

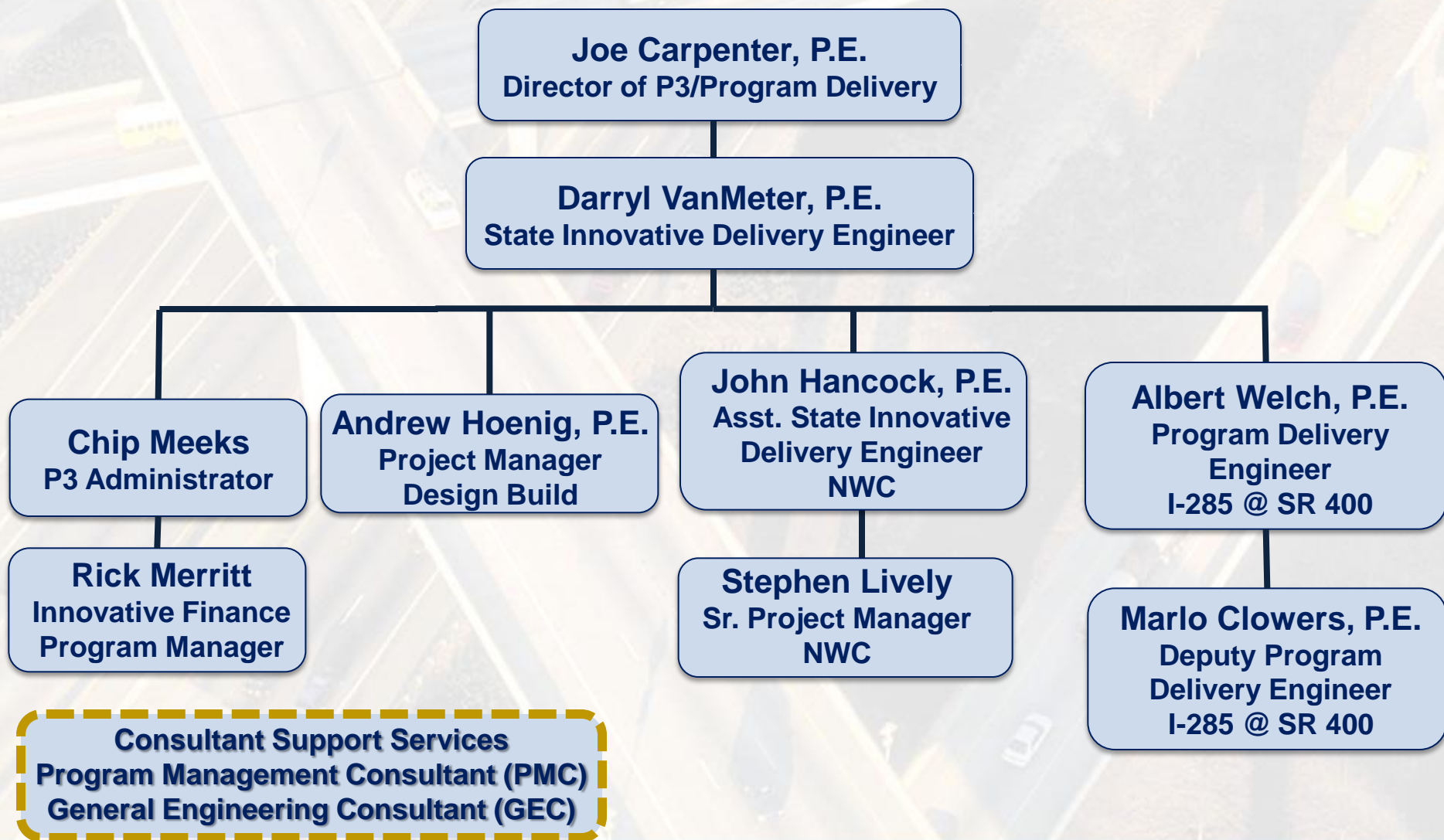
Design-Build Utility Coordination

Darryl VanMeter, P.E. GDOT Innovative Delivery
Lee Upkins, GDOT State Utility Engineer
John D. Tuttle, Utilities, HNTB Corporation

