NEPA / SEPA 101: Understanding the Basics

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL POLICY UNIT

Session 1: Introduction

WHAT ARE WE GOING TO DO OVER THE NEXT TWO DAYS?

NCDOT's Environmental Policy Unit

Vision: Provide expertise in all matters related to the North Carolina and National Environmental Policy Acts (SEPA & NEPA)

Mission: To provide support to project managers and resource agencies to ensure compliance with all applicable federal and state environmental laws, and to increase accountability and environmental sensitivity that enhance the economy and vitality of North Carolina

Course Overview

We are here to help you:

- Understand how to comply with the NEPA and SEPA processes
- Understand the implications of the environmental review process for your projects
- Know who to contact if you need help or more information

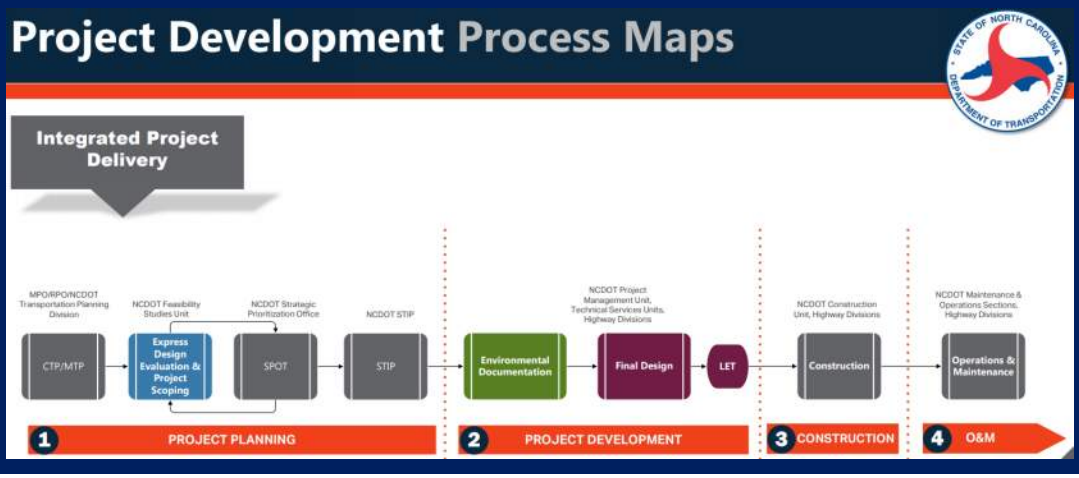
Course Objectives

- Understand NEPA principles that support transportation decision-making
- Identify the elements of the NEPA/SEPA decision-making process
- Identify "red flag" issues and risks to scheduling
- Identify NEPA and SEPA classes of actions

Course Objectives, continued

- Identify different types of human and natural environmental impacts
- Recognize direct, indirect, and cumulative effects
- Identify NCDOT's project development streamlining initiatives.

Transportation Decision-Making
The Big Picture



Participant Introductions

1. Name
2. Position
3. Project and Environmental Experience
4. Your Course Expectations and Issues You Want to Cover

Administrative Details

- Ask questions
- Bring up your issues and experience
- Take phone calls outside of class
- Keep your phone on mute

Primary Additional Resources

- AASHTO, Center for Environmental Excellence: https://environment.transportation.org/
- FHWA, Environmental Review Toolkit: https://www.environment.fhwa.dot.gov/about/about.aspx
- NCDOT, Connect NCDOT: https://connect.ncdot.gov/
- Environmental Policy: Connect > Resources > Environmental

Session 2: NEPA/SEPA Decision-Making

WHAT IS THE ENVIRONMENTAL REVIEW PROCESS ALL ABOUT? AND WHY IS IT IMPORTANT?

Events that Prompted NEPA

- Silent Spring 1962
- Conservation to Environmental Movement
- Urban Renewal
- Economic Considerations
- Public Hearings on Bypasses
- Establishment of the Interstate System (Highway Trust Fund – 1956)

Davidson Freeway, Michigan

The Response

- Growing Environmental Awareness
- Title VI of the Civil Rights Act of 1964
- 3C Planning Requirements
- National Historic Preservation Act (1966)
- Section 4(f) of the 1966 DOT Act (Overton Park)
- National Environmental Policy Act (January 1st 1970)
- Other Environmental Legislation

