

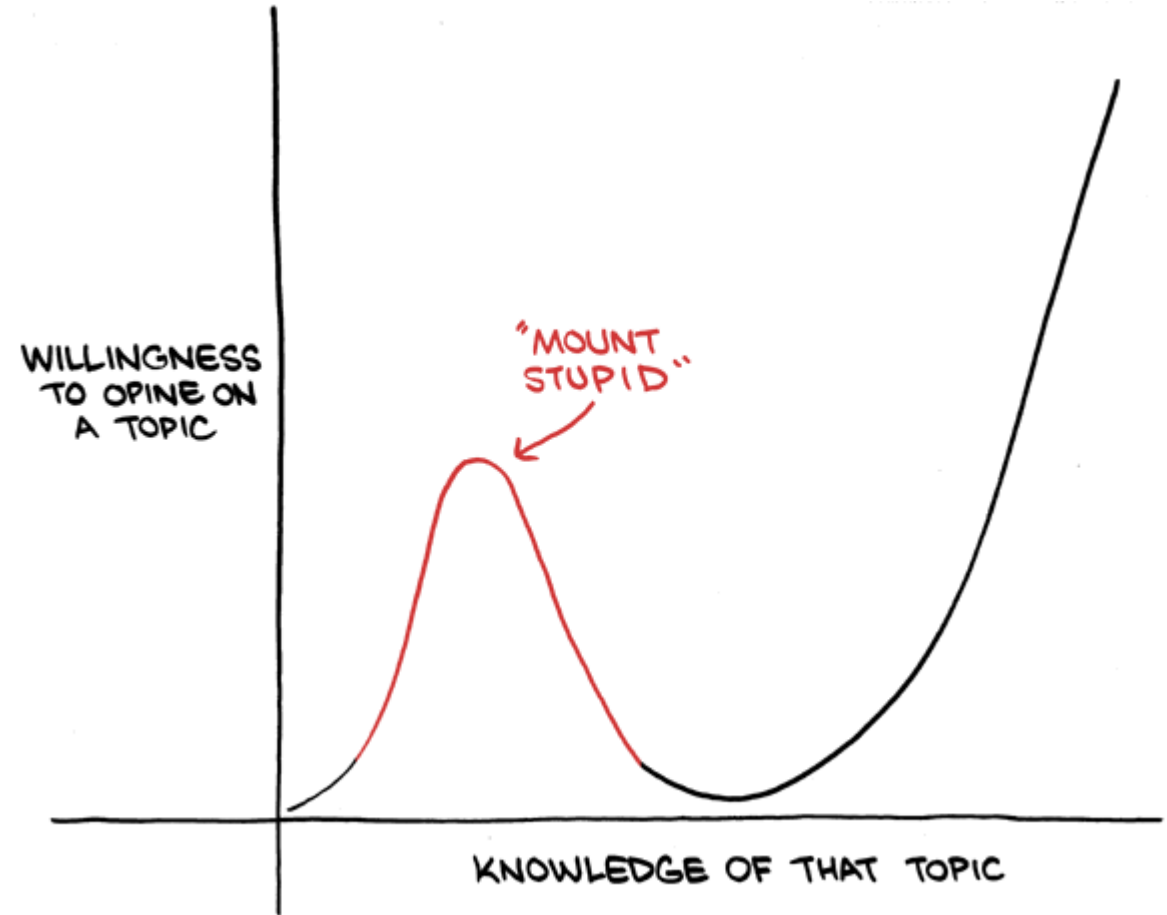
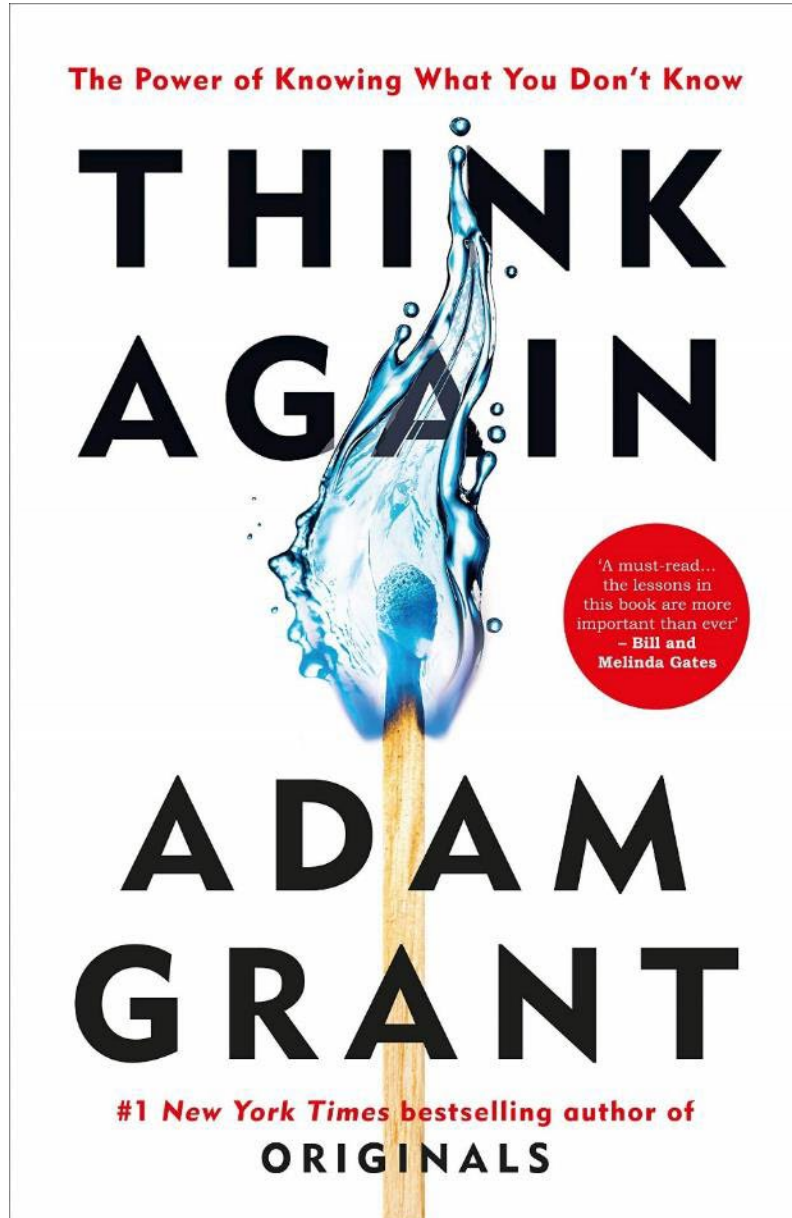


