



# NORTH CAROLINA

Department of Transportation



# Project Atlas

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# Project Atlas Overview



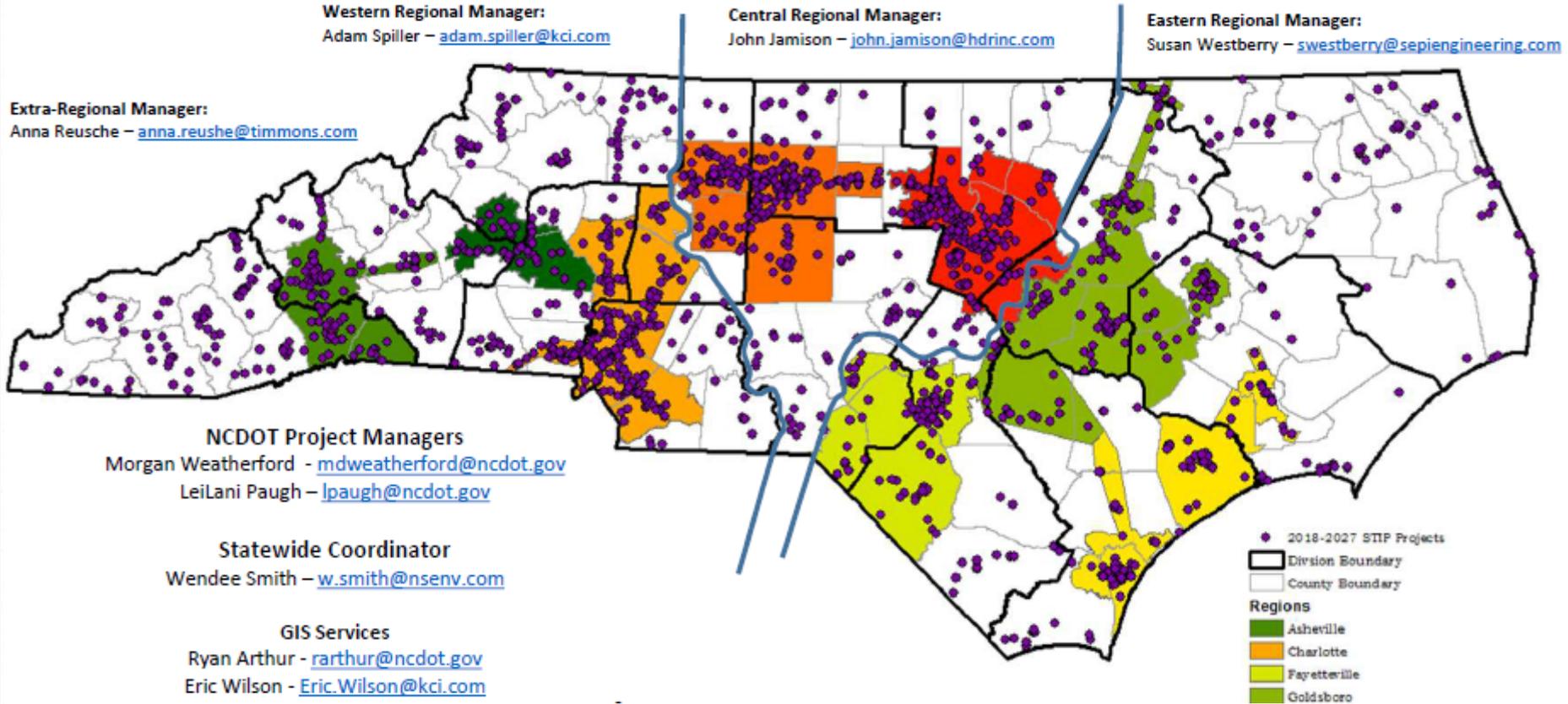
## NCDOT Project ATLAS

Advancing **T**ransportation through **L**inkages, **A**utomation, and **S**creening



- GIS based regional modeling effort that aligns with the Secretary's Priorities under Improve Program Delivery and Reduce Cash Balance
- Goal is to streamline project development through GIS-based data on a regional level

# Project Atlas Team

**Western Regional Manager:**Adam Spiller – [adam.spiller@kci.com](mailto:adam.spiller@kci.com)**Central Regional Manager:**John Jamison – [john.jamison@hdrinc.com](mailto:john.jamison@hdrinc.com)**Eastern Regional Manager:**Susan Westberry – [swestberry@sepiengineering.com](mailto:swestberry@sepiengineering.com)**Extra-Regional Manager:**Anna Reusche – [anna.reusche@timmons.com](mailto:anna.reusche@timmons.com)**NCDOT Project Managers**Morgan Weatherford – [mdweatherford@ncdot.gov](mailto:mdweatherford@ncdot.gov)LeiLani Paugh – [lpaugh@ncdot.gov](mailto:lpaugh@ncdot.gov)**Statewide Coordinator**Wendee Smith – [w.smith@nsenv.com](mailto:w.smith@nsenv.com)**GIS Services**Ryan Arthur – [rarthur@ncdot.gov](mailto:rarthur@ncdot.gov)Eric Wilson – [Eric.Wilson@kci.com](mailto:Eric.Wilson@kci.com)

# Project ATLAS

- Reaches across many disciplines
  - Wetlands and Streams
  - Protected Species
  - Sweeping Environmental
  - Historic Resources
  - Traffic Forecasting
  - Community Studies
  - Bicycle and Pedestrian
  - Right-of-Way
  - Utilities

# Project Atlas Objectives

- GIS Data Layers
  - Identify all data used to evaluate projects
  - Improve data layers and create new layers where none exist
  - Work with agencies to improve confidence in data
  - Connect data so it is accessible to everyone

# Project Atlas Objectives

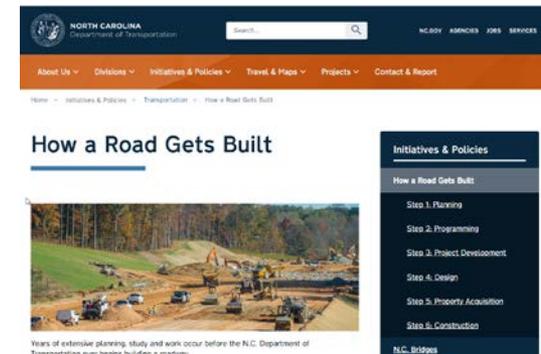
- Streamline Project Development
  - Evaluate projects on a regional scale using GIS based tools
  - Early screening of projects to identify issues that may affect scope, schedule and budget
  - Automated reporting to reduce repetitive manual tasks (Scoping report, Prelim Hydro Report, etc.)
  - Provide one-stop-shop for a project in a geospatial format to improve efficiency and communication

# Project ATLAS Status

- ATLAS Team continues to work across Units to connect all Units and Systems (SAP, SharePoint, SMO, ECM).
- Discipline Leads engaging Agencies in proposed streamlining processes and vetting of data and models.
- GIS Business Analysts and Developers working on **search, screening, and management** tools.