More Legislation

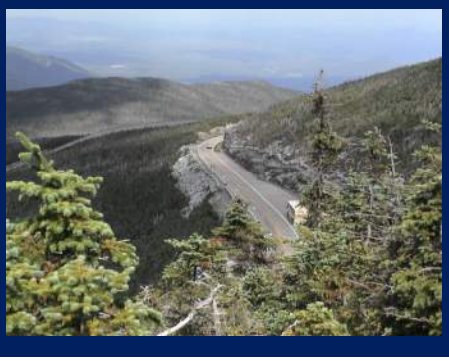
- Federal Aid Highway Act of 1970
- Uniform Relocation Assistance and Real Property Acquisition Act of 1970
- Clean Air Act of 1963 (amended 1970)
- Creation of EPA in 1970
- Clean Water Act of 1977

National Environmental Policy Act

- 40 CFR Part 1500 to Part 1508
- Established CEQ
- Requires a formal process before taking action
- Requires consideration of environmental impacts

What Is SEPA?

- North Carolina Environmental Policy Act (SEPA) adopted in 1971
- 2015 SEPA Reform signed on June 19, 2015



What does SEPA do?

- SEPA Encourages
  - responsible use of state's resources
  - Healthy environment
  - Preservation of natural resources
  - Public awareness
- Requires state agencies to report environmental consequences
- SEPA Reform updated criteria for SEPA review

When Is SEPA Review Triggered?

- An expenditure of $10 million in State funds, and
- Land-disturbing activity ≥ 10 acres of public lands, and
- Has a potential detrimental environmental effect

NEPA is a Process Law

- NEPA requires coordination with resources agencies.
- NEPA requires public involvement.
- NEPA is an umbrella to other laws, including substantive laws.

Procedural vs. Substantive

- Procedural Laws = follow the process; make a decision
  - NEPA
  - Section 106 of the National Historic Preservation Act
- Substantive Laws = meet the "test"; alternative selection dictated by outcome
  - Section 404 of the CWA – Least environmentally damaging & practicable alternative (LEDPA)
  - Section 4(f) of the USDOT Act – No feasible & prudent alternative to use

Federal Actions

Fall within one of the following categories:

1. Adoption of official policy
2. Adoption of formal plans
3. Adoption of programs
4. Approval of specific projects (includes federal nexus)

Lead Agency

- Project Sponsor: public or private entity seeking approval
- FHWA: lead agency for projects they approve and fund
- NCDOT:
  - Joint lead agency as direct recipient of Federal funds
  - Project Sponsor

Lead Agency: NEPA vs. SEPA

Federally funded/NEPA:

- FHWA typically lead agency
- NCDOT typically joint lead agency.

State funded/SEPA:

- Subject to NEPA if Federal permit required
  - USACE typically lead federal agency (Section 404 permit)

The NEPA Umbrella

Shared Decision-Making

- **Achieve**: High quality and safe transportation projects that protect and enhance the environment.
- **By**: Engaging multiple viewpoints and expertise-people, agencies, and stakeholders!
- **Results in**: "the best overall public interest"
- Process is:
  - Open
  - Cooperative
  - Collaborative

Cooperating Agencies

- Lead agency requests/agrees to participation
- Cooperating agencies include:
  - Federal agency with jurisdiction (legal or expertise)
  - State or local agency with jurisdiction
  - Federally recognized Native American tribe for effects on lands of tribal interest
- An agency may request designation from lead

Participating Agencies

- Federal, state, local agencies with interest
- Includes federally recognized Tribal entities
- All cooperating agencies are by definition participating agencies *but*
- Not all participating agencies are cooperating agencies.

Agency Coordination Plan: 23 USC 139(g)

- Established by Lead Agency, coordinates public and agency participation and comment
- Requires a schedule that considers:
  - Legal responsibilities of participating agencies
  - Resources available to the cooperating agencies;
  - Overall size and complexity
  - The overall schedule and cost
  - Sensitivity of resources potentially affected

Public Involvement

Public participation is used as a basis to develop and obtain:

- Consensus
- Early and continuous contribution
- Early identification and resolution of issues
- Project alternatives
- Identification of solutions

FHWA's Public Involvement Requirements

- FHWA must approve state's public involvement procedures/program
- They must provide
  - Coordination of public involvement with NEPA process
  - Early and continuing opportunities for involvement
  - Public role in identification of impacts