***AV Pilot Shuttle
Pilot Project
June 24, 2022***



Where
Inspiration
Sparks
Innovation

Think Again



Advantages and Disadvantages of Owning an Automobile

- Advantages
 - ✓ Convenience
 - ✓ Instant Availability
- Disadvantages
 - ✓ High Cost of Ownership
 - ✓ Stress of Driving in Traffic
 - ✓ Parking Costs and Availability
- AAA average annual car cost = \$9,282
- Equates to about \$0.65 per mile



Advantages and Disadvantages of Ride Sharing Services

- Advantages
 - ✓ Convenience
 - ✓ Used for the mobility challenged
 - ✓ Used for Special Events
- Disadvantages
 - ✓ Very high cost
 - ✓ Can increase congestion
 - ✓ Limited driver screening
- UBER and LYFT are about \$1-\$2/mile
- High minimum ride costs (\$6.50 for UberX)



Advantages and Disadvantages of Mass Transit Services

- Advantages
 - ✓ Much less expensive
 - ✓ Less stressful than driving
- Disadvantages
 - ✓ Less convenient
 - ✓ High headways
 - ✓ Limited off peak service
- LYNX and SunRail fares are \$2-\$3/trip
- Equates to \$0.19 to \$0.29 per mile



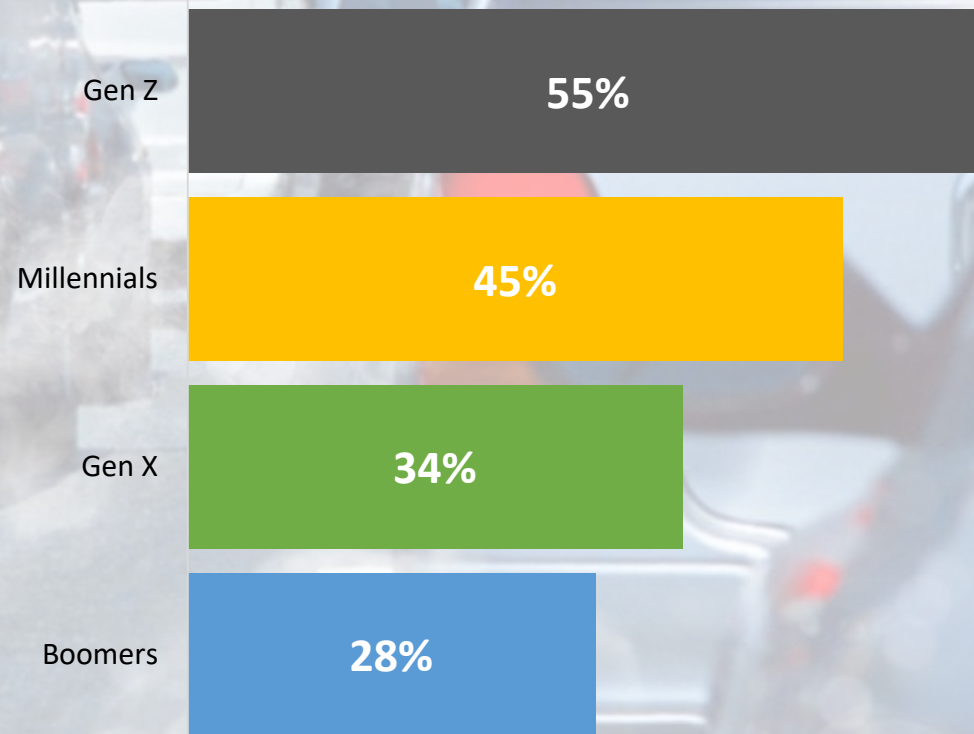
Advantages and Disadvantages of AV Shuttle Projects

- Advantages
 - ✓ No driver = potential large savings
 - ✓ More convenient
 - ✓ Lower headways
- Disadvantages
 - ✓ Technology still emerging
 - ✓ Currently operating at low speeds
- Could become a very cost competitive alternative to the single occupant vehicle.



Why is AV Technology Worth Studying?

Having Transportation is Necessary, But
Owning a Vehicle is Not (% Agree)



Source: <https://www.coxautoinc.com/learning-center/2018-mobility-study/>

Trenton MOVES:

