





20 TRANSPORTATION 24 SYMPOSIUM

Design Lessons Learned

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Presenter Info

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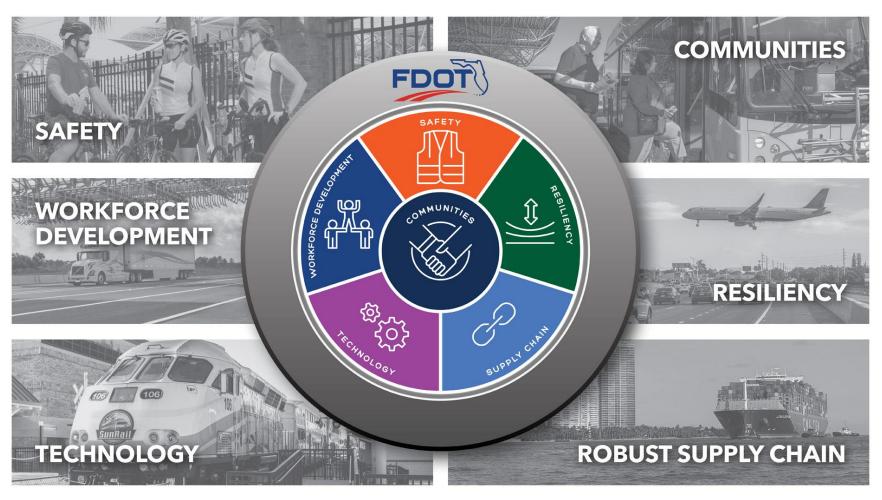
Objectives

Lessons Learned

Tips and Tricks

How can we continue to improve based on past experiences?

FDOT COMPASS



Lessons Learned – Bus Shelters

Bus Shelters

Check with Transit Agency

FTA



Proprietary Products

- Lighting
- Signal
- ITS
- Irrigation
- Other

BABA

Proprietary Products (PPC)

Need

- Form 110 (located in FDM)
- Letter from Agency
- Specifications
- Plans notes

Must be BABA (Build America, Buy America Act) compliant

Form 110 (located in FDM)

2024 FDOT Design Manual - Complete FDM Document Download

To view the Implementation Bulletin for the current FDM, please see <u>RDB23-03</u>. <u>Summary of Revisions</u>

Development and Processes - Complete FDM Part 1 Download				
Chapter	Training	Bulletin	Errata	Description
				Introduction
<u>100</u>				Introduction
<u>Link</u>				Context Classification
<u>102</u>				Glossary of Terms
<u>103</u>				Standard Forms



Form 110 (located in FDM)



		Form 1
S	TATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
	Proprietary Product Certification	
To:	Date:	
District or Turnpike D		
Financial Project ID:		
Federal Aid Number:		
Project Name:		
State Road Number: Begin Project MP:	Co. / Sec. / Sub.: End Proiect MP:	
_	e following condition(s) apply. Mark appropriately:	
that this patented or pro highway facilities;	prietary item is most compatible with existing highway faciliti prietary item provides greater flexibility with existing and/or prietary item fosters innovation in highway transportation to	future
that this patented or profession that this patented or proprieta that this patented or profession that the patented or proprieta that this patented or profession that the patented or proprieta that this patented or profession that the patented or proprieta that this patented or profession that the patented or proprieta that the patented or proprieta that this patented or propr	prietary item provides greater flexibility with existing and/or	made in
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Excerpt of letter from agency (or FDOT)

Good example

Agency a mankenance mionery.

The sole use of these products have determined to be necessary based on Function and Logistics. The requested products will be integrated with the County's existing traffic signal systems and will be included in the County's maintenance management. The County requires the same devices throughout its network for seamless operation and maintenance.

Commander ATC Traffic Controller

- Manufacturer: Cubic ITS Inc (Trafficware)
- NEMA TS2 Type 2
- APL Certification: 671-017-014

Traffic Controller Cabinet Assembly - NEMA TS-2 Type 6 (2 Rack):

- Manufacturer: Cubic ITS Inc. (Trafficware)
- Model: 70006-TS2/FL
- APL Certification: 676-023-004

Excerpt of letter from agency (or FDOT)

Bad example

Dear Mr. Olson

The City project:

Rainbird Irrigation Supplies- Rainbird is currently being used as the standard throughout the City of The City, for the sake of inventory supply and consistency, is requiring this product on all projects where applicable.

