from planning to design
...a new beginning
an introduction

IPD Planning & Environmental Teams
The IPD team is...

- Reviewing existing processes
- Researching best practices
- Getting feedback
- Generating ideas and recommendations
- Developing products and training
Who are we?

Project Planning Team
Mark Boggs, Atkins
Scott Lane, Stantec
Suraiya Motsinger, AECOM
Matt Quesenberry, HNTB

Environmental Team
Kat Bukowy, HNTB
Ken Gilland, HNTB
Jill Gurak, Atkins
Christy Shumate, AECOM
Ryan White, Stantec

NCDOT Planning Contact
Alena Cook, Transportation Planning

NCDOT Environmental Contact
Derrick Weaver, Env. Policy Unit
What happens today?

• Talk about what we’ve learned
• Talk about what you do
• Explore ideas about how to improve project delivery
Pre-Conference survey  ...what is your main role now?

- Planning/Pre-NEPA
- Feasibility Studies
- NEPA/Merger Process Planning
- Design
- Other Pre-Construction Services
- Construction
- Division/District NCDOT Office
- Other
a quick question...what is your main role now?

A. Planning / Pre-NEPA  
B. NEPA Planning  
C. Feasibility Studies  
D. Design  
E. Other Pre-Construction Services  
F. Construction  
G. Division / District Office  
H. Administration  
I. Other?
about the process

the project delivery process now
Planning+Environment Workflow

NCDOT Existing Process

1. PROJECT PLANNING
   - MPO/RPO/NCDOT TPD
     - Systems Planning/CTPs & MTPs
     - Corridor Planning
   - NCDOT Strategic Prioritization Office
   - STI/SPOT Project Prioritization
   - Express Design Evaluation
   - NCDOT Feasibility Studies Unit
   - STIP Development
   - Project Scoping Process
   - NCDOT STIP

2. PROJECT DEVELOPMENT
   - NCDOT PMU, Technical Services Units, Highway Divisions
   - Environmental Documentation
   - Design

3. CONSTRUCTION
   - NCDOT Construction Unit, Highway Divisions
   - LET
   - Construction

4. O&M
   - NCDOT Maintenance & Operations Sections, Divisions
   - Operations & Maintenance
Federal & State Requirements

Farmland Protection Policy Act  Title VI of the Civil Rights Act  Clean Air Act  FHWA  
Noise Regulations  Uniform Relocation Assistance and Real Property Acquisition  
Policies Act  Migratory Birds Treaty Act  Executive Order 12898 on Environmental  
Justice Coastal Area Management Act  Endangered Species Act  Section 4(f)  Land  
and Water Conservation Fund  Executive Order 11988 on Floodplain Management  
National Historic Preservation Act  Archaeological Resources Protection Act  FAST  
Act 23 USC 134-Metropolitan Transportation Planning  National Environmental Policy  
Act  Clean Water Act  State Environmental Policy Act  NEPA/404 Merger Process  
Beaches Environmental Assessment and Coastal Health Act  Noise Control Act  
Marine Protection, Research, and Sanctuaries Act  Shore Protection Act  Superfund  

Project Development Phase Workflow

2 PROJECT DEVELOPMENT

NCDOT PMU, Technical Services Units, Highway Divisions

Environmental Documentation → Design → LET
Existing Process Maps and Deliverables

Guidance and Templates
- NCDOT Roles and Responsibilities 02-08-19.pdf
- Project Development Process Maps and Project Development Deliverables Guide.pdf

Newsletters & Communications
- Secretary's Memo - Integrated Project Delivery.pdf
- 2019 January IPD Newsletter.pdf
- 2019 February IPD Newsletter.pdf
- 2018 December IPD Newsletter.pdf

https://connect.ncdot.gov/projects/Integrated-Project-Delivery
Existing Process Maps and Deliverables

Project Development Process

PURPOSE & OVERVIEW
The purpose of this guide is to provide NCDOT Project Managers with a standardized reference tool to help guide them through the steps of the NCDOT project development process.

Who is this guide for?
- NCDOT Project Managers
- Private Engineering Firm (PEF) Project Managers that work on behalf of NCDOT

How to use this guide
This guide contains informational text, diagrams, and links to other policy and procedures documents, work product templates, and other useful resources.

This guide outlines the current project development process. This process is being evaluated to identify efficiencies and streamlining opportunities, and updates to the process will be incorporated into this guide. Also note that this guide provides the process for a typical project, but each project should be evaluated as some sections may not be needed or applicable to all projects. If you have questions as to whether a certain aspect is needed for your project, please contact the Environmental Policy Unit.