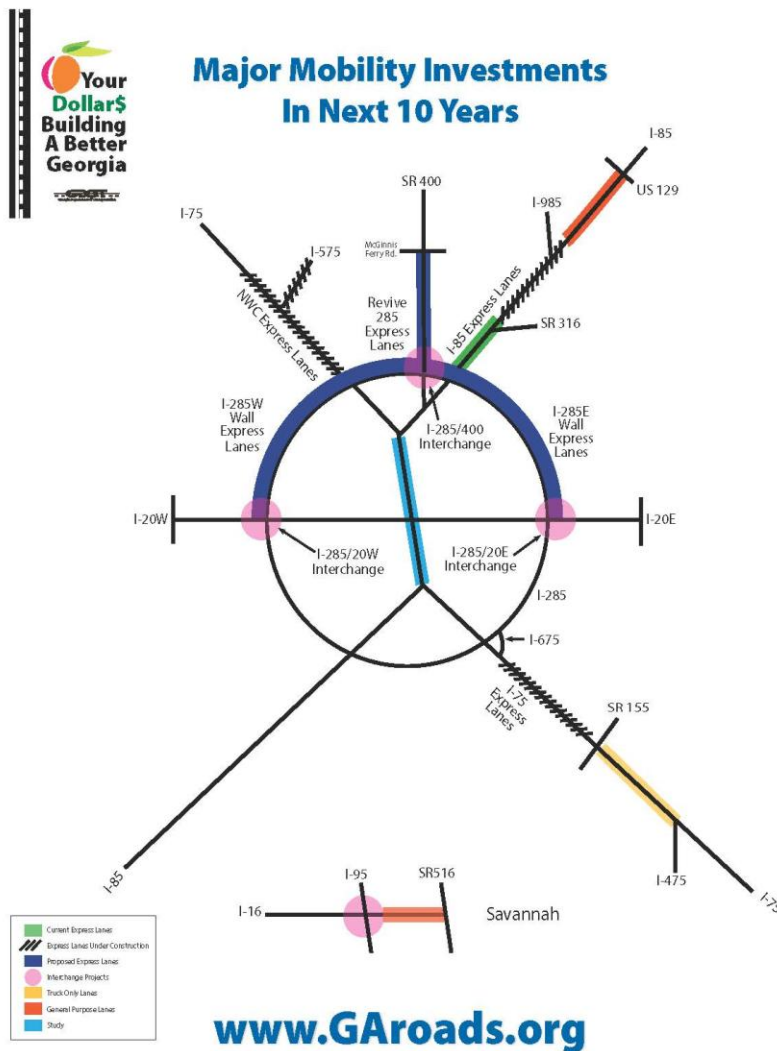
March 02, 2016



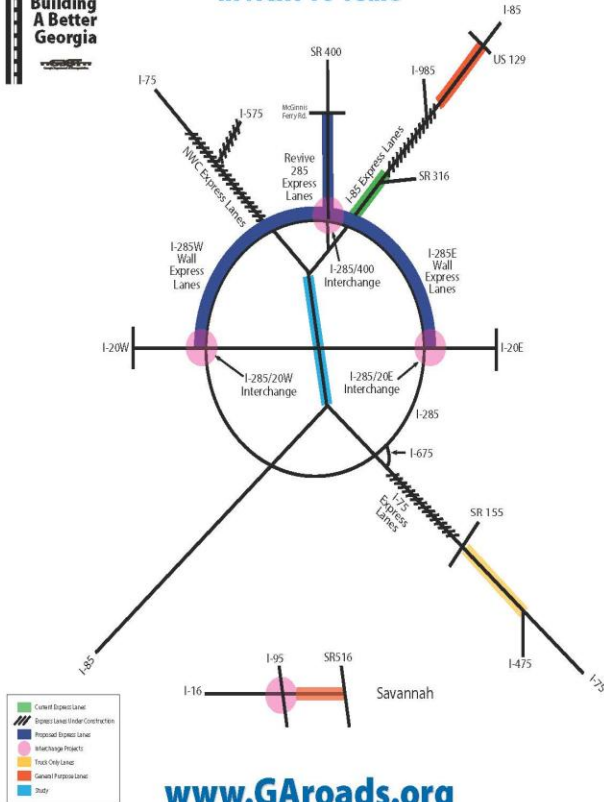
Office of Innovative Delivery



Major Mobility Investments



Major Mobility Investments In Next 10 Years



I-285/I-20 East Interchange

A routine source of peak period delays, this critical juncture between two heavily congested interstates in DeKalb County requires operational and geometry improvements to address the inefficient flow of traffic, and safety/operational performance. To address these needs, various improvements would be developed and constructed to enhance the overall operation, safety and efficient flow characteristics of the interchange.

The interchange project would include operational improvements to the directional ramps including reconstruction of the I-20 eastbound to I-285 southbound ramp and the I-285 southbound to I-20 westbound ramp.

In addition to the reconstruction of the interchange, the project may include:

- One westbound auxiliary lane from Panola Road to Wesley Chapel Road and the construction of westbound Collector-Distributor (CD) lanes between Wesley Chapel Road and the I-20/I-285 interchange.
- A westbound auxiliary lane between Lithonia Industrial Boulevard and Panola Road.
- Reconstruction of the Miller Road Overpass Bridge to accommodate the westbound auxiliary lane.
- I-20 eastbound improvements to include construction of one eastbound auxiliary lane from Panola Road to Lithonia Industrial Boulevard.
- Reconstruction of the Fairington Road/DeKalb Medical Parkway Overpass Bridge to accommodate the eastbound auxiliary lane.

The proposed interchange may include Express Lane connections in the future.