# Overall Transportation Project Process

- Step 1: Planning
  - Comprehensive Transportation Planning (20-25 years)
- Step 2: Programming
  - State Transportation Improvement Program (10 years)
- **Step 3: Project Development and Env. Analysis**
  - **Project is funded and proposed project is evaluated**
- Step 4: Design
- Step 5: Property Acquisition
- Step 6: Construction



# Starting Out

What does expediting project delivery really mean?

What have other DOT's done?

Isn't "everything" we do related to project delivery?

Ryan

Eric

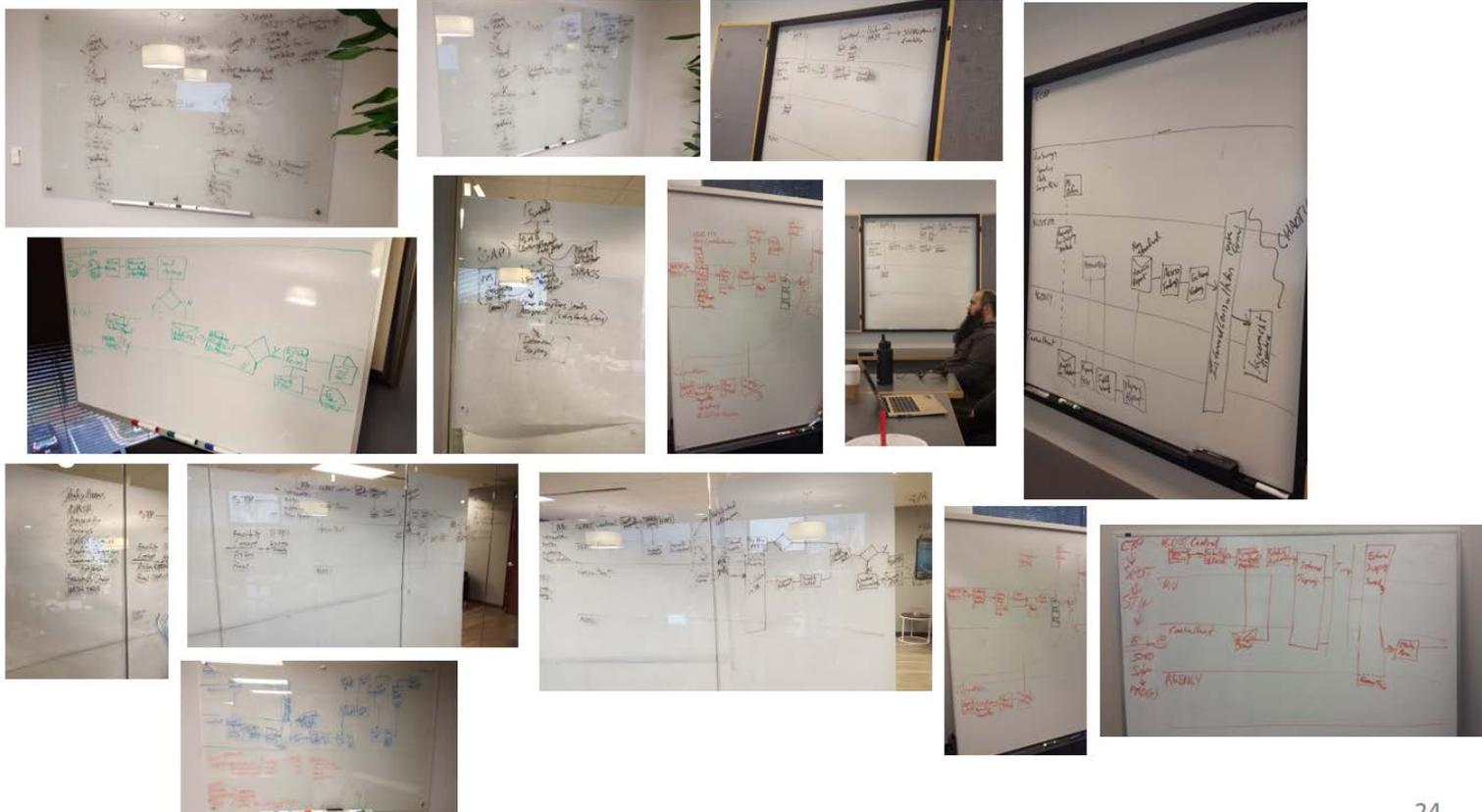
Who is involved in project delivery?

Where is the data to support this?