Mobility & Opportunity: Vehicles Equity System



City of Trenton



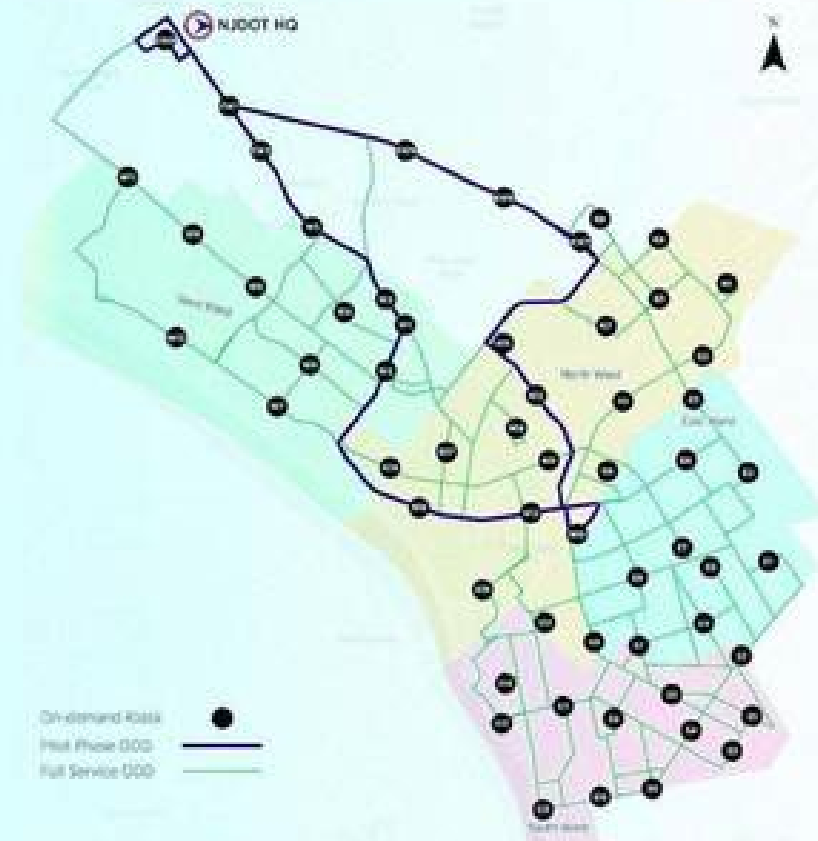
NJDOT



State of New Jersey



Princeton University



JTA Ultimate Urban Circulator Project



Early Transit in the City of Altamonte Springs

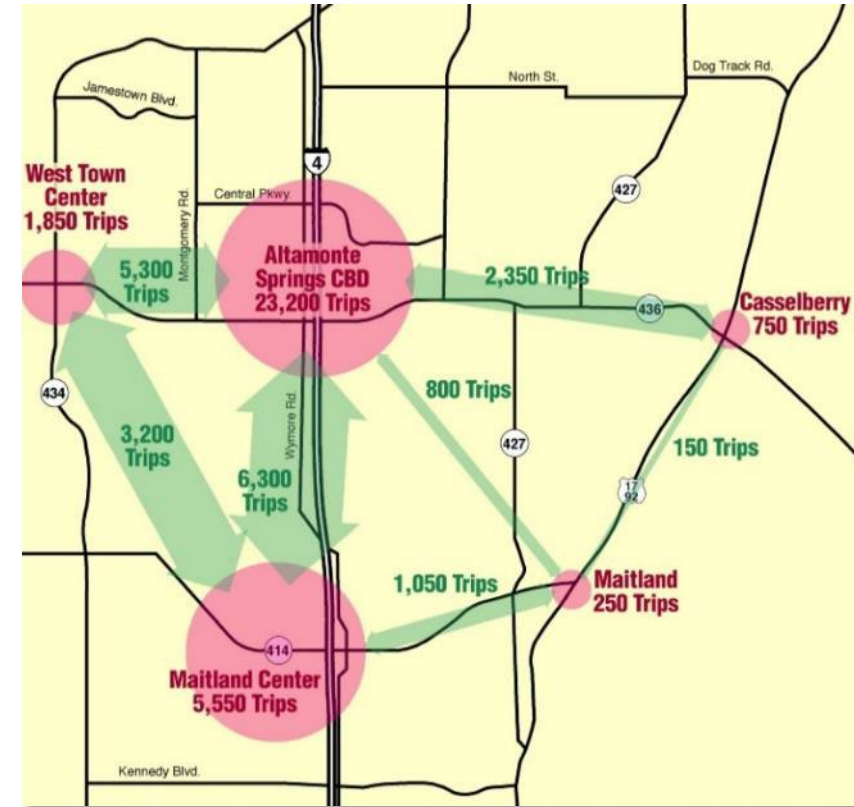
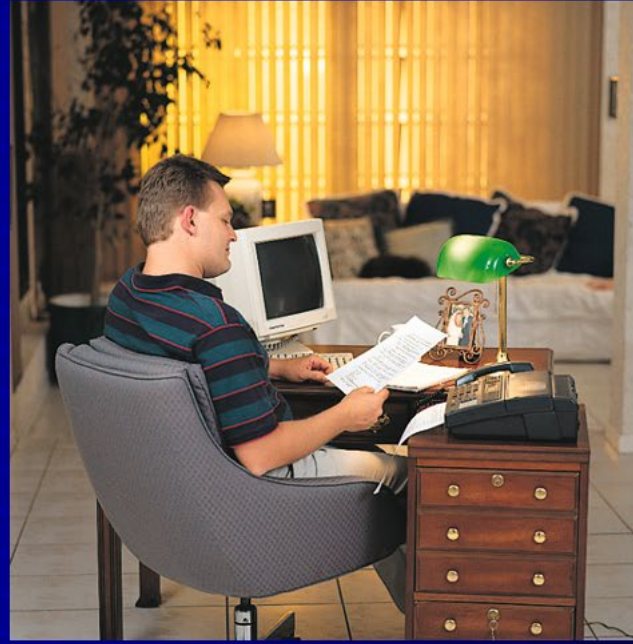
What are we trying to achieve?