Given the above, please accept this letter as our request to specify Rainbird products on the Project.



Specs



TS1, TS2-1, TS2-2 and ATC standards. COMMANDER is the result of customer guidance, Cubic | Trafficware's

Plan notes

PAY ITEM NOTES

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PAY ITEM NO. 646-1-11
TRANSFORMER BASE SHALL BE PELCO PRODUCTS MODEL SP-1116-FL. APL NO. 646-001-001.
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- FDOT
 - Some FDOT Offices request proprietary products
 - ITS
 - Drainage
 - MUST process the same paperwork as an agency

- Not a solution
 - Plan note/design plans reflecting "...or approved equal to XXXX..."

Traffic Signal Devices must be on the APL

<u>Florida Statute 316.0745 (3)</u> requires "All official traffic control signals or official traffic control devices purchased and installed in this state by any public body or official shall conform with the manual and specifications published by the Department of Transportation pursuant to subsection (2)."

Please refer to the Department's Traffic Engineering Research Laboratory (TERL) Product Certification Handbook (PCH) <u>Section 4</u> for a list of all Traffic Control Devices with required APL listing

Don't wait until the last minute. Agencies that are requesting PPC items that are not on the APL must work with the vendors to get the items on the APL, and it might not even possible, and then the agency has to determine an alternate approach.

TRANSPORTIME

Lessons Learned – Utilities

Utilities – Power Supply







FPL



FPUA



Lake Worth Beach

You MUST confirm with each power company their preferences for service drops/meters/etc, do NOT assume based on past projects

Lessons Learned – Signals - Lighting

Signals - Lighting

Remember, there are different maintaining agencies for signals

- All counties
- Some cities

















And lighting

- Counties
- Cities/Villages/towns
- FDOT

You <u>MUST</u> confirm with maintaining agencies their preferences for signals and/or lighting, do NOT assume based on past projects

Lessons Learned – MMOAs

- Don't forget the MMOA (Maintenance Memorandum of Agreement)
- Decorative lighting and painted mast arms <u>require</u> a MMOA (and also typically an LFA—locally funded agreement)

SECTION NO.: 94070000 FM No.(s): 446169-1-52-01 COUNTY: St. Lucie S.R. No.: 68

FLORIDA DEPARTMENT OF TRANSPORTATION - DISTRICT FOUR (4)
LIGHTING MAINTENANCE MEMORANDUM OF AGREEMENT

THIS AGREEMENT made and entered into this date _______, by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, a component agency of the State of Florida, hereinafter called the DEPARTMENT, and City of Fort Pierce, a municipal corporation existing under the Laws of Florida, hereinafter called the AGENCY.

WITNESSETH:

WHEREAS, the DEPARTMENT has jurisdiction over State Road (S.R.) 68 beginning from Mile Post (M.P.) 19.754 to M.P. 21.669 and

WHEREAS, the DEPARTMENT seeks to install and have maintained by the AGENCY certain highway IMPROVEMENTS; and

WHEREAS, as part of the continual updating of the State of Florida Highway System, the DEPARTMENT, for the purpose of safety, protection of the investment and other reasons, has constructed and does maintain SR 68 beginning from M.P. 19.754 to M.P. 21.669 (within the limits of the AGENCY); and

WHEREAS, it is the intent of the AGENCY and the DEPARTMENT that the AGENCY shall maintain the specific elements constructed under Project Number 446169-1-52-01 to include decorative lighting; hereinafter called IMPROVEMENTS installed along SR 68 M.P. 19.754 to M.P. 21.669; and

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION LOCALLY FUNDED AGREEMENT

This Locally Funded Agreement ("Agreement"), entered into this day <u>June 22, 2023</u> by and between the State of Florida Department of Transportation hereinafter called the DEPARTMENT, and the City of Lake Worth Beach, located at 7 North Dixie Highway, Lake Worth, Florida, 33460, hereinafter called the PARTICIPANT.