Estimated Costs*: \$534 Million (does not include costs associated with Express Lane connections)

I-285/I-20 West Interchange

The interchange project would consist of lane widening and operational improvements on I-20 eastbound and westbound to improve the existing lane balance on sections between Thornton Road and the I-285 Interchange. The project will include:

- Additional lane along I-20 eastbound from Factory Shoals Road Bridge to Six Flags Parkway.
- Widening of I-20 eastbound to five lanes from Six Flags Parkway to I-285 southbound.
- Additional lane from the I-20 eastbound to I-285 southbound ramp to I-20 eastbound to I-285 northbound ramp exit to provide a separate exit lane for the I-285 northbound traffic flow, thus requiring the widening of the existing I-20 bridge.
- A Collector-Distributor system (CD) is proposed between the I-285 Interchange and Fulton Industrial Boulevard westbound on I-20.
- Reconfiguration of the four existing left-hand exits to right-hand exits with new alignments and bridges as appropriate. It is anticipated the existing left-hand exits would be utilized for managed lane connections between I-285 and I-20.

The proposed interchange may include Express Lane connections in the future.

Estimated Costs*: \$910 Million (does not include costs associated with Express Lane connections)

I-285 West Wall Express Lanes, I-20 to I-75

The project would consist of :

- Creating one Express Lane in each direction along I-285 between I-20 and I-75.
- Existing lanes would be maintained and a new 12' outside lane would be constructed.
- The Express Lane would be separated from the general purpose lanes through the use of delineators and pavement striping.
- Access to the Express Lane would be provided with the use of direct access ramps connecting to the surrounding arterial system and slip ramp access to adjacent general purpose lanes.

Estimated Costs*: \$743 Million

I-285 East Wall Express Lanes, I-85 to I-20

The project would consist of:

- Creating one Express Lane in each direction along I-285 between I-20 and I-85.
- Existing lanes would be maintained and a new 12' outside lane would be constructed.
- Express Lane would be separated from the general purpose lanes through the use of delineators and pavement striping.
- Access to the managed lane would be provided with the use of direct access ramps connecting to the surrounding arterial system and slip ramp access to adjacent general purpose lanes.

Estimated Costs*: \$659 Million

Revive 285, Express Lanes from I-75 to I-85

The project would consist of the construction of two Express Lanes in each direction, on the outside of the existing general purpose travel lanes, with operational improvements and Collector-Distributor (CD) systems at various locations along I-285. Specific operational and CD system improvements currently being considered for the project include:

- One I-285 westbound auxiliary lane between Roswell Road and Riverside Drive.
- I-75 North/I-285 interchange improvements.
- I-85 North/I-285 interchange improvements.
- I-285 CD lanes from Ashford-Dunwoody Road to SR 141/Peachtree Industrial Boulevard.
- I-285 CD lanes from US 23/Buford Highway to I-85.
- The Express Lanes will directly connect to Express Lanes on I-75, I-85 and SR 400.

Estimated Costs*: \$5.9 Billion

I-16/95 Interchange & Widening I-16: I-95 to I-516
(2 Separate Projects)

These projects would reconstruct the existing I-16 at I-95 interchange in Chatham County. Proposed improvements include:

- Construction of new fly overs and extension of ramps.
- One additional general-purpose lane along I-16 between I-95 and I-516.
- The new lanes would be constructed by widening to the existing inside, grassed median.

Estimated Costs*: \$244 Million

I-75 Truck Lanes: McDonough to Macon

This interstate highway serves as an important freight and motorist corridor that supports critical coastal port truck traffic and travelers from southern Georgia and Florida. While truck and passenger car traffic are generally compatible, as the percentage of truck traffic continues to grow, the increase in truck volume can and will accentuate operational differences, leading to less efficient traffic streams and increased delays. For example, compared to cars, trucks cannot accelerate as quickly on long grades. The corridor has an important evolving need to ensure mobility for all its users and especially to maintain Georgia's competitiveness in the movement of goods. By using the Express Lane concept, and providing a dedicated system of lanes separated from existing general purpose lanes, mobility is enhanced for both traffic streams. Project would include:

- Addition of two designated, separated truck lanes in the northbound direction along I-75 from McDonough to I-475 in Macon.
- The truck lanes would be barrier-separated from the general purpose lanes along I-75.
- The truck lanes will not be tolled.
- The final northern limits will be determined once additional environmental and traffic studies are conducted.

Estimated Costs*: \$2.06 Billion

SR 400 Express Lanes: I-285 to McFarland Road

SR 400 is one of the most congested facilities in metro Atlanta. The addition of Express Lanes to this corridor will provide additional reliable capacity from I-285 to McFarland Road. The proposed Express Lanes will be constructed to the inside of the general purpose lanes and will directly connect to the Revive 285 project. This mobility enhancing project would consist of:

- Two Express Lanes in each direction along SR 400 between I-285N and McGinnis Ferry Road.
- One Express Lane in each direction from McGinnis Ferry Road to McFarland Road.

Intermediate access points will be determined as additional coordination, environmental documentation and design activities are completed on the corridor.

Estimated Costs*: \$2.4 Billion

I-85 North Widening: Hamilton Mill to SR 211

This project would consist of:

- Widening I-85 from Hamilton Mill Road to SR 211 and addition of one general purpose lane in each direction.
- The length of widening is approximately 6.2 miles within Gwinnett and Barrow counties.
- The project also proposes a striping modification of the 14' Express Lanes buffer to accommodate the third general purpose lane between I-985 to Hamilton Mill Road.