Easy To Use And Understand

Touch Screen Kiosks
at Stations



Internet Access from
Home/Office



SR 436 Multimodal Corridor

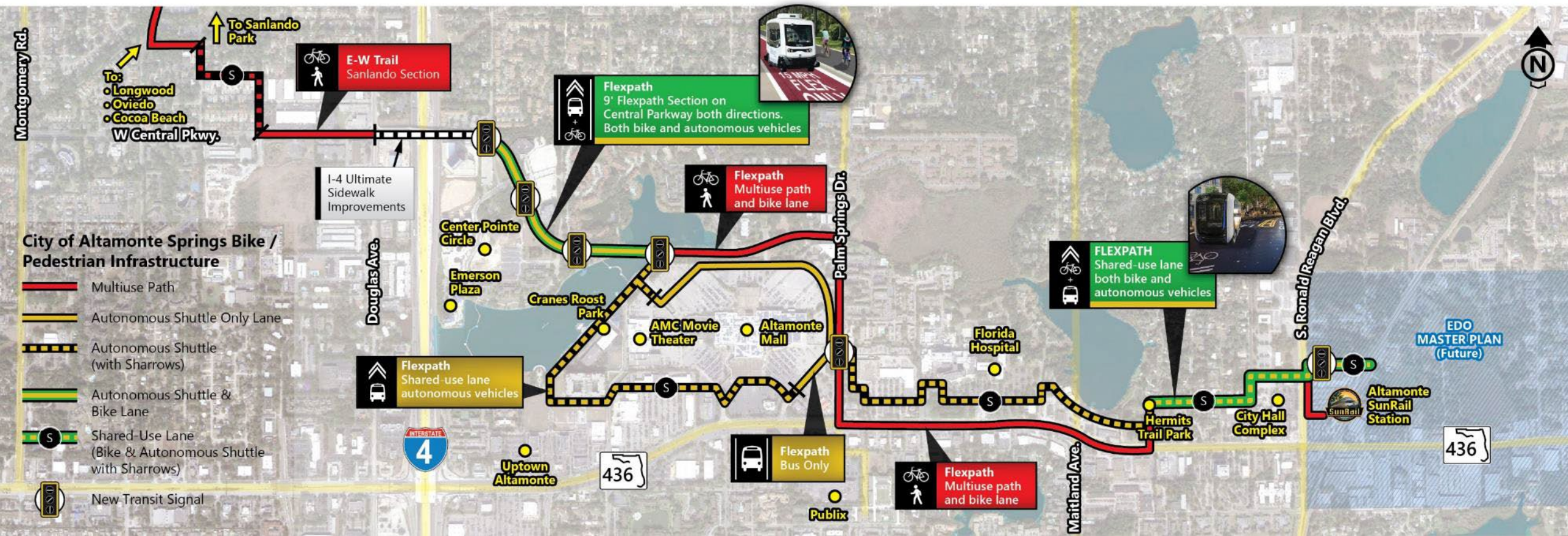


Changing the transit landscape into the future



@Cynosure Aerial

Flexpath Project Overview



Flexpath Project Renderings



Flexpath Project Renderings



E CENTRAL PKWY & N CENTERPOINTE CIR (FACING SOUTH EAST)