NCDOT's Public Engagement Resources

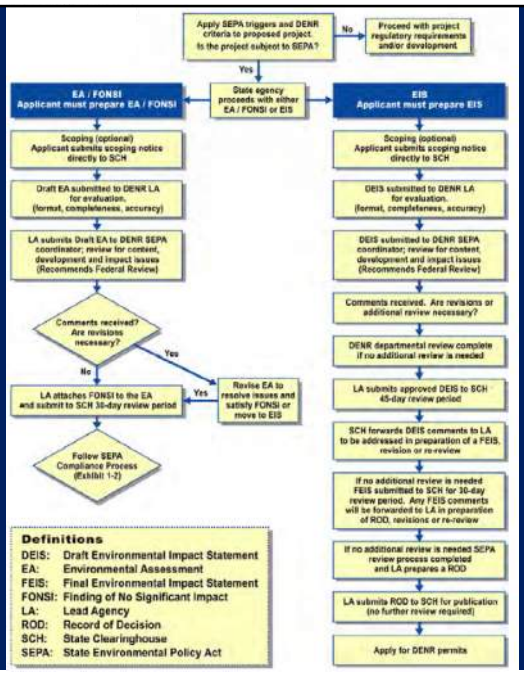
- Unified Public Engagement Process
  - documents process for public involvement responsive to federal regulation and good planning practice and to guide NCDOT's future activities
  - Meets federal requirements for agency consultation in planning/programming
- Public engagement toolkit
- Public involvement 101/FAQs

How do transportation agencies comply with NEPA?

- FHWA and FTA Implementing Regulations at 23 CFR 771
- FHWA Technical Advisory T6640.8A (1987): *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*
- Federal Transportation Legislation (MAP-21, FAST Act, etc.)
- Executive Order 13807, *One Federal Decision*

Complying with SEPA

***Guidance for Preparing SEPA Documents and Addressing Secondary and Cumulative Impacts*:** *https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/SEPA/DENR_SEPA_51_100.pdf*.



Documentation

Decisions must be supported by documentation

- Regardless of class of action, documentation is required
- Administrative Record (Project File) should be prepared
- There may be page limits for NEPA/SEPA documentation
- If it is not documented, it did not happen!

Timelines for the NEPA Process

- CEQ 40 questions (1981) says:
  - EAs – "no more than 3 months"
  - EISs - "only about 12 months"
- In 2012 - 4.6 year average for EISs (NAEP/GAO)
- Infrastructure EISs 2010 – 2017 (NAEP)
  - Median: 3.7 years
  - Mean: 4.6 years

Why does the NEPA process take so long?

- Conflicts among alternatives
- Politics
- Lack of funding
- Lack of a project "champion"
- Lack of coordination
- Lack of multi-disciplinary team
- Other environmental requirements
- Project manager priorities
- Inexperienced team
- Poor planning
- Indecisiveness
- Staff turnover

NEPA Streamlining

- Legislative Efforts
- Executive efforts
- Interagency Agreements
  - Programmatic Agreements
  - Merger Process MOU

NCDOT Merger Process

- Streamlines project development and permitting processes
- Agreed to by the USACE, NCDEQ (DWR, DCM), FHWA and NCDOT
- Supported by other stakeholder agencies and local governments.
- Provides a common forum for agencies
- Documents competing agency mandates
- Reaches a “compromise based decision”

NCDOT Merger Process: Concurrence Points

- CP1: Purpose and Need and Study Area Defined
- CP2: Detailed Study Alternatives Carried Forward
- CP2A: Bridging Decisions and Alignment Review
- CP3: LEDPA/Preferred Alternative Selection
- CP4A: Avoidance and Minimization
- CP4B: 30 Percent Hydraulic Review
- CP4C: Permit Drawings Review

NCDOT Merger Process

Should be considered when:

- There are competing resources
- Project requires individual permit from USACE
- There are several federal agencies with jurisdictional authority (USACE, FERC, USCG, etc.)

Essential Elements of NEPA and SEPA

The following are part of the environmental review process, regardless of the class of action

- Scoping
- Purpose and Need
- Reasonable Range of Alternatives/Preferred Alternative
- Avoidance, Minimization and Mitigation of Impacts

Why is it important to follow the process?

- It's the right thing to do!
- NIMBY – you cannot please everyone
- NEPA and SEPA require documentation to support decisions
- Lawsuits fall under the Administrative Procedures Act

Primary Additional Resources

- FHWA, Re:NEPA - FHWA