Estimated Costs*: \$261 Million

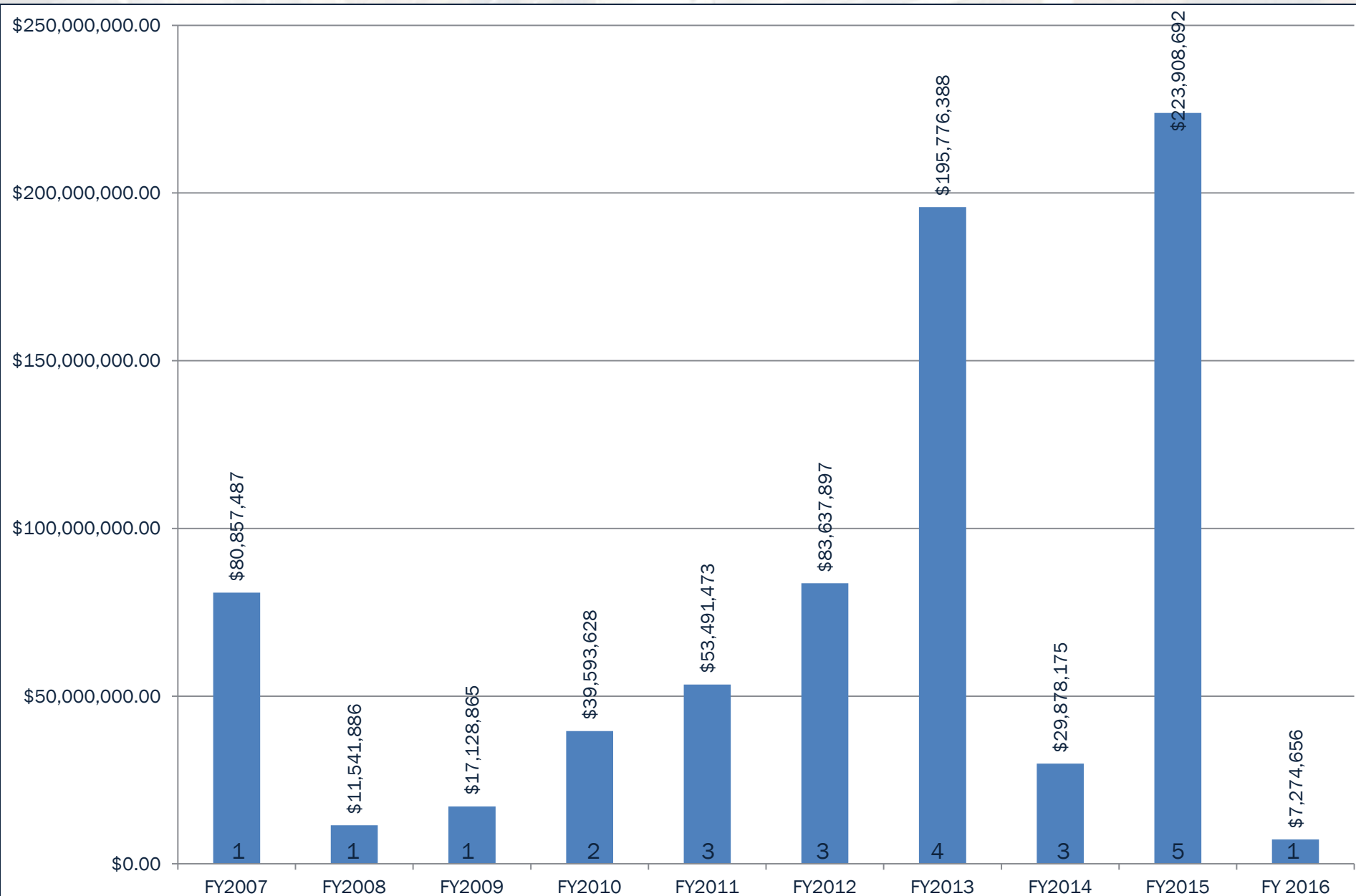
I-85 North Widening: SR 211 to US 129

This project would consist of:

- Widening I-85 from SR 211 to US 129
- One additional general purpose lane in each direction. The length of widening is approximately 10.5 miles within Barrow and Jackson counties.