MULTIMODAL FLEX PATH | CITY OF ALTAMONTE SPRINGS | FLORIDA



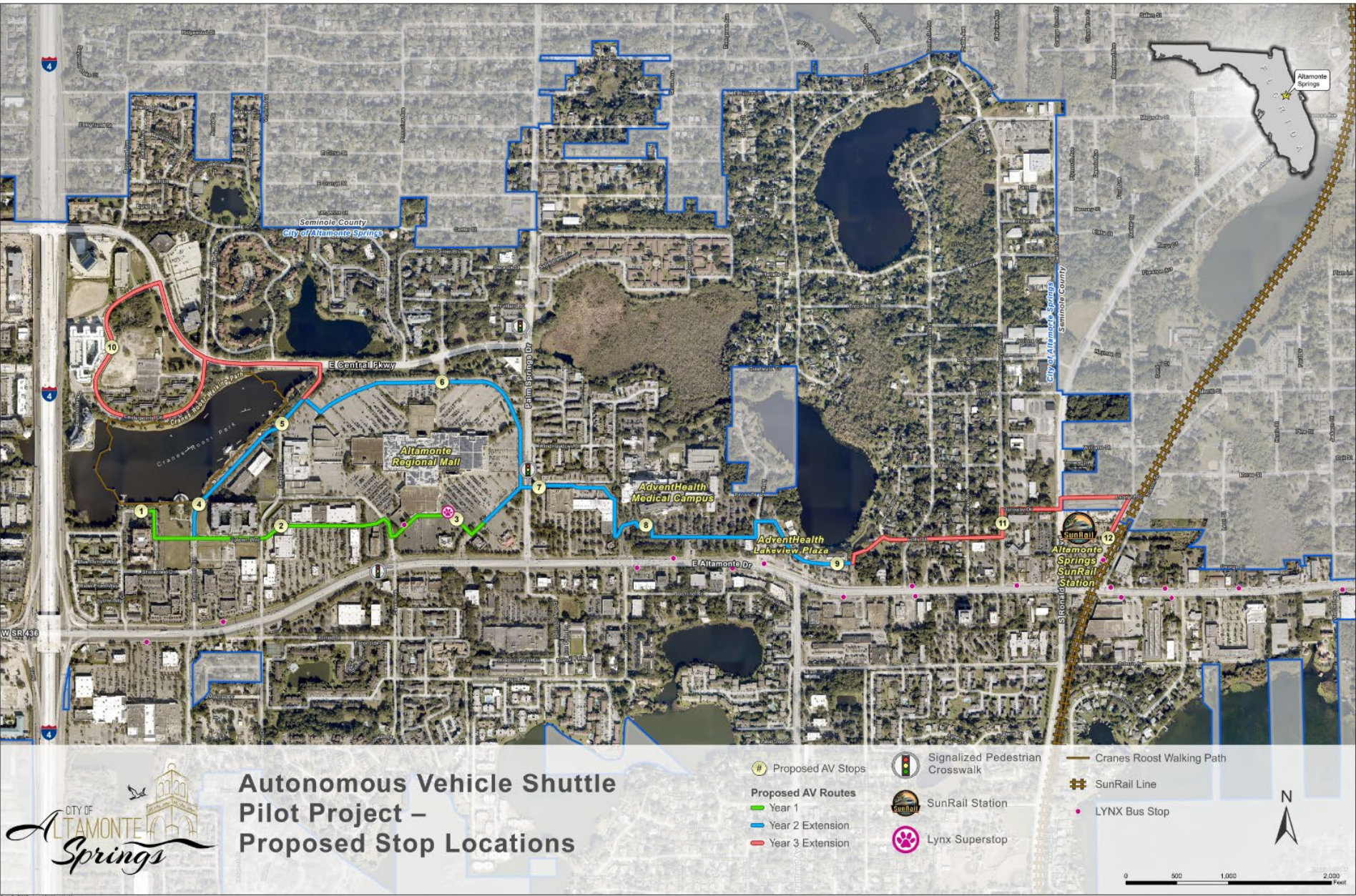
VHB p + d studio | March 24, 2022 | 3

FILE PATH: \\FLORIDATA\Dept\WP Library\Base Plan\A\

Flexpath Project Renderings



Autonomous Vehicle (AV) Shuttle Pilot Project – Overall route



Map © 1997-2020 Mapbox. Current Time 2/28/2023 8:47 AM

FDOT Service Development Grant – FY 2022/2023 – FY 2023/2024

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Florida Department of Transportation

420 W. Landstreet Road
Orlando, Florida 32824

RON DESANTIS
GOVERNOR

KEVIN J. THIBAUT, P.E.
SECRETARY

September 22, 2021

Franklin W. Martz, II
City Manager
City of Altamonte Springs
225 Newburyport Avenue
Altamonte Springs, Florida 32701

Re: State Fiscal Year 2022/2023 – Public Transit Service Development Program Intent to Award Letter

Dear Mr. Martz:

This notice is to advise the City of Altamonte Springs that the Florida Department of Transportation (FDOT) District Five Grant Review Team has completed the grant application review and ranking process for State Fiscal Year 2023/2024. Below is an overview of the City of Altamonte Springs' proposed Public Transit Service Development Program project and the anticipated amounts that will be awarded:

	Service Development Funding	Local Share
FY23 Capital	\$156,250.00	\$156,250.00
FY23 Operating	\$159,539.00	\$159,539.00
FY23 TOTAL	\$315,789.00	\$315,789.00
FY24 Capital	\$187,500.00	\$187,500.00
FY24 Operating	\$191,448.00	\$191,448.00
FY24 TOTAL	\$378,948.00	\$378,948.00
FY25 Capital	\$250,000.00	\$250,000.00
FY25 Operating	\$255,263.00	\$255,263.00
FY25 TOTAL	\$505,263.00	\$505,263.00
TOTAL PROJECT COST	\$1,200,000.00	\$1,200,000.00

Please review the attached budget categories identified in Exhibit B (Attachment 1) and indicate how the tentative operating award will be distributed within each budget category for State Fiscal Year 2023. Thank you for participating in this competitive grant application process. If you have any questions, please contact me at (321) 319-8174 or email diane.poitras@dot.state.fl.us.



City Selected Vendor



Proposed Vehicles from the Vendor



Figure 10: Navya Aesthetic Mock-Up



AV Shuttle Pilot Project – Overall Goals

- Improve Safety
- Develop a mobile application
- Produce mode shift
- Exchange data with AV shuttle
- Incorporate into Complete Street standards
- Reach Level 4 Autonomy
- Replicate in other parts of the State



Autonomous Vehicle (AV) Shuttle Pilot Project – Year 1

Year 1 Goals

- Provide initial service to Embassy Suites, Cranes Roost Park, Whole Foods and the Altamonte Mall.
- Perform comprehensive public involvement and education.



Autonomous Vehicle (AV) Shuttle Pilot Project – Year 2

Year 2 Goals

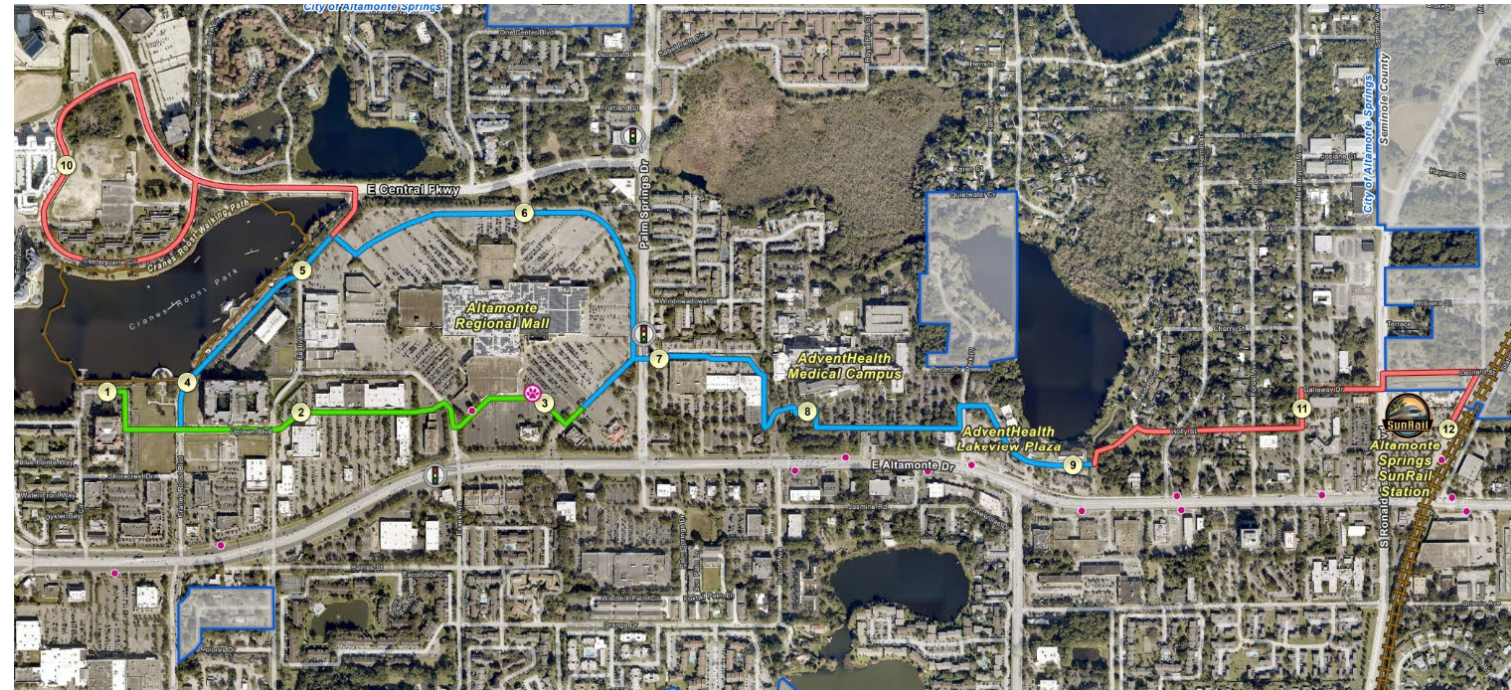
- Extend service around the mall loop and to the AdventHealth campus.
- Develop the mobile application for customers.
- Add traffic signal connected vehicle technology that can interact with the AV shuttle.
- Exchange data with the AV shuttle and other infrastructure.