This guide is an interactive PDF - buttons are hyperlinked – click on them to navigate within the document and to access additional resources.
Existing Process Maps and Deliverables

Project Development Process

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Existing Process Maps and Deliverables
# Interactive Process Maps

[Image of a website interface with a list of documents and their details, including names, titles, sections, check-out dates, and modify dates.]
Interactive Process Maps

Project Initiation & Data Collection

Start Project Initiation & Data Collection

Data from Express Design Evaluation & Project Scoping

Prepare Project Study Area

Initiate Data Requests to Other Technical Units

End of Project Initiation & Data Collection

Project Coordination

Prepare CCR

CCR

ETRACS request for Historic Architecture Screening

ETRACS request for Archaeology Screening

Submit Traffic Forecast Request to NCDOT Planning & Forecasting Unit

Submit GeoEnvironmental Screening Request to NCDOT GeoEnvironmental Unit

Submit request for Crash Data & Analysis to NCDOT Traffic Safety Unit
Common Issues: failure to check on latest guidance....
Existing Process Maps and Deliverables
Project Planning
Existing Workflow
Project Planning Enhanced Workflow

PEL Products

Community Understanding Report
Project Problem Statement
Stakeholder Input Documentation
Proactive Traffic Forecast
Express Design Evaluation
Project Scoping Report
Environmental Phase
Existing Workflow

Project Development – Environmental Documentation - Current Process Maps

Legend:
- Orange Box: A single step in the process
- Yellow Box: A decision point in the process
- Blue Box: A step that involves technical assistance
- Red Box: A step that involves the procurement of goods and services

Project Initiation & Data Collection

Project Coordination

Purpose and Need

Alternatives Development

Categorical Exclusion

Preliminary Design & Technical Studies

Design
Environmental Phase
Enhanced Workflow
Integrated Project Delivery

PROJECT PLANNING

Initial Project Coordination

Alternatives Evaluation

Categorical Exclusion

DESIGN
What makes you go *Arrggghhh*?
Pre-Conference survey

...In just a few words please describe the biggest challenge you face now in doing a great job.

- Resisting change
- Frequent change in scope
- Utilities / utility coordination
- Communication!
- Time / project load
- Technical proficiency of PMs
- Need more help from central
a quick question…what else would you add to this list of challenges in the early project delivery phases? (3 words or less)
what we’ve heard so far

internal and external interviews
— Peer State Research

- Colorado
- Florida
- Georgia
- Texas
- Utah
- Virginia
Common Themes

- More focus on early studies
- Training and coordination
- Not as many big projects
A best practice from Florida DOT

ETDM
Efficient Transportation Decision Making

From the ETDM Manual:

ETDM “incorporates environmental considerations into transportation planning to inform project delivery”

Sound familiar?
What is ETDM and Why are We Doing It?

Efficient Transportation Decision Making

- Feasibility
- Avoidance, minimization and mitigation opportunities
- Focus issues
- Information to advance to PD&E
- Issue resolution during planning
<table>
<thead>
<tr>
<th>Improved and Early Agency Coordination and Consultation</th>
<th>Improved Long Range Transportation Planning</th>
<th>Focused Evaluations during Project Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Costly Environmental Studies and Documentation</td>
<td>Better Access to Information</td>
<td>Provides Information and Decisions to Move the Project into the Project Development Phase</td>
</tr>
</tbody>
</table>
Changes for the better

Pre-Conference survey...What changes would you like to see take place to improve project delivery?”

- More communication with other NCDOT units
- Earlier coordination during project development
- More/better training
- Better use of technology
- Additional templates or tools to help do your work
- More flexibility in how I conduct my work
- More communication internally
- Other...
Internal interviews: Thank You!

- Feasibility Studies Unit
- Transportation Planning Branch
- SPOT
- Environmental Policy Unit
- Noise and Air Quality
- Public Involvement
- Archaeology
- Historic Architecture
- Biological Surveys
- Environmental Coordination and Permitting
- Mitigation and Modeling
- Community Studies

- Division staff
- Project Management Unit
- Location and Surveys
- Photogrammetry
- Congestion Management
- Roadway Design
- Roadside Environmental
- UAV Working Group
- Hydraulics
- Erosion Control
- Right-of-Way
- Geotechnical
- Utilities

Partner Agencies, too:
- FHWA
- USACE
- US Fish and Wildlife Service
- NC Wildlife Resources Commission
- NC DEQ
  - Water Resources
  - Coastal Management
Good ideas so far

Project Planning

More Focus on Early Studies

- Early project studies and resource agency coordination to define projects
- Comprehensive PEL Studies to create value

Technology

- Project portals to provide transparency and consistency
- On-line engagement tools used extensively

Budget Matters

- Assign schedule and budget early in process
- Identify funding source before detailed studies

More Tips

- Two-Minute Training
- Interagency Council
- Corridor “Checklist”
Good ideas so far

Project Development/Environmental

Templates and Forms
- Templates for NEPA/SEPA related documents
- Forms to track project information
- Forms to track project changes

Updated Guidance
- Policies and procedures for NEPA/SEPA and related studies
- Updated NEPA/404 Merger Process for more flexibility

Technology
- Project ATLAS (similar to FDOT ETDM)
- Organized website for guidance and resources
- Electronic review comment system

Schedules
- Schedule templates and training
- Coordination earlier in the process
- Advanced ROW acquisition
a quick question… which of the ideas presented do you think would be most helpful to you? (Pick 2)

A. More focus on early studies
B. Better use of technology
C. Early budget/cost estimating improvements
D. More training options (like videos)
E. Templates and forms
F. Updated guidance
G. More scheduling tools/processes
making sense of the process

getting to know Phantom, NC
What’s happening?