Estimated Costs*: \$344 Million

Design-Build History (Since 2007)



Design-Build Program (Approved)



PROJECTS APPROVED FOR DESIGN-BUILD DELIVERY

Project	P.I. Number	County	Length (miles)	PNA Advertisement	RFQ Advertisement	RFP Advertisement	Letting	Anticipated Selection Method
<u>FY 16</u> Design-Build Bridge Replacement Projects	0013772	Statewide	-	10/16/2015	1/8/2016	4/22/2016	6/17/2016	Two Phase Low Bid
SR 21 @ CS 705/Parkside Blvd Pedestrian Bridge including Sidewalk	0013549	Chatham	0.4	1/8/2016	-	4/22/2016	6/17/2016	One Phase Low Bid
<u>FY 17</u> Design-Build Bridge Replacement Projects	Various	Statewide	-	TBD	TBD	TBD	TBD	Two Phase Low Bid
Redwine Road & Starrs Mill School Complex Multi-Use Path	0012624	Fayette	1.0	10/14/2016	-	12/16/2016	2/17/2017	One Phase Low Bid
I-85 Widening CR 134/Hamilton Mill Road to SR 11/US 129	110610	Gwinnett Barrow Jackson	18	Fall 2016	Winter 2016	Spring 2017	Summer 2017	Best Value
	0013545							
	110630							
I-16 @ I-95 Interchange Reconstruction Incl I-16 Widening from I-95 to I-515	0012758	Chatham	7.5	TBD	TBD	TBD	TBD	Best Value
	0012757							
I-20 @ Savannah River Bridge	210327	Richmond	0.5	TBD	TBD	TBD	TBD	TBD

Notes:

1. The projects listed are those approved for Design-Build delivery. This is provided for information only and may change at the Department's discretion.
2. This site is not intended to be the "official" procurement notification.
3. For Best Value projects, Best Value RFP's are advertised to the Shortlisted Proposers via a secure SharePoint site as per instructions incl in the RFP.
4. For Best Value projects, "letting" refers to the date that Proposer Price Proposals are opened and the apparent Best Value Proposer is identified.

Design-Build Overview

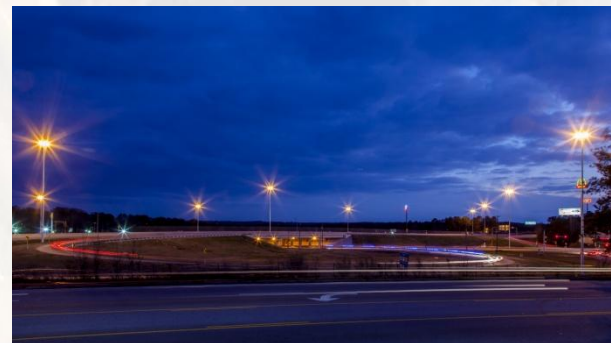
- Design-Build combines design engineering and other preconstruction related services with construction services into a single contract .
- Governed by:
 - 23 Code of Federal Regulations (CFR) Part 636 (Design-Build Contracting)
 - Georgia Code Section 32-2-81 (*Enacted 2004*)
 - Board Rules, Chapter 672-18 (*Adopted 2006*)

Design-Build Code and Rules

- **Georgia Code Section 32-2-81**
 - Three Selection Methods
 - One Phase Low Bid
 - Two Phase Low Bid
 - Best Value
 - Cap on Design-Build Contracting
 - 50% of total amount of previous FY construction awards
- **Board Rules, Chapter 672-18**
 - Generally describes Design-Build procurement process

Design-Build Project Selection

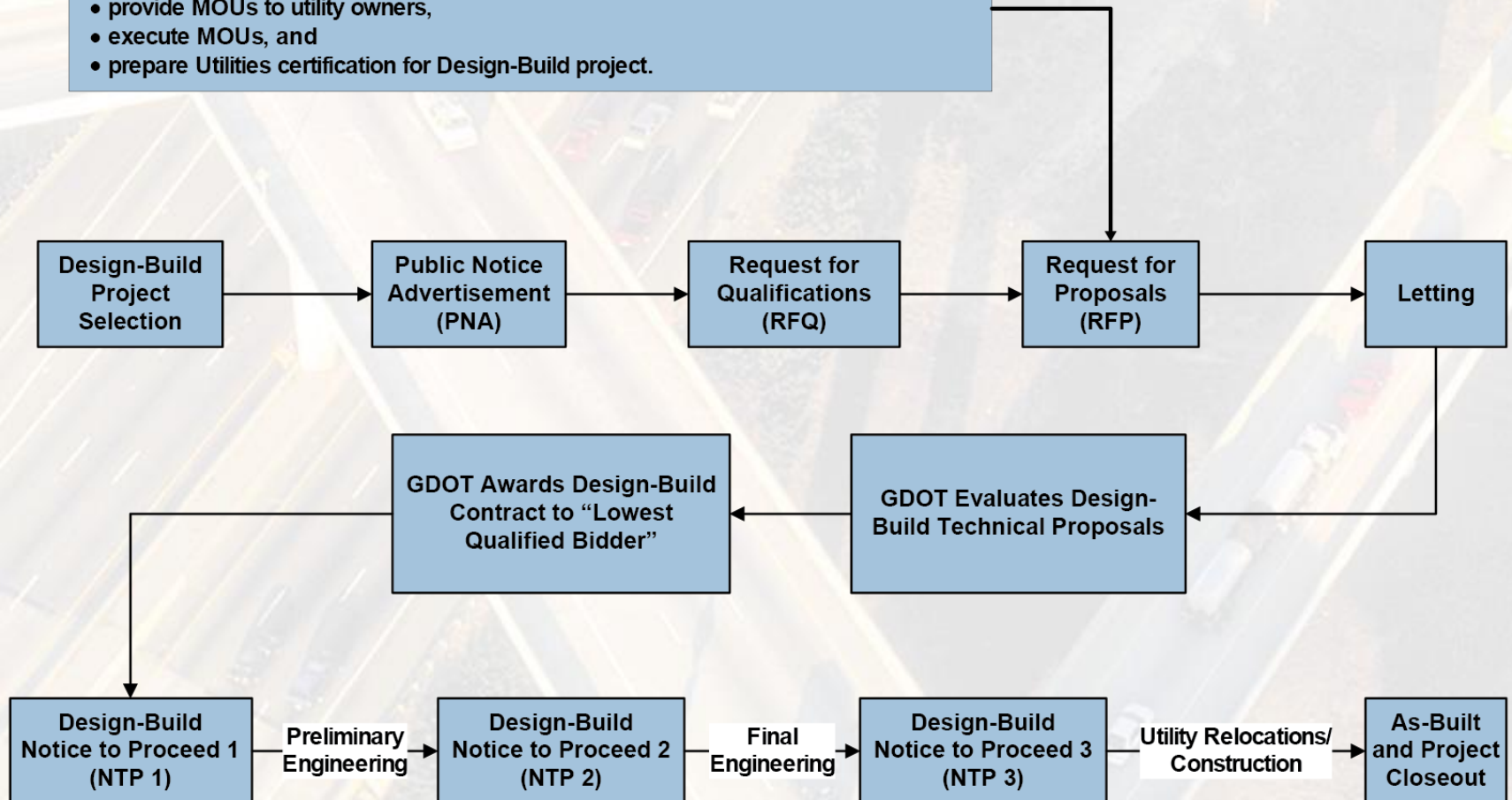
- **Reasons to Use Design-Build**
 - Accelerated delivery for public benefit
 - Directly supporting economic development
 - Up-front contractor-engineer interaction to stimulate value engineering analysis in order to reduce project cost
 - Complex constructability issues or requires specialty/innovative designs, construction methods, or techniques
 - Maximize the use of available funding
 - HB 170 (Transportation Funding Act)