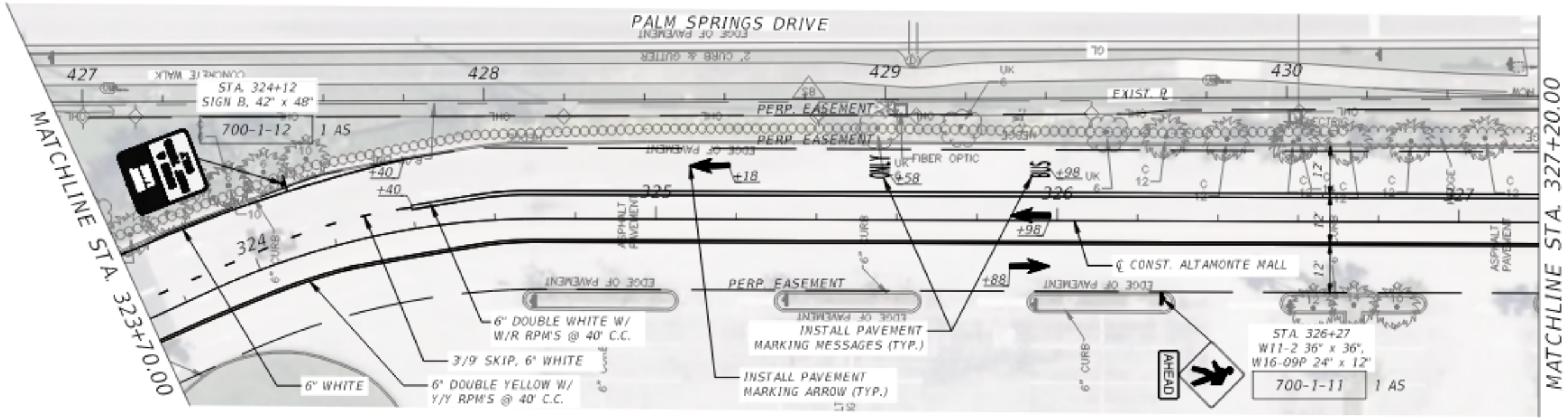
Autonomous Vehicle (AV) Shuttle Pilot Project – Year 3

Year 3 Goals

- Extend service west to the Centerpointe Circle development and east to City Hall and the SunRail station.
- Incorporate “flex lane” on Central Pkwy into complete street standards.
- Reach level 4 autonomy.
- Mature to a fully operating and effective local transit system.