• It’s a complicated process, and few people know every part of it.

• By using a sample project we can help explain the process and some of the potential improvements.
In this session we will cover…

1. Systems planning – before prioritization
2. Project prioritization
3. Project initiation into the environmental phase
4. Navigating the NEPA/SEPA document
5. Design

See if you can catch the theme as we go….
Who’s Who in Phantom, NC

- Phantom, NC, a mid-size city
- Land Road and Vessel Run, two main drags
- Mystic, a nearby river running roughly north-south
- Eagle, an endangered species
- Falcon Landing Site, historic site
- Heavy commuting traffic, to Highway 130
Scene 1: A New Scope

depth in a municipal stronghold...
Land Road needs to be widened to four lanes – it backs up every day.

Yep. And let’s include a signal and other intersection improvements, too.

At our public meetings, people also said they wanted sidewalks connecting to the Academy.

But we have to avoid the Sports Park when we connect to Vessel Run….

Rock on! We’re all set to get this puppy into SPOT…so to speak!
• Widen Land Road
• Intersection improvements
• Sidewalks and streetscaping
• Avoid Sports Park with short new location segment
Project Area Map: Better
What could be done differently?

- Use of Project ATLAS
- Support from a Division Corridor Development Engineer
- Documentation from public meeting
Scene 2: SPOT Strikes Back

Data entry into the system
Welcome to SPOT On!ine
Project: Phantom, NC
Termini: Second Avenue to Vessel Rd
Description: Widen to multi-lanes, part on new location
Facility type: multi-lane hwy
Cost Est: $2.8 Million
What could be done differently?

- More options in SPOT On!ine data entry system
- Improved cost estimate tools
- More tools and guidance to better define the project for entry into SPOT
Scene 3: The Phantom Premise

Data lost in transmission
Hmm. Widen to multi-lanes and part on new location. Why do they stop the new road segment at Vessel Road?

Beats me...they must have meant to connect it to the interstate.

Looks like there are lots of alternatives we need to evaluate. Let’s get going on the Express Design.
Garbled transmissions...

Phantom locals wanted:
- Widen to 4 lanes
- Keep speed 35 mph
- Connect to Vessel Rd
- Streetscaping
- Sidewalks & Bike Lanes
- Miss the Sports Park

Project becomes:
- Widen to 4 lanes
- Extend to Highway with new interchange
- Speed limit 45 mph
- Major Intersection Improvements
- No sidewalks included
What could be done differently?

- CTP Project Sheet and back-check with local planners
- Receipt of community understanding report
- Well-documented public meetings
- Interagency coordination to discuss Eagle habitat and local historic site
- Project scoping report and initiation form
Scene 4: Attack of the NEPA/SEPA Acronyms

The project team lives two alternate realities...
Hey, Joel...I hear your Phantom project is still around. Seems like it’s taking a while.

Honestly Marcie, it didn’t start off so well. We’re on year 7 now and finally got a signed EA/FONSI.

What happened?
What took so long?...

- Waited 9 months for traffic forecast
- Lots of time on extra design alternatives
- More public meetings were needed
- Project description changed a few times
- Since the schedule was wrong we missed our window for surveying the Eagles when they weren’t hibernating
- Entered Merger Process due to alternatives crossing wetlands
- Completed an EA/FONSI because the project wasn’t scoped to the right scale
Scene 4: In an Alternate Universe…

Hi Joel…how’s your Phantom project going? Seems like it’s taking awhile am I right?...heh, heh, heh....

Marcie, it’s amazing...We just signed off on our Categorical Exclusion last week!

It took just 11 months from start to finish!

Wow…that’s great! How did you do it?
What went right…

- Proactive traffic forecasts
- Project scoping report
- Documentation from project planning public involvement
- Project ATLAS identified sensitive Eagle habitat
- Project initiation meeting
- Early final survey for design
- Expedited flexible Merger screening
- All data indicated – correctly – a CE warranted
a quick question…What are NCDOT’s scheduling goals for getting through the NEPA/SEPA process?

A. A maximum of 5 years per project
B. 12 months for a CE, 24 months for an EA, and 36 months for an EIS
C. Get the project to let sometime before I retire, may the force be with you
D. Schedule? There’s a schedule? I’ve never seen one
Scene 5: The Design Begins

Light speed to design
Why are they showing three boxes at this culvert?

Beats me...I’ve never even *been* to this place. Let’s right-size this culvert.

What’s this frisbee-looking area? Why move the road to save a few trees around it? That costs too much money.
Project Commitments
What could be done differently?

- A single project manager
- A design scoping meeting for every project
- All documents on an organized SharePoint site
- Cross-training to understand all steps of the process
Questions?

https://tinyurl.com/NCDOTIPD

Ideas?

https://tinyurl.com/NCDOTIPD
Thank you!