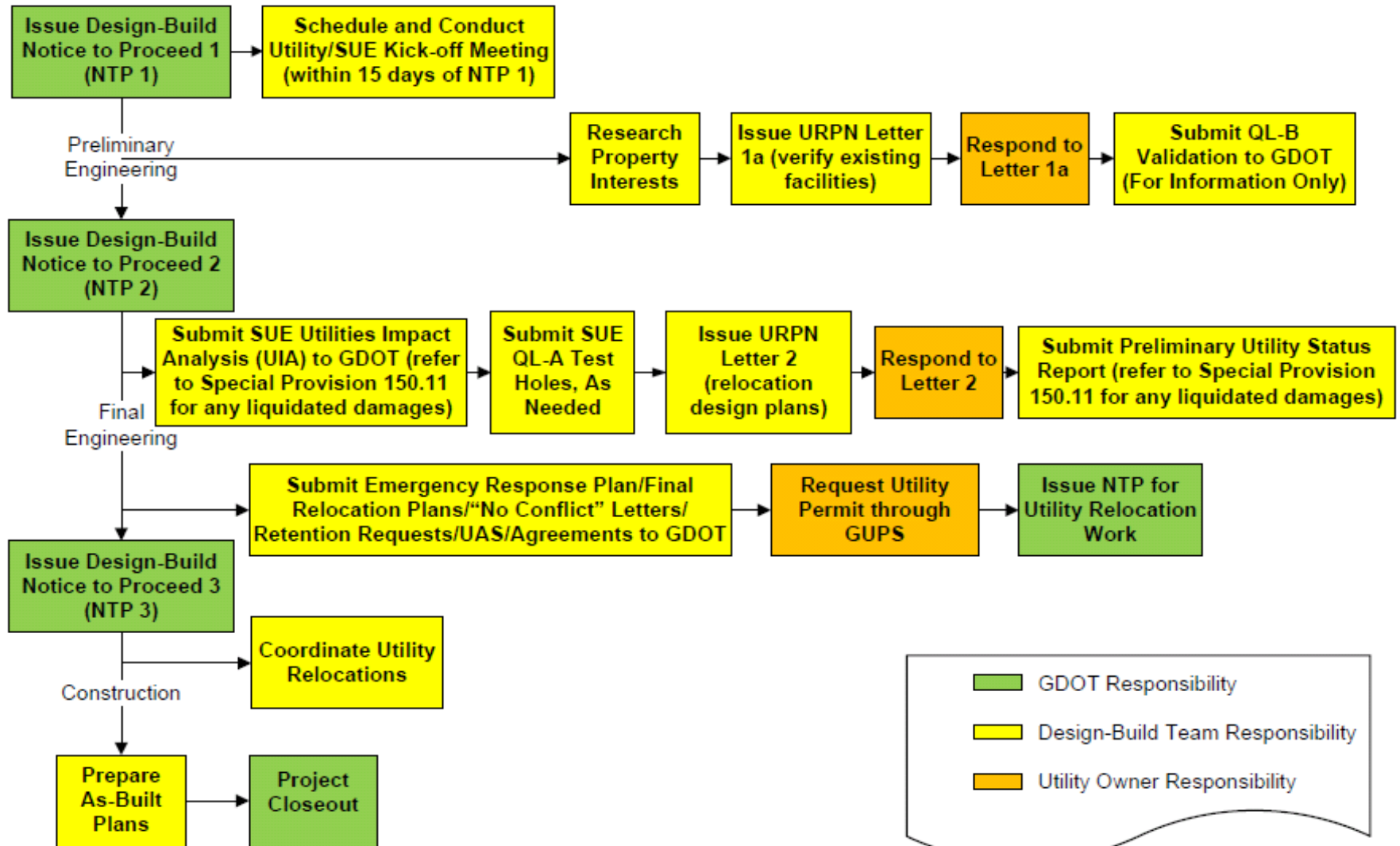
Design-Build Procurement

GDOT's District Utility Engineer's role leading up to RFP includes, but is not limited to:

- obtain SUE QL-B overlaid on Design-Build costing plans,
- conduct "utility workshop" with utility owners, and distribute approved SUE plans,
- provide MOUs to utility owners,
- execute MOUs, and
- prepare Utilities certification for Design-Build project.



Design-Build Utility Coordination



Design-Build Utility Coordination

Pre Let	Post Let
Concept Report/ Costing Plans	DB Contractor award , contract execution, GDOT issues NTP 1
Environmental Document	DB Contractor facilitates a utility/SUE kickoff meeting (within 15 days of NTP 1)
SUE	DB Contractor coordinates with utility owners and pre-approved design consultants/construction contractors
Utility Workshop	DB Contractor coordinates and/or performs relocations (as specified in executed MOU)
Targeted Utility Outreach (as needed)	
MOU's	
Utility Analysis Form	

Utility Workshop

- **Utility Workshop**

- Typically corresponds with SUE QL-B approval
 - SUE QL-D on smaller projects
- Provide Utility Owners with up-to-date project information such as scope, schedule, and Design-Build delivery mechanics
- MOU's are provided with explanation of Utility Owner options
- Utility Analysis form is provided with explanation of purpose
- Design-Build utility coordination process is discussed in detail
- Discuss GDOT expectations and Utility Owner responsibilities



Design-Build Utility Coordination

- **Utility MOU's**
 - Outlines Design-Build Contractor's and Utility Owners responsibilities
 - A – prior rights and wants to perform design and/or construction
 - B – regardless of prior right wants design and/or construction included in the contract. Water and Sewer is automatically included in the contract
 - C – owner wants to provide design and/or construction at their own cost
 - Executed MOU's included in the Design-Build RFP Package
 - Utility Owner must provide pre-qualified vendor list and any special requirements

Design-Build Utility Coordination

- **Utility and Railroad Certification**