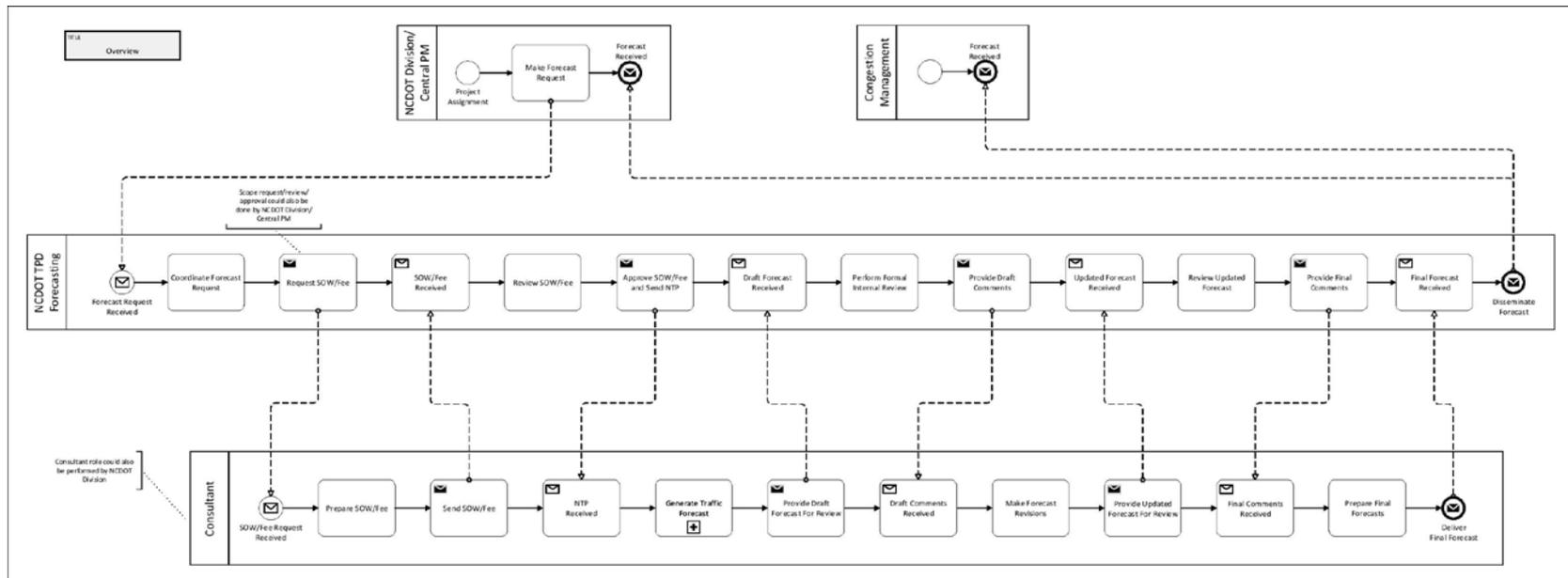
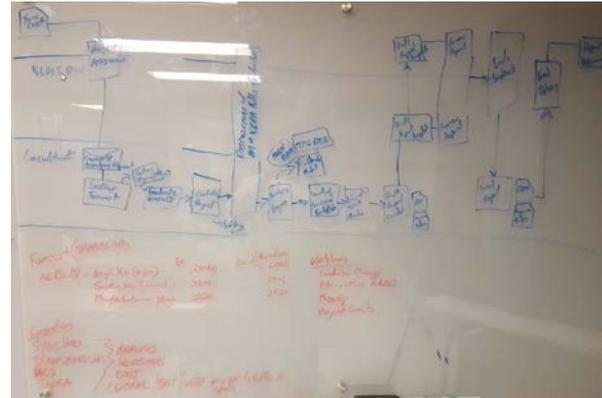
Project Development



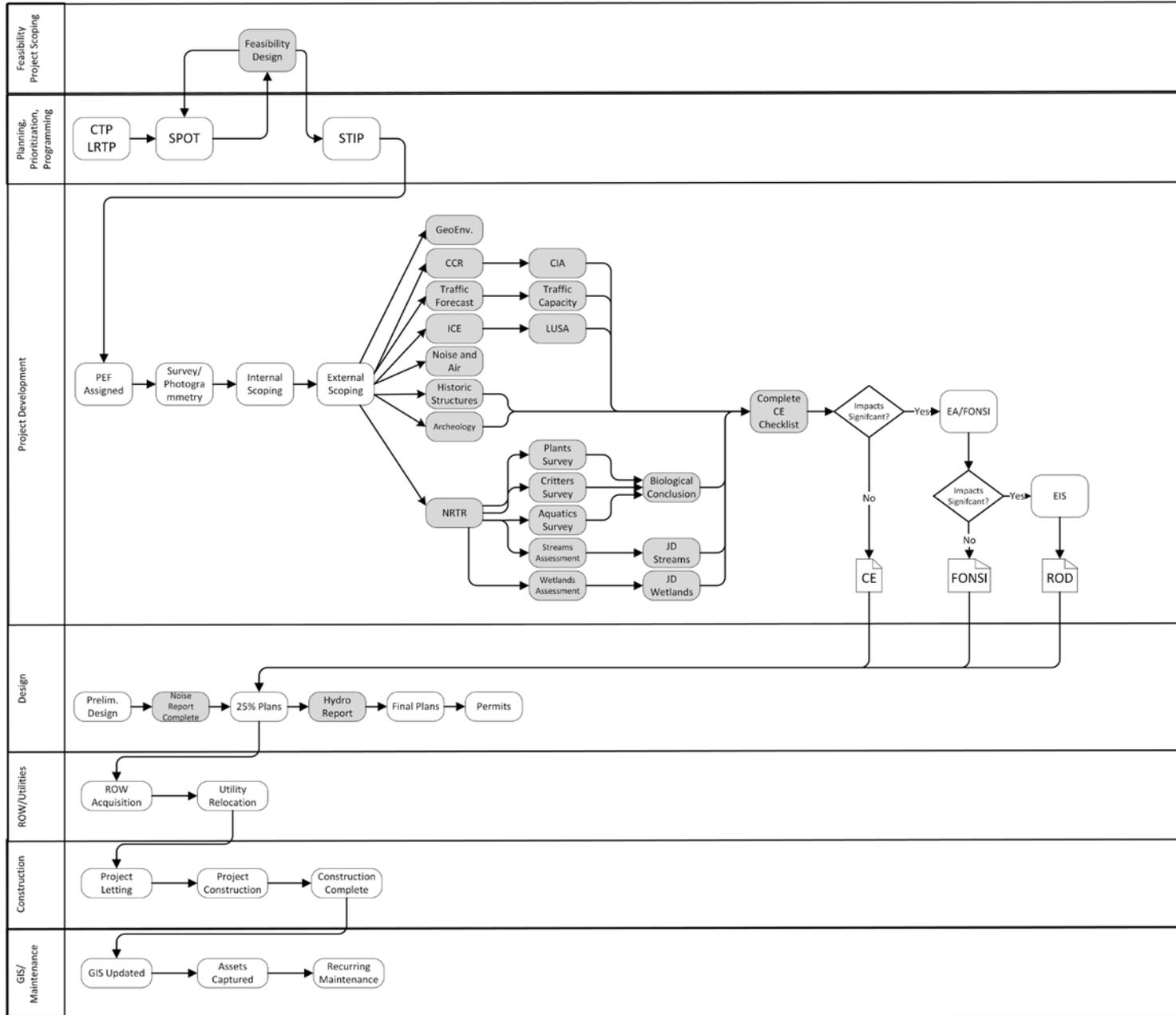
# Whiteboardin' and...



