

# ITS in the PDP



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# ITS in the PDP

## Topics:

- Concept Report
- Base Mapping
- Environmental
- Preliminary Design
- Final Design

# Concept Phase

## Limited Scope Report:

- No survey mapping - use aerial maps/existing plans
- Project Justification Statement provided by Traffic Ops
- Reference Concept of Operations and Regional Architecture, pursuant to ITS Rule 940
- Projected traffic - N/A
- Design and Structural, Proposed - N/A
- Utilities – provided by District utilities (if GDOT let)
- Property – look at proposed improvements

# Concept Phase

## Limited Scope Report:

- Environmental - CE/PCE, obtain narrative from OES or subconsultant
- Include key stakeholders in Concept Team Meeting
- Kickoff meeting held during initial site visit - invite District, utilities, local government (maintaining agency)
- Attachments:
  - CES cost estimate
  - Concept team meeting notes
  - Utility cost estimate (from District)

# Concept Phase

## Limited Scope Report:

- Concept design:
  - Fiber routing
  - ITS device locations
  - Hub buildings
  - TCC connections

# Base Mapping

- New roadway projects:
  - Use roadway alignment
  - Include EOP/C&G, ROW, utilities, walls, bridges/culverts
  - Don't need parcel data, curve geometry, etc.
- Freeway ITS projects:
  - Use existing plans/aerial mapping
  - Digitize EOP, ROW
- Arterial ATMS projects:
  - GIS mapping works well
  - Use aerial mapping if GIS not available

# Preliminary Design

Follow GDOT ITS Design Manual

- Plans include:
  - Conduit/fiber routing
  - Device pole locations
  - Conduit bridge details
  - CMS clearance diagrams
  - Network electronics
  - Fiber allocation plan

# Preliminary Design

- Aerial fiber (arterial routes)
  - Show points of attachment (POA)
  - Utility company will provide make-ready work
  - Coordinate with District utilities
- Underground fiber (freeways/arterials):
  - Show conduit/duct bank routing
  - Pull boxes/ECBs included every 800-1,000'
  - Reel to reel splices every 5,000-10,000'



# Preliminary Design

- Wireless

- Radios installed on poles
- Need line of sight
- Varying bandwidth requirements

# Preliminary Design

- Devices

- Changeable message signs (CMS)
- Closed-circuit television cameras (CCTV)
- Video detection system (VDS)
- Microwave radar detection system (RDS)
- Weather monitoring station (WMS)
- Ramp meters
- Hubs

# Preliminary Design

- Cabinets

- Power service (coord. with utility company)
- May combine devices in one cabinet
- Drop cable in conduit to device pole
- May need inset detail for cabinet area

# Preliminary Design

- Details

- CMS clearance diagrams
- Fiber routing schematic
- Fiber allocations
- Hub block/rack diagram
- Traffic Operations details (conduit, PBs, fiber, etc.)
- Bridge attachment detail
- Construction details
- Georgia Standards

# Preliminary Design

- Specifications/Special Provisions
  - Standard Specs
  - Special Provisions:
    - 631 (CMS)
    - 682 (Electrical Wire, Cable, Conduit)
    - 694 (WMS)
    - 797 (Hub Building)
    - 935 (Fiber Optic System)
    - 936 (CCTV)
    - 937 (VDS)
    - 938 (Detection)
    - 939 (Comm. and Electronic Equipment)
    - 940 (NaviGAtor ATMS Integration)

# Preliminary Design

- Submittals/Reviews
  - Traffic Operations submittal
  - Traffic Ops review meeting
  - PFPR submittal
  - PFPR review meeting

# Final Design

- Address PFPR comments
- Submittals/Reviews
  - Traffic Operations submittal
  - Traffic Ops review meeting
  - FFPR submittal
  - FFPR review meeting
  - PS&E submittal