 - The SUO will ensure that all MOU's/No Conflict Letters are in hand and the DB Contract has been reviewed and approved
 - The SUO will prepare and sign the Utility Certification Letter
 - For FHWA PODI (formerly FOS), the Certification Letter will be sent to Engineering Services and Contract Administration
 - For Exempt Projects, only Engineering Services will receive the Certification Letter



Design-Build Utility Coordination

- **Subsurface Utility Engineering (SUE) Quality Levels (QL)**
 - SUE QL-B is accomplished to establish the approximate horizontal location using geophysical prospecting techniques, including electromagnetic, magnetic, sonic or other energy fields and is required by the Utility Accommodations Manual for all Design Build Projects
 - SUE QL-D on smaller projects
 - Exceptions can be made by SUE Waiver approved by the State Utilities Office (SUO) when there is minimal risk to the Utility Owners
 - SUE QL-A is accomplished to obtain precise horizontal and vertical position of the utility by excavating a test hole

Design-Build Utility Coordination

- **Award, NTP 1, Utility/SUE Kickoff Meeting**
 - Scheduled by the DB Contractor within 15 days of NTP 1
 - DB Contractor discusses project scope and schedule
 - Office of Innovative Delivery PM will discuss DB responsibilities and GDOT expectations with regards to scheduling, reporting, e-mails, documentation, and policies/standards
 - SSUE will discuss DB responsibilities and SUE requirements
 - DB Contractors begin initial discussions with Utility Owners



Design-Build Utility Coordination

- **Design-Build Contractor shall:**
 - Have the responsibility of coordinating project construction with all utilities that may be affected
 - Perform to GDOT standards by having prequalified Contractor in Area Class 3.10 – Utility Coordination
 - Supplement SUE plans
 - Endeavor to design project to avoid conflicts when feasible, and minimize impacts where conflicts cannot be avoided
 - Adhere to schedule and submission dates

Design-Build Utility Coordination

- **Utility Coordination**

- Communications is the key
- Document communications
- Keep all stakeholders informed and up-to-date on any changes