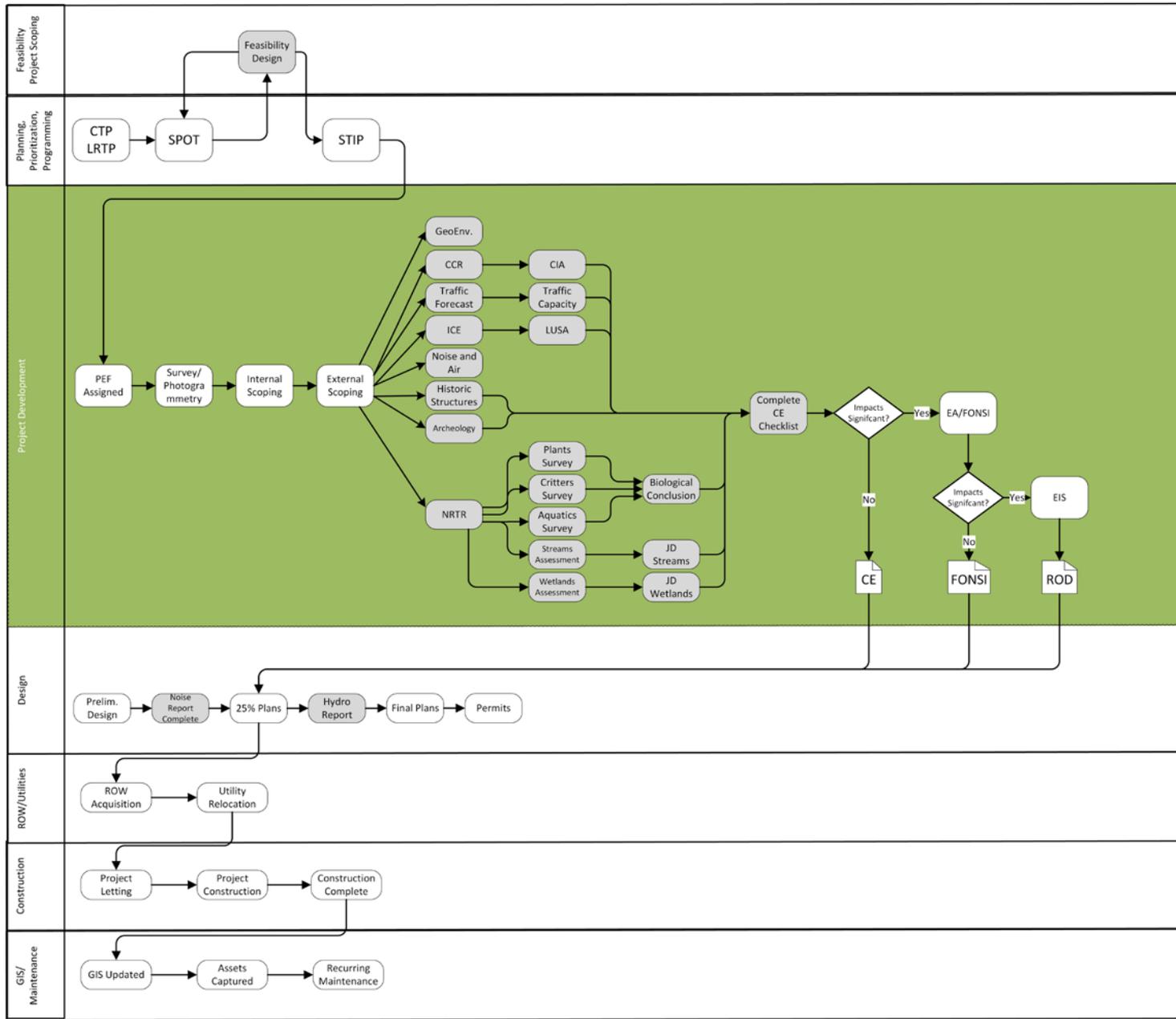
# Drawings to Diagrams



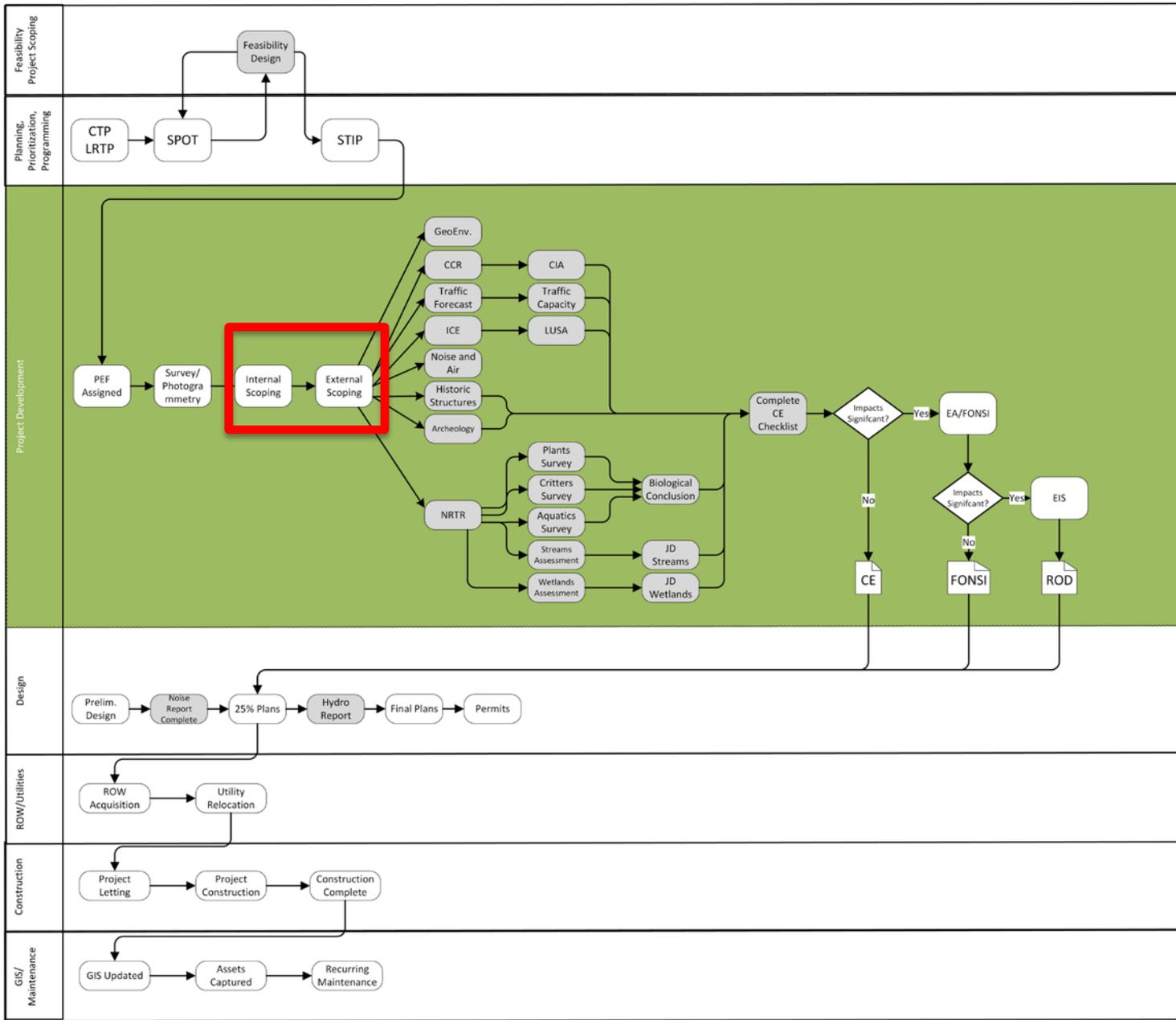
AS IS Flow



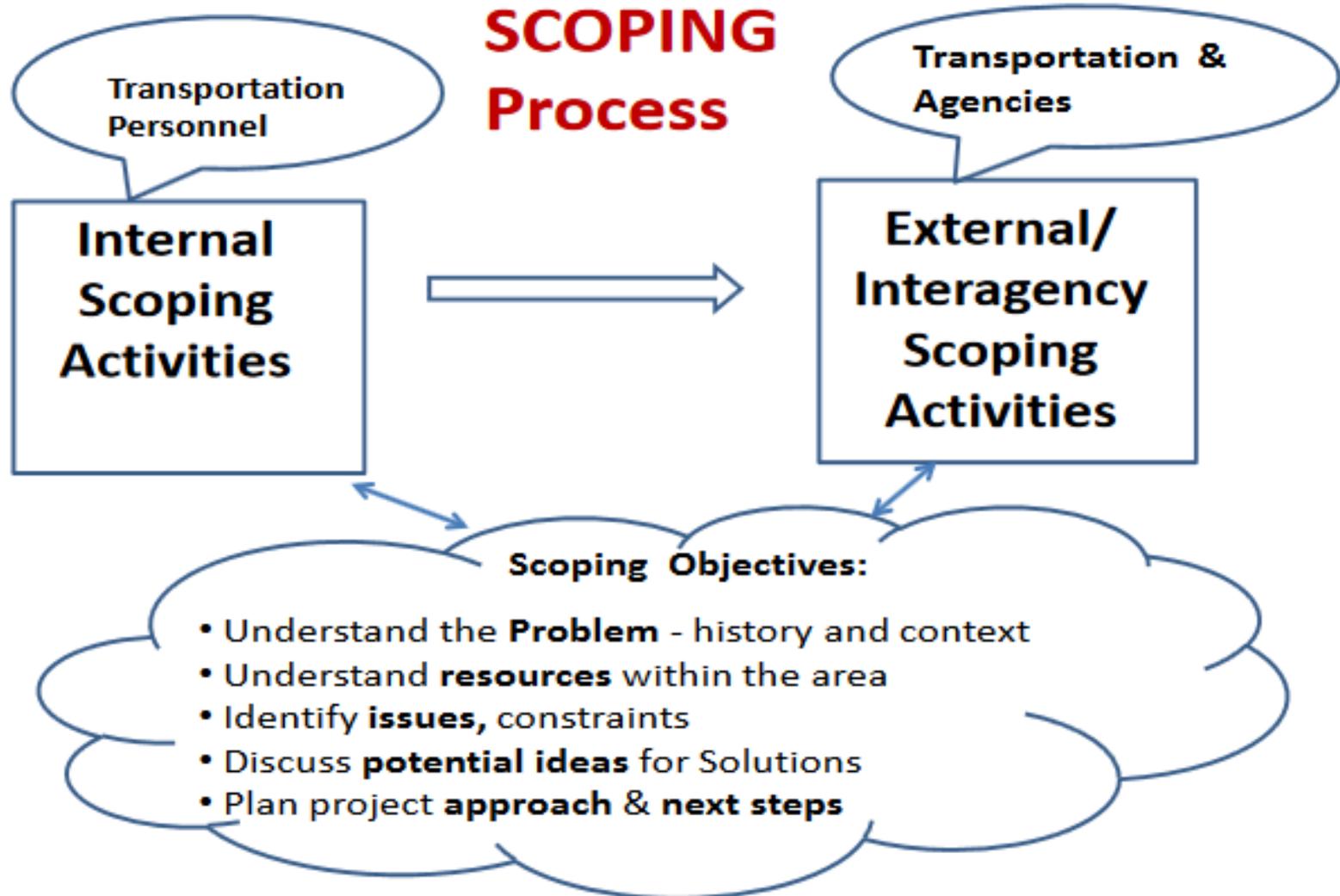
AS IS Flow



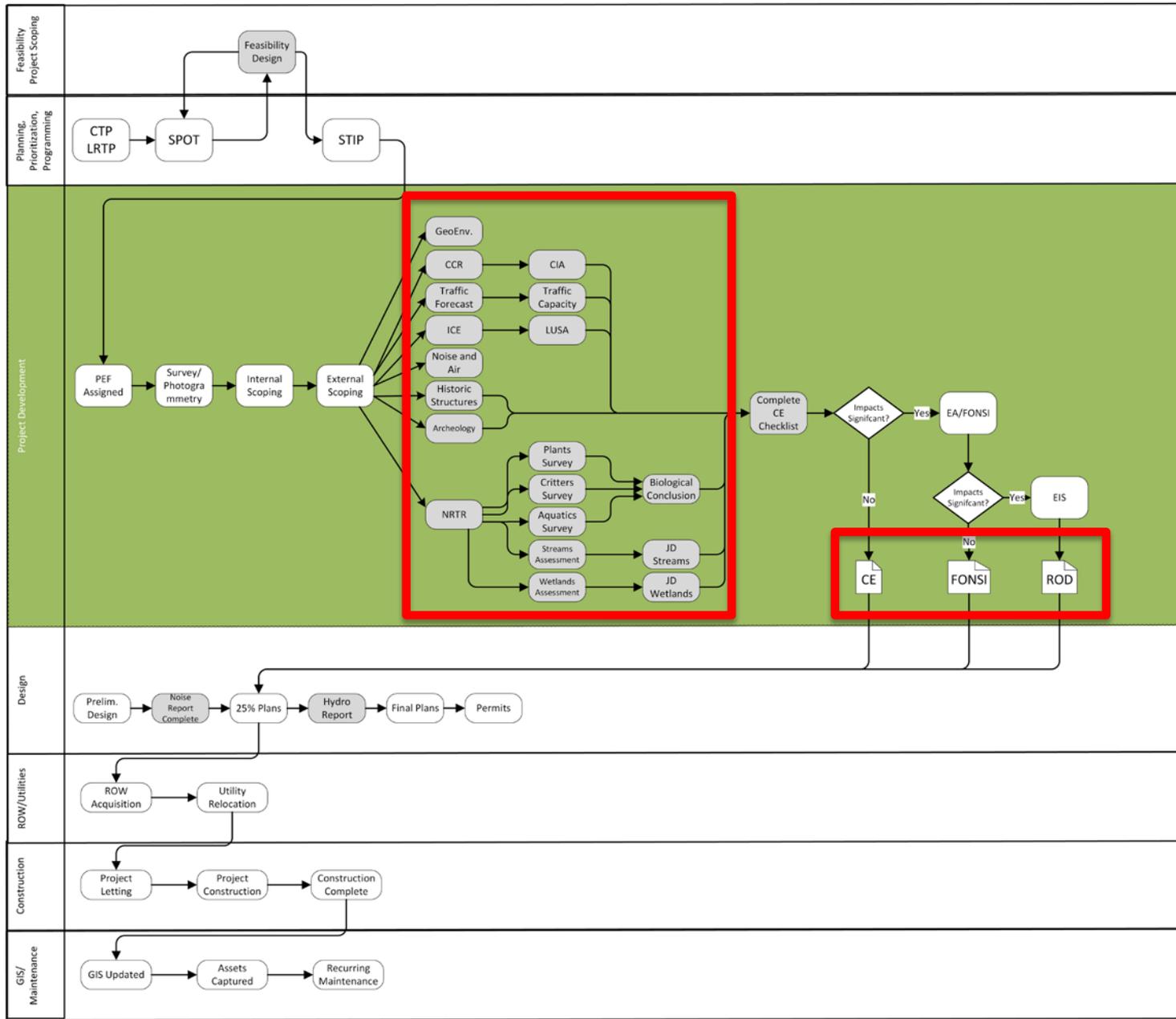
AS IS Flow



# What is project scoping?



AS IS Flow



# NCDOT Project ATLAS

Advancing **T**ransportation through **L**inkages **A**utomation and **S**creening