WITNESSETH

WHEREAS, the DEPARTMENT and the PARTICIPANT are desirous of having the DEPARTMENT make certain improvements in connection with the DEPARTMENT'S construction work along SR-5/US-1 FROM 10th Ave South TO 6th Ave North, in the City of Lake Worth Beach, Florida. (Financial Management (FM) Number 446173-1-52-01, Funded in Fiscal Year 2024); and

WHEREAS, the PARTICIPANT has requested that the DEPARTMENT perform the following additional work (FM Number 446173-1-52-01). The funds will be utilized for decorative lighting as set forth in **Exhibit A**, which is attached hereto and made a part hereof and hereinafter referred to as **the Project**; and

TRANSPORTATION SYMPOSIUM

FM No: 446173-1-52-01

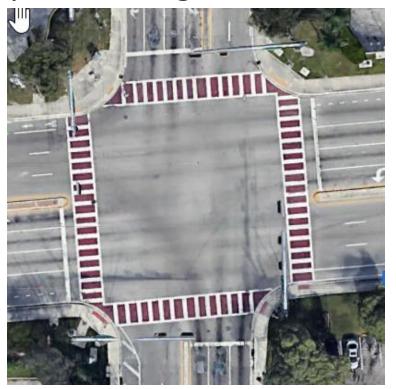
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Lessons Learned – MMOAs

- MMOAs
 - Not just for decorative lighting and painting of mast arms
 - Also needed landscape, hardscape, and irrigation

- Let's talk Patterned Pavement
 - Needs local contribution
 - Needs MMOA
 - Requires biennial skid testing

Early coordination is critical



Lessons Learned – TIP/STIP

- TIP / STIP Amendments
 - Costs increase more than \$2M AND 20% AMENDMENT NEEDED
 - Costs decreases
 No Amendment Needed
 - *Length increases by 1/2 mile AND 20% AMENDMENT NEEDED
 - *Length decreases by 1/2 mile AND 20%
 AMENDMENT NEEDED
- TIP amendments can take up to four months depending on MPOs schedules/calendars

*Bonus: EOG may also be needed



Lessons Learned – Maintenance Maps

- Maintenance Maps
- Tool to assist the Department in obtaining a Project's R/W Certification
- Used when roadway encroachments outside the righ of way have been maintained by the Department for the statutory length of time
- Only needed if you will be doing construction on above referenced encroachments
 - Only needed if the encroachments are over 0.35' threshold

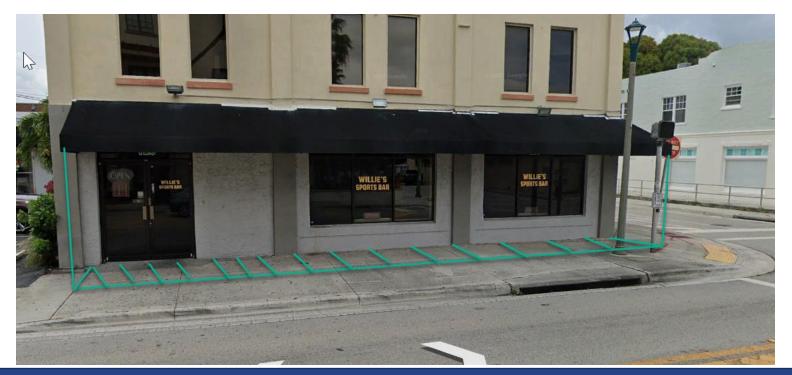
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE MAP SPECIFIC PURPOSE SURVEY



Lessons Learned – Maintenance Maps

- Don't forget to look up!
 - We couldn't do a maintenance map for the sidewalk to the building we are maintaining below because it would've impacted the awning of the private property. Fortunately, we didn't end up needing the maintenance map



Lessons Learned – Funds vs Budget

Funds vs Budget

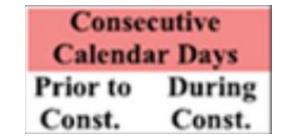
- Funds and budget are NOT the same thing
- Budget is permission to spend funds (any flavor of funds—including local funds)
- FDOT must have budget to let every job (and hire every consultant, etc...)
- Budget is set approximately 2 years in advance of when it's used

Local funds (LF)

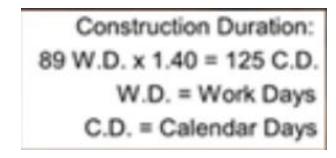
- Budget can't be magically created because of late scope additions
 - Such as patterned pavement, installing a new utility line, etc.
- You need to account for your LF needs at least
 2 fiscal years in advance with your LREs/PERs
 in order to capture budget

Lessons Learned – UWS

- UWS (Utility Work Schedule)
- UAO fills in the "Consecutive Calendar Days"



- But do they really mean calendar days or work days?
- The CTE divides the value given in the UWS by 1.4
 - Did the UAO just lose days?