Design-Build Utility Coordination

- **Utility Relocation Plans 1st and 2nd Submission**
 - **1st Submission - Utility Relocation Plan Notification (URPN) Letter**
 - NTP + 5 Calendar Days
 - 30 Days for Utility Owners to verify and return
 - **2nd Submission – URPN Letter 2**
 - Concurrently with accepted SUE Verification by Utility Owner
 - 90 Days for Utility Owners to prepare their Utility Work Plan

Design-Build Utility Coordination

- **Retention Request**

- The DB Contractor is responsible for assisting Utility Owners with the preparation and submission to the DUE of all Retention Request for any utility which is to remain under the roadway within the construction limits.
- The DB Contractor will need to work together with the Utility Owner to get the required information needed to fill out the retention request.
- The DB Contractor should retain ownership of documentation and should copy both the PM and DUE on any correspondence.
- Follow procedures listed in Chapter 2 of the UAM and the Retention Request.

Design-Build Utility Coordination

- **Utility Impact Analysis (UIA)**
 - Due NTP + 120 Days or as determined by the State Subsurface Utility Engineer (SSUE)
 - Spreadsheet used to list to what extent the roadway improvements will impact existing utilities
 - Spreadsheet lists avoidance alternatives, required adjustments/relocations, and cost estimates to perform those relocations.
 - The UIA is recommended after SUE QL-B, but prior to SUE QL-A

Design-Build Utility Coordination

- **Utility Agreements**

- Contractor Responsibilities

- Gather the required documentation for submittal to the DUE
 - Preparation of the Agreement
 - Coordination of agreement processing

- GDOT Responsibilities

- SUO will provide Utility Agreement Template
 - DUE will review agreements and make recommendation to the SUO
 - SUO will finalize agreement and return to the DB

Design-Build Utility Coordination

- **Georgia Utility Permitting System (GUPS)**
 - GUPS allows the Office of Utilities to review permit information and process applications online
 - GUPS interfaces with major existing GDOT systems, so information is up-to-date and accurate
 - GUPS uses GIS map interface to assist permit applicants in finding precise location of work being permitted
 - DB Contractor shall ensure that all utilities requiring Permits are submitted through GUPS by the Utility Owner
 - Permits will be required for all utilities that will be relocated/adjusted

Design-Build Utility Coordination

- **Utility Plans**

- Approximate size, type, and extent of existing utility facilities
- Proposed adjustments or relocations of utility facilities located within or near the project limits
- Utility Plans will be presented to clearly show how the utility relocation work is performed in relation to the project's overall staging and erosion control plans
- Utility Plans should include at a minimum: design details, erosion & sedimentation control BMP's, relation to project features, proposed plan notes or SP, summary of quantities and ROW or easement requirements
- Utility Plans, when combined with the Utility Adjustment Schedule, make up the **Utility Work Plan**

Design-Build Utility Coordination

- **Utility Adjustment Schedule (UAS)**
 - **Summary of all Utility Facilities and Utility Adjustment Schedule:** List all existing facilities within project limits. Provide quantity, type of facility, and type of service provided
 - **Special Requirements:** Staging , dependent activities, and joint-use coordination
 - **Utility Plan:** Provide disposition of all existing and proposed facilities on the project
 - **Schedule Summary for Work Plan:** Preliminary Engineering, ROW Acquisition, Construction Engineering, Material Procurement, Cleaning & Trimming, Construction, Splicing and Tie-In Work, Service Considerations, and Temporary Work

Design-Build Utility Coordination

- **Preliminary Utility Status Report**
 - Shall include a listing of all Utility Owners located within the project limits and a recommendation as to the extent of each Utility Owner's claimed property interest
 - Should include copies of easements, plans, or other supporting documentation that substantiates any property interests of the Utility Owners and a preliminary assessment of the impact to each Utility Owner
 - URPN Letter 6 – Notice to Proceed with Permit
 - Due concurrently with Accepted Relocated Utility Plans
 - Review periods are 10 days for review by the DUE and acceptance by the Engineer and 5 days for acceptance by the State Preconstruction Engineer

Design-Build Utility Coordination

- Office of Innovative Delivery PM Responsibilities
 - Lead and/or participate at meetings
 - Keep all stakeholders informed and up-to-date
 - Provide guidance to DB's

Design-Build Utility Coordination

- **Lessons Learned**

- Ensure DB Team understands submission requirements
- Ensure phone conversations are backed up with e-mails
- Ensure Utility Owners attend meetings when their utility is being discussed
- Involve the Utility Owner more in the process, listen to their suggestions
- Question design early on (how can utilities be avoided?)
- Make inquiries concerning schedule well in advance of due dates (Document)

Design-Build Utility Coordination

- Opportunities for Improvement
 - Value Engineering
 - Adherence to schedule
 - Communicate early and often
 - Electronic submittal process

Design-Build Finance/P3

- Developer is responsible for all utility relocation
- Less involvement from GDOT, but provides oversight
- GDOT reviews and approves retention request, permits and agreements
- Master Utility Adjustment Agreements are between the Utility Owner and the Developer
- Master Utility Adjustment Agreement Amendment used to amend original agreement

Q & A Discussion