## Data Gateway

**August 2018**

A gateway to search and retrieve verifiable, current and accurate project related data.

Addresses NCDOT's need to have consistent data available to Project Managers and Consultants.

## Screening Tool

**August 2018**

A powerful web-based tool to evaluate potential impacts to NCDOT projects using GIS data and predictive modeling.

Allows Project Managers and NCDOT Consultants to understand and coordinate earlier about challenges projects will encounter.

## Project Management Platform

**October 2018**

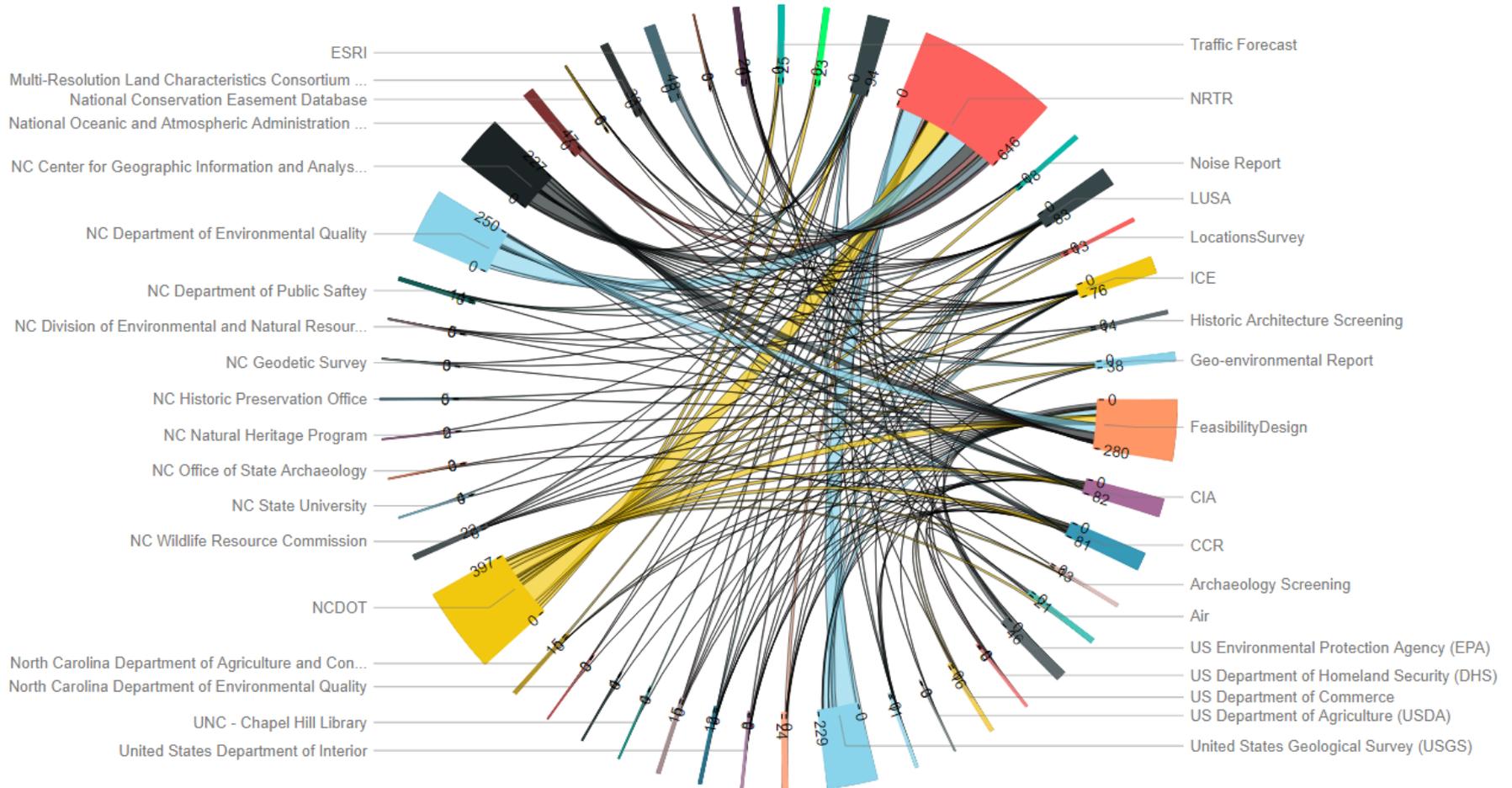
A unified toolset for Project Managers to assess and monitor their projects via the web.