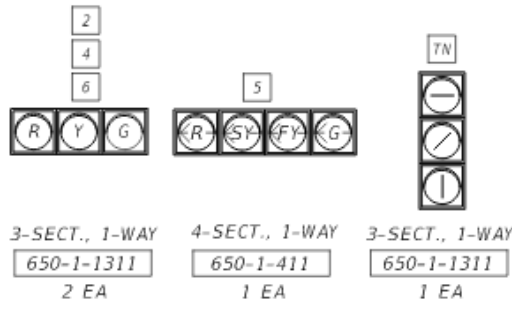


Altamonte Mall Exclusive AV Lane

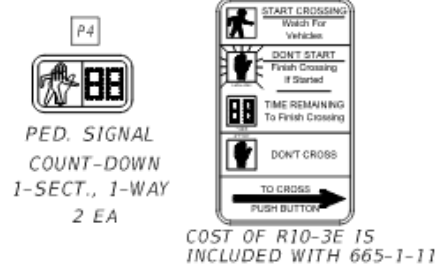


Intersection AV Movements

SIGNAL HEAD DETAILS

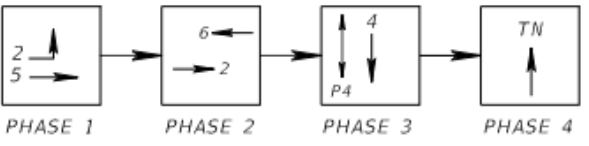


PEDESTRIAN HEAD DETAILS



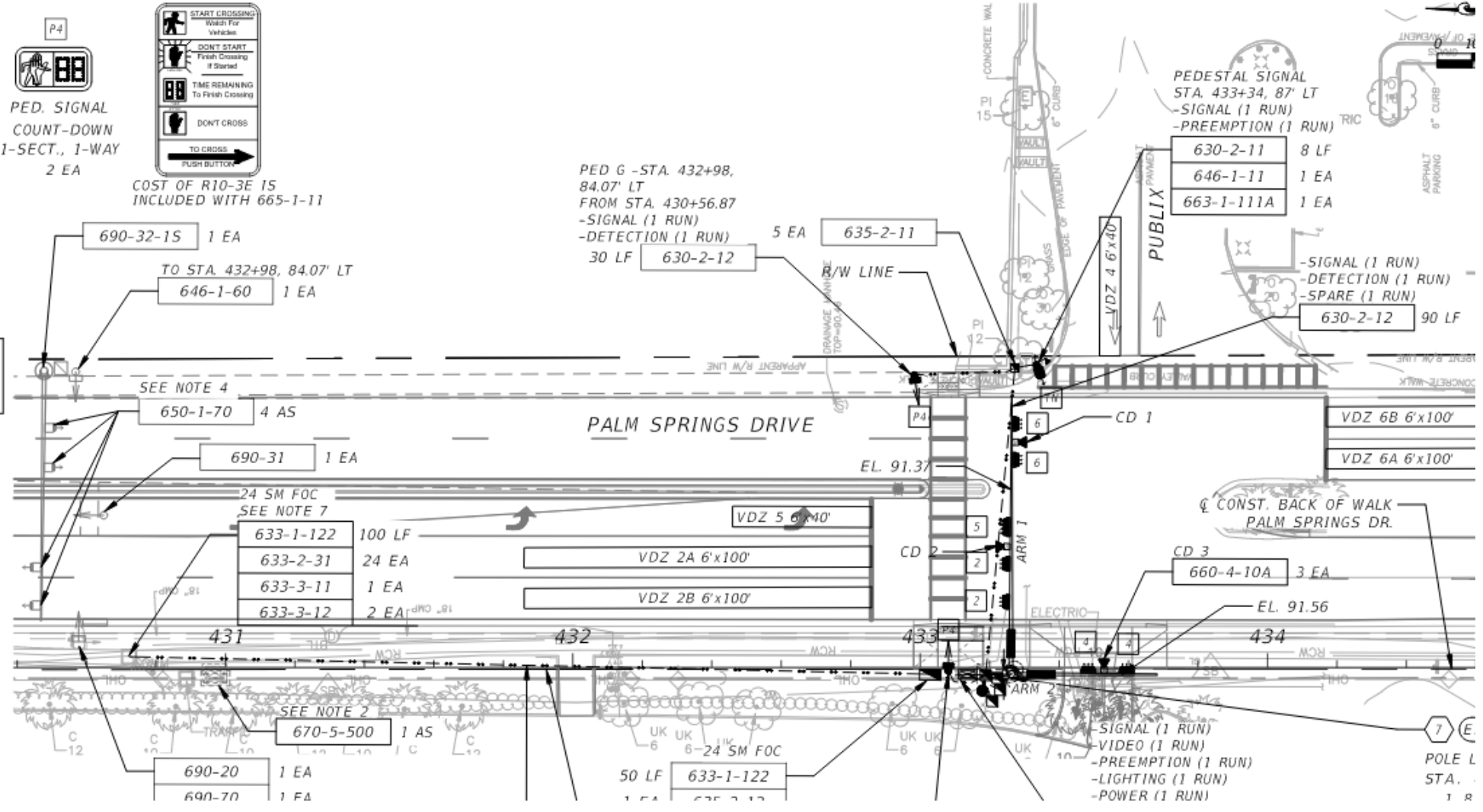
MOVEMENT DIAGRAM

(SOP 8 MODIFIED)

