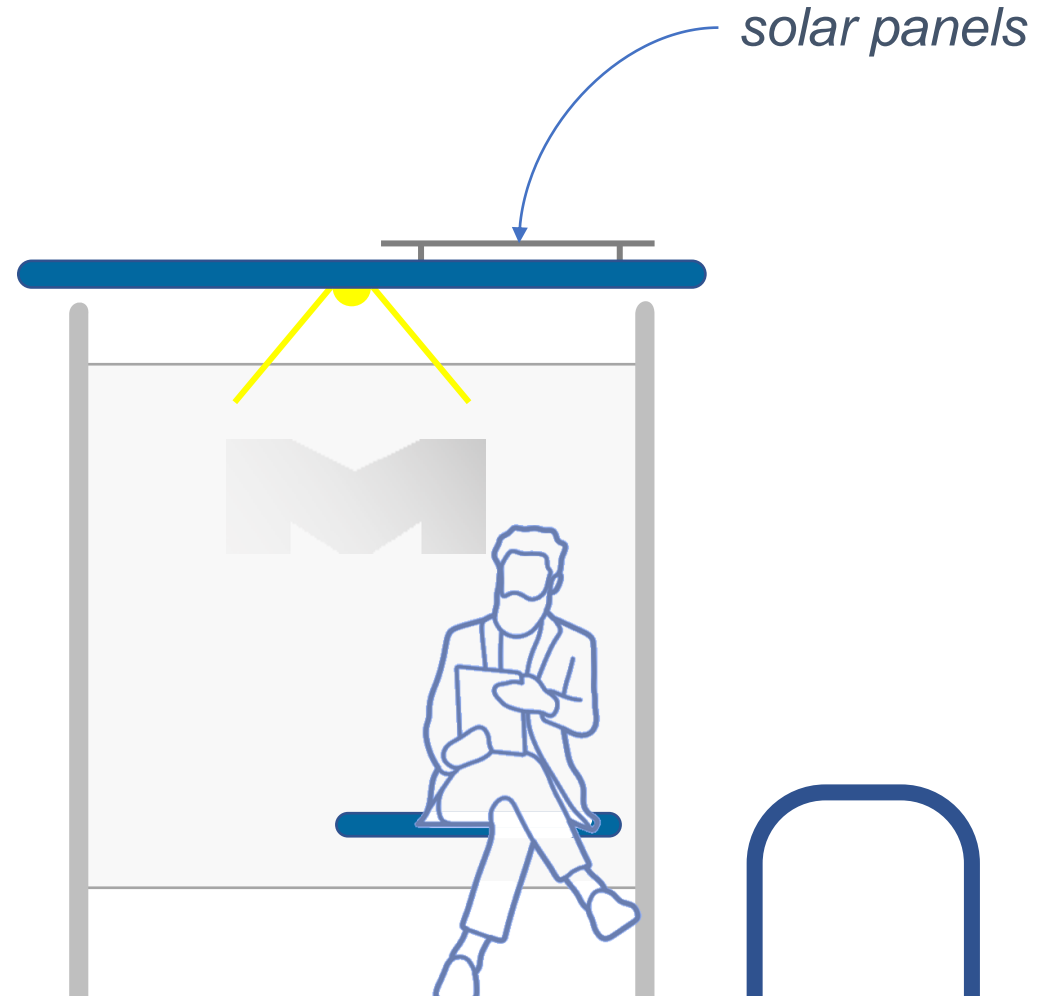


7,500 bus stops



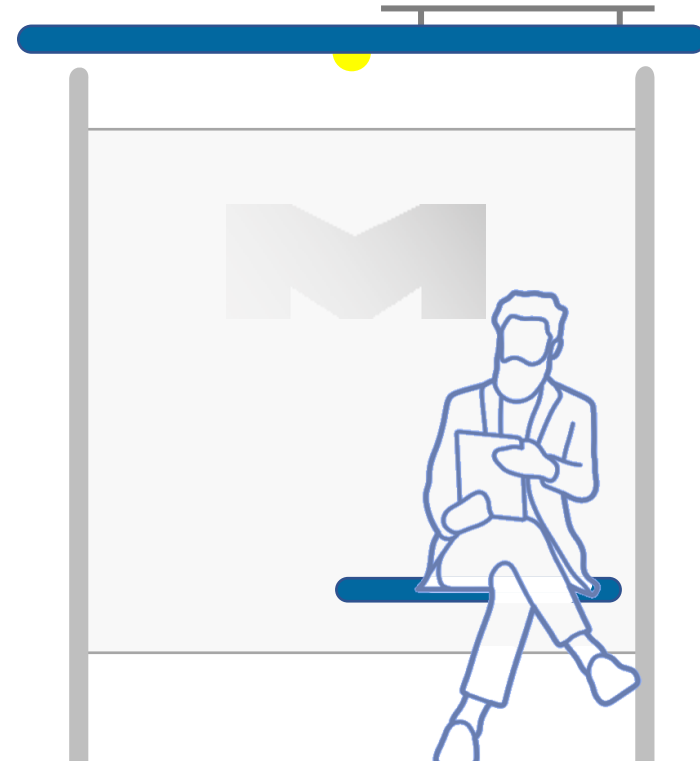
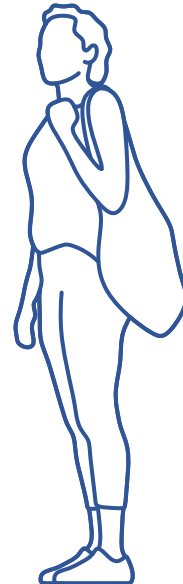
Transit Amenities