Allows Project Managers and Consultants a common platform to access current project data, historic project data, current deliverable status, and visualize project progress.

And Supporting Automation...

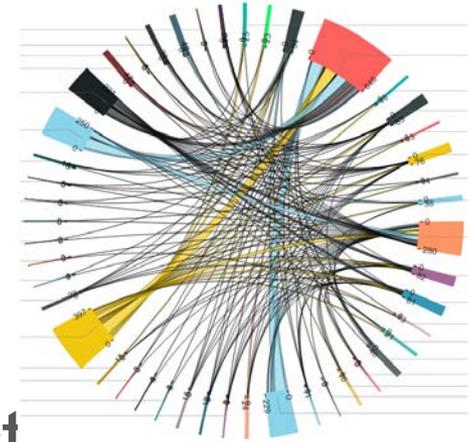


# Data



# Data Facts

- 498 Total Layers
- 327 Used in Decision making
- 226 Used in Screening a project



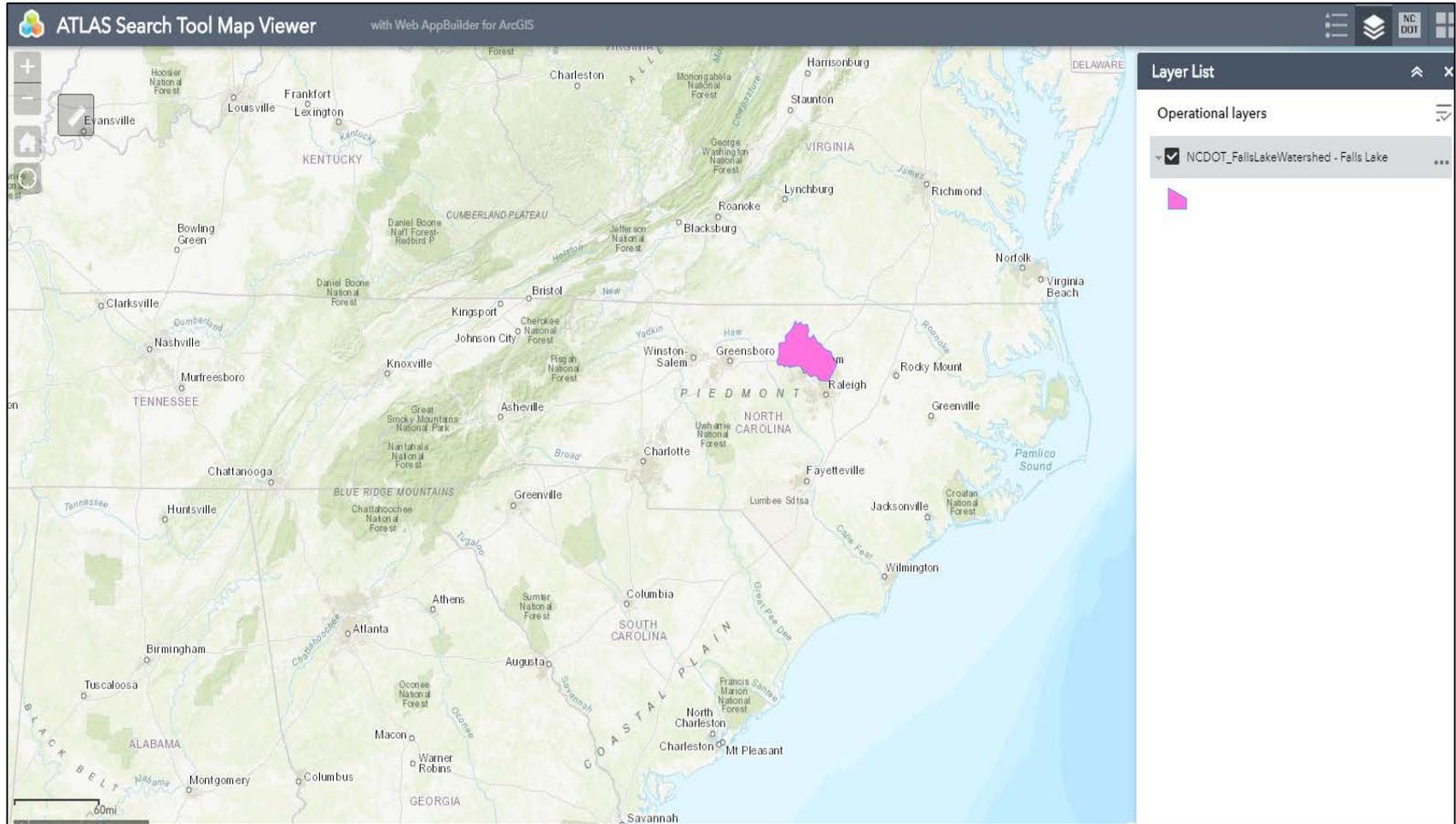
## Layers Top 5 Contributors

Organization	Count	Percent
NCDOT	69	13.86%
NC Department of Environmental Quality	66	13.25%
NC CGIA	51	10.24%
United States Geological Survey (USGS)	34	6.83%
US Environmental Protection Agency (EPA)	18	3.61%