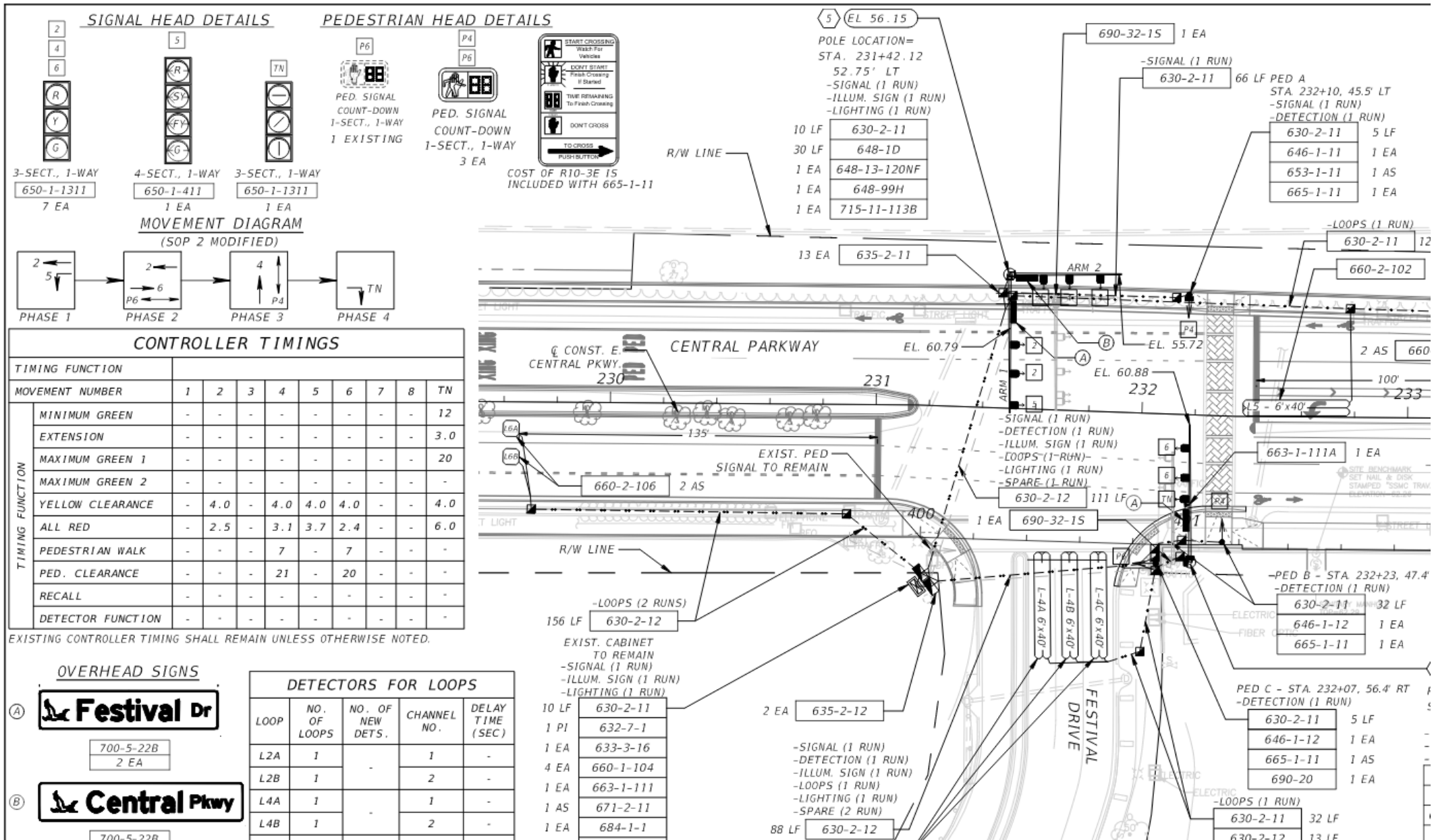


VIDEO VEHICLE DETECTION ASSIGNMENTS

CAMERA DETECTOR	DETECTION ZONE	DELAY TIME (SEC.)
CD1	VDZ 2A	-
	VDZ 2B	-
	VDZ 5	5
CD2	VDZ 6A	-
	VDZ 6B	-
CD3	VDZ 4	-



Intersection AV Movements

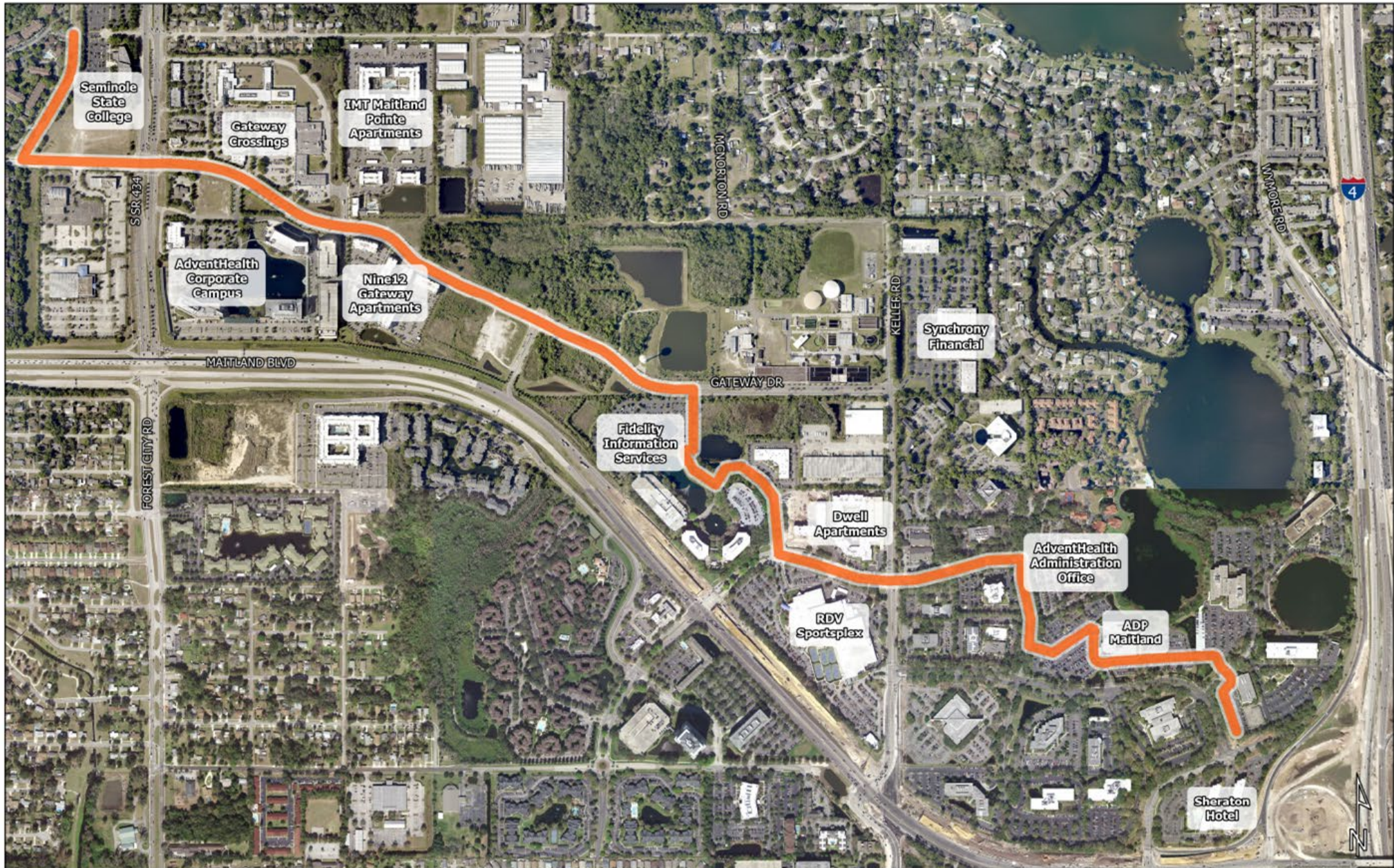


Pilot Project Schedule

- **July/August 2022** - Finalize vendor contract and execute FDOT grant agreement
- **September 2022 – January 2023** – Procurement of vehicles and initiation of service.
- **February 2023** – Year 1 Service Begins
- **February 2024** – Year 2 Service Begins
- **February 2025** – Year 2 Service Begins
- **February 2026** – Pilot Project is Complete



Potential Future Project – Gateway Dr AV Shuttle Project



Potential Future Project – Gateway Dr AV Shuttle Project



QUESTIONS?

BRETT BLACKADAR, PE, PMP, PTOE
Director of Mobility and
Innovation/City Engineer
BBlackadar@altamonte.org
(407) 571-8338