 Ensure UAOs are aware time needs to be given in calendar days, <u>not</u> work days.

Lessons Learned – Mowing & Litter Removal

- For off-system projects let by FDOT
- Mowing and Litter removal is NOT FHWA eligible, nor can the state pay for it

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νζ		*0107- 1-	LITTER REMOVAL	
		*0107- 2-	MOWING	
	Р	0108- 1-	MONITOR EXISTING STRUCTURES- (44616915201)	
	Р	0108- 2-	MONITOR EXISTING	STRUCTURES-
		0110- 1- 1	CLEARING & GRUBB	ING (446169152
	* - non-pa	articipating		



Lessons Learned – Mowing & Litter Removal

Solutions

- Locals can enter into a LFA (Locally funded agreement) to give \$ to the
 Department to include mowing and litter removal in the construction plans
- Locals can commit to doing the mowing and litter removal during construction
 - Commitment must be legally binding, such as within an HMMOA
 - A MSP must also be processed to do this
- Not a solution
 - To not do the mowing and litter removal

DISTRICT FOUR HIGHWAY MAINTENANCE MEMORANDUM OF AGREEMENT

THIS AGREEMENT, entered into this _____day of _____, 20__, by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, a component agency of the State of Florida, hereinafter called the DEPARTMENT and XXXXXX COUNTY/CITY, a political subdivision of the State of Florida, or a municipal corporation existing under the Laws of Florida, hereinafter called the AGENCY collectively referred to as Parties.

WITNESSETH:

WHEREAS, the AGENCY has jurisdiction over ROADWAY NAME, as part of the County/City/Town roadway system from XXXX to XXXX; and

^^^^

4. The AGENCY shall continue to maintain the existing roadway and any property owned by AGENCY until the DEPARTMENT begins construction of the Project. The AGENCY shall continue to be responsible for mowing and litter removal during the duration of the Project.



Lessons Learned – Off-system Design criteria

- For off-system projects let by FDOT
- If you have an off-system project and you meet at least one of the three criteria noted, you need to use FDM
- <u>Talk to your DDE</u> about options to use Florida Green Book if desired
 - May/may not be possible

On or Off the State Highway System (SHS)?

- Intended for use on all streets and highways OFF the SHS
- · Unless using federal funds and project is:
 - On the National Highway System (NHS),
 - Has a construction value ≥ \$10 million, or
 - Includes a vehicular bridge, pedestrian bridge over a roadway, certain box culverts.
- Then use FDOT's Design Manual (FDM) and Standard Plans



Fort George/Talbot Island Bridge, FL

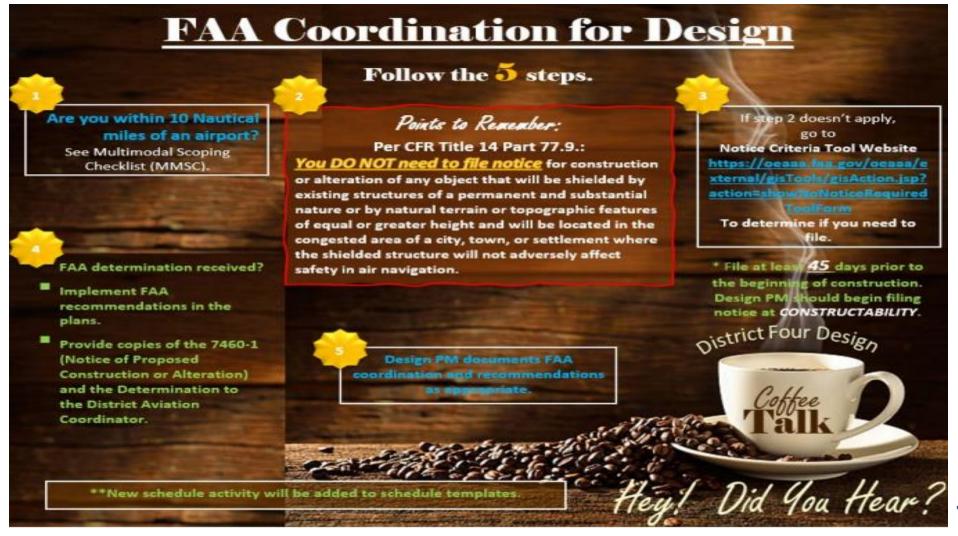
FDOT Florida Departm

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Check Local Programs Manual for additional info