## Screening Layers Top 5 Groups

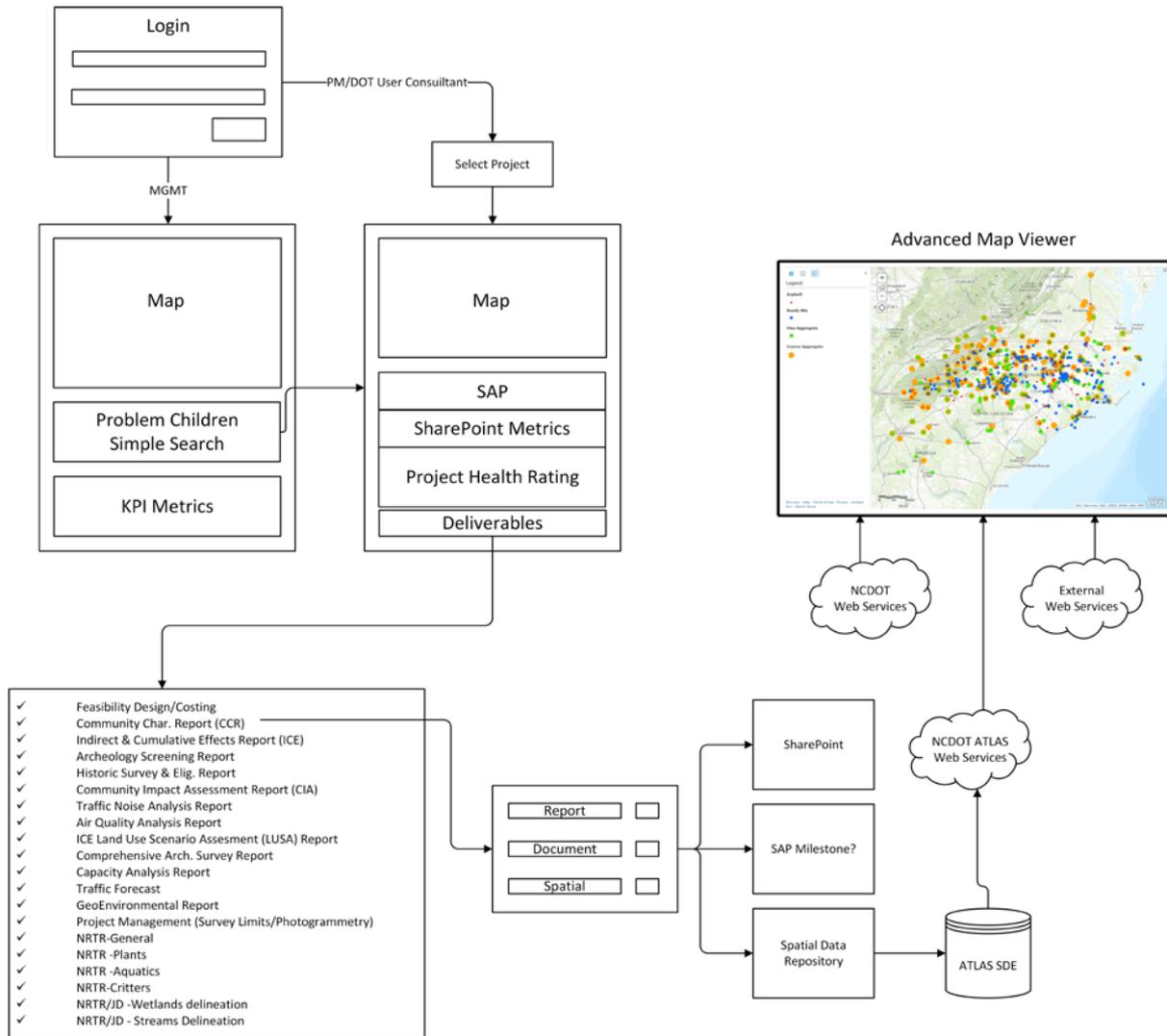
Type	Group	Count
Hydrography	Natural Environment	54
Conservation Area	Natural Environment	25
Geo Environmental	Human Environment	25
Community	Human Environment	21
Transportation	Human Environment	18

# ATLAS Data Search Tool





# Project Management Platform



# Project Management Platform

## SHOW NAVIGATION

- ✓ 1 General Information
  - ✓ 2 Purpose & Need
  - ✓ 3 Proposed Action
  - ✓ 4 Public Involvement
  - 5 Cultural Resources
    - ✓ 6 Paleontological
      - ✓ 7 Section 4(f)
- ✓ 8 Special Status Species
  - ✓ 9 Wetlands & Water Resources
    - ✓ 10 Stormwater & Floodplain
    - ✓ 11 Noise
    - ✓ 12 Air
  - ✓ 13 Hazardous Waste
- ✓ 14 ROW and Relocations
- ✓ 15 Other environmental Factors
- ✓ 16 Conclusion

## CATEX PROCESS FORMS

1. GENERAL INFORMATION	Complete
2. PURPOSE & NEED	Complete
3. PROPOSED ACTION	Complete
4. PUBLIC INVOLVEMENT	Complete
5. CULTURAL RESOURCES	Complete
6. PALEONTOLOGICAL	Complete
7. SECTION 4(F)	Complete
8. SPECIAL STATUS SPECIES	Complete
9. WETLANDS AND WATER RESOURCES	Complete

# Project Management Platform

## CATEX PROCESS FORMS

**1. General Information**

- 2. Purpose & Need
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  - 12. Air
- 13. Hazardous Waste
- 14. ROW and Relocations
- 15. Other environmental Factors
  - 16. Conclusion
- 17. Project Commitments
- 18. Review & Approval

Form Controls:

1 GENERAL INFORMATION Complete

\* denotes required field

**Project Name:**\*  **Project Number:**\*  **Enter Pin:**\*  

**Region:**\*  **County:**\*

**Project Preparer:**\*

**Estimated Completion Date:**\*

**Document Type:**\*



# Questions