- Shelter with solar panels
- Night Light
- Advertising Panel **
- Bench
- Wheelchair dedicated space
- Bike racks ***
- Route Information
- Trash can





Transit Rider Considerations





Understanding the Impacts of Extreme Heat

The Ask

obtain knowledge of how heat impacts transit use

What we don't know

how long riders wait for transit, the experienced heat

Better rider experience



What we know

local temperatures, ridership by stop, transit service

How it will be used

prioritize investments, communicate with riders, focus on greater impacts

Big Data. Made Easy.

The first big data platform
for public transit

- Highly accurate real-time passenger information
- Understand and analyze network in real time and historically
- Quickly visualize data to build consensus past, present, and future

Run-Times for Route 3

Analysis Comparison Suggestion

3 - Aventura-Downtown Via Bisc.Blvd.: All Trips

Sorting: Trip Order

Scheduled run-time | Next trip start | Trip run-time

Start Time Trip ID

07:14 4279761

07:20 4279988

07:32 4279759

07:40 4279985

07:50 4279769

08:00 4279993

08:08 4279768

08:20 4279984

08:28 4279767

08:40 4279989

08:44 4279760

09:00 4279986

09:02 4279766

09:20 4279981

09:32 4279745

09:40 4279990

10:00 4280011

10:02 4279744

10:20 4279980

10:32 4279743

10:40 4279982

11:00 4279984

11:02 4279742



Miami-Dade County setup



Static GTFS

A single static GTFS with information on all services



AVL

- Clever Devices
- TSO Mobile
- Swiftly Onboard App
- ETA Transit (Coral Gables)



Realtime Passenger info

- GOMDT app
- Google Maps
- Transit app
- SMS text-for-ETA app
- 10 other applications (Via, Lyft, digital signs, etc)



Historical data analytics

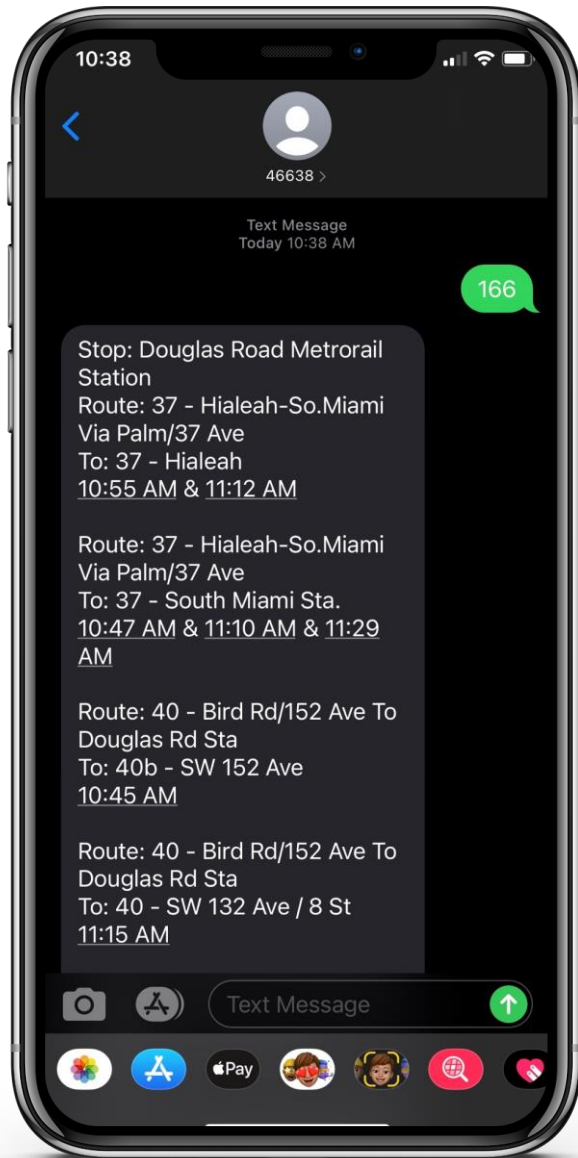
- GPS Playback
- OTP
- Run Times
- Speed Map



Real-time operations tools

- Live Operations





GO MIAMI-DADE TRANSIT (MDT) TEXTS

- Metrobus riders can access real-time tracking information by texting their bus stop number to GOMDT (46638).
- There is also an interactive voice service available for riders that rather call.



Understanding the Impacts of Extreme Heat

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