TRANSPORTATION SYMPOSIUM

Lessons Learned – FAA Coordination



TRANSPORTATION SYMPOSIUM

Lessons Learned – License Agts vs TCEs

- License Agreements
 - These are used <u>solely</u> for the benefit of the property owner
 - Any work within the license agreement <u>cannot</u> be required for the construction/operation/maintenance of the project/facility
 - If the license agreement is revoked, the project can still be built
- Temporary Easement/Permanent Easement/Fee/Donation
 - All four of these are acquisition, yes--even donations
 - If you cannot build your project/operate/maintain it in the finished condition, you may need one of these types of acquisition
 - Acquisition takes time generally speaking, an acquisition phase will add three (3) years to your schedule

Engineer vs Engineer of Record

Engineer.

The Director, Office of Construction, acting directly or through duly authorized representatives; such representatives acting within the scope of the duties and authority assigned to them.

Note: In order to avoid cumbersome and confusing repetition of expressions in these Specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where "acceptable, accepted, approval, approved, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined, directed, disapproved, established,

given, indicated, insufficient, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable, or unsatisfactory," it shall be understood as if the expression were followed by the words "by the Engineer," "to the Engineer," or "of the Engineer."

Engineer of Record.

The Professional Engineer or Engineering Firm registered in the State of Florida that develops the criteria and concept for the project, performs the analysis, and is responsible for the preparation of the Plans and Specifications. The Engineer of Record may be Departmental inhouse staff or a consultant retained by the Department.

The Contractor shall not employ the Engineer of Record as the Contractor's Engineer of Record or as a Specialty Engineer.



APL

5-1.4.5 Submittal Paths:

5-1.4.5.1 General: Shop drawings are not required for items on the

Approved Products List used as intended in the relevant Standard Plans and Standard Specifications. For non-prequalified items, determine the submittal path to be followed based upon the identity of the Engineer of Record as shown adjacent to the title block on the structural plan sheets, and on the key sheets of roadway plans, signing, and pavement marking plans, and/or lighting plans. At the preconstruction conference, the Department will notify the Contractor in writing of any changes in the submittal path and whether the Department's or the Consultant's review stamp will signify an officially reviewed shop drawing.

When the Florida Department of Transportation is the Engineer of Record, submit shop drawings to the Resident Engineer and to the appropriate Department

FY 2024-25

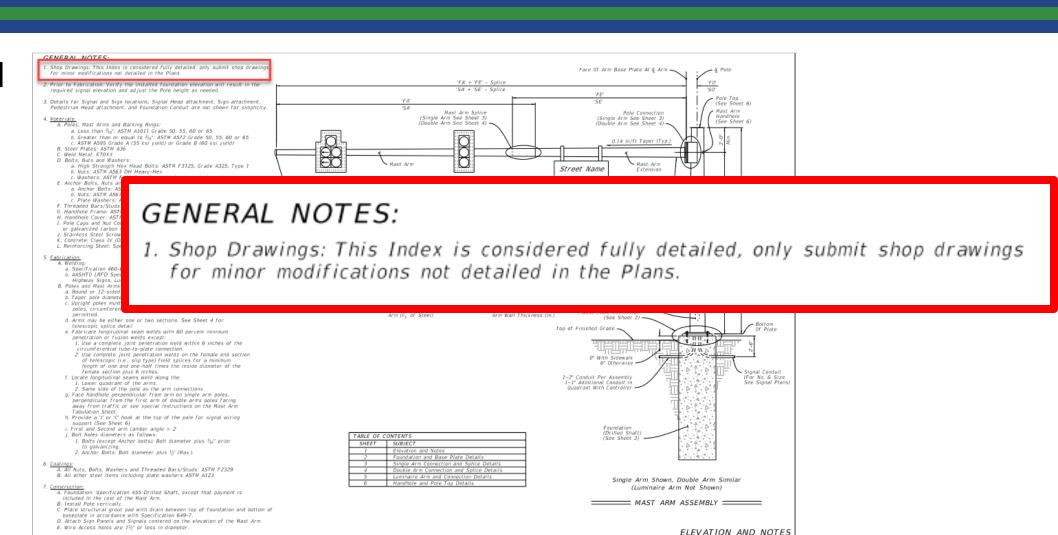
STANDARD PLANS

Standard Plans

LAST

REVISION

11/01/23



MAST ARM ASSEMBLIES

649-031

1 of 6

TRANSPORTATION SYMPOSIUM

Processing of Shop Drawings

5-1.4.6 Processing of Shop Drawings:

5-1.4.6.1 Contractor Responsibility for Accuracy and Coordination of

Shop Drawings: Coordinate, schedule, and control all submittals, with a regard for the required priority, including those of the various subcontractors, suppliers, and engineers, to provide for an orderly and belanced distribution of the work



Schedule the submission of shop drawings to allow for a 45 calendar day review period for all submittals associated with a category 2 bridge; tolling components identified in the current FDOT General Tolling Requirements (GTR) Part 3; and the tolling-related signing, DMS and ITS infrastructure. Schedule the submission of shop drawings to allow for a 25 calendar day review period for all other items. The review period commences upon the Engineer's receipt of the valid submittal or valid re-submittal and terminates upon the transmittal of the submittal back to the Contractor. A valid submittal includes all the minimum requirements outlined in 5-1.4.4.

Submit shop drawings to facilitate expeditious review. The

Contractor is discouraged from transmitting voluminous submittals of shop drawings at one time.

For submittals transmitted in this manner, allow for the additional review time that may result.

Only shop drawings distributed with the approval stamps are valid and all work that the Contractor performs in advance of approval will be at the Contractor's risk.

Work affecting Public Safety may not be performed prior to approval of appropriate submittals

TRANSPORTATION SYMPOSIUM

Processing of Shop Drawings

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5-1.4.3 Schedule of Submittals: Prepare and submit a schedule of submittals that identifies the work for which shop drawings apply. For each planned submittal, define the type, and approximate number of drawings or other documents that are included and the planned submittal date, considering the processing requirements herein. Submit the schedule of submittals to the Department's Shop Drawing Review Office and the Engineer of Record within 60 days of the start of the Contract, and prior to the submission of any shop drawings.

Coordinate subsequent submittals with construction schedules to allow sufficient time for review, resubmittal and approval prior to beginning fabrication, as necessary.

Solutions

- Design and Construction/CEI teams understanding roles/responsibilities of each team
- Hand-off meeting between Design and CEI teams at/around letting and prior to Construction NTP being issued

Lessons Learned – Why?

- Why are Lessons Learned important?
- Remember CREATE

<u>C</u>	COMMUNICATION
<u>R</u>	RELATIONSHIPS
<u>E</u>	EMPOWERMENT
<u>A</u>	ACCOUNTABILITY
<u></u>	TRUST





FDOT Team,

Since I stepped into the role of Secretary, it has been a personal priority of mine to ensure that every employee at this agency feels valued and heard, and that the successes achieved by our department are attributed to the hard work and dedication of each member of our team. The responsibilities that our department is tasked with upholding are too important for us to not build a positive, encouraging, and collaborative environment for our team, which is why I have been participating in conversations centered on cultural changes we can collectively make at FDOT.

Prior to Hurricane Ian, I was joined by leadership staff from across the state to discuss the type of culture we would like to build at our agency and the means to achieve these changes. During this three-day workshop, the team defined the most important factors that can contribute to this culture shift- Communication, Relationships, Trust, Empowerment, and Accountability. Below are some ways to put these values into action within the workplace:

- Communication: We have to tell our story the FDOT story, our personal stories, and our communities' stories. This is the only way people will know all that we accomplish.
- Relationships: We must value and invest in our relationships inside and outside of
 the Department. We should foster an employee experience that creates a solid
 foundation and promotes growth and a community experience that demonstrates
 how much we care about the work we do. The way we make people feel matters.
- Trust: Consistent communications + intentional relationships trust. Trust
 employees to make decisions and trust management to support you and the team.
 Most importantly, trust is built over time.
- Empowerment: Build an environment where employees can make mistakes and learn from them. By building this knowledge base and confidence, our teams will become stronger and more empowered.
- Accountability: We are each responsible for developing our desired culture. No
 matter how commonly-shared our vision is, unless we take the time to intentionally
 implement our ideals, we will not change. It is up to us.

I believe that each person intentionally and consistently incorporating these seemingly small actions one day at a time, step by step, will help grow and cultivate an environment that is uplifting and supportive for all of our valued team members across the state. I'm proud of this team and the vision we will achieve as OneFDOT.

Sincerely

Jared W. Perdue, P.E. Secretary



Lessons Learned – Mowing & Litter Removal

What Questions do you have?

Safety Message



Contact Us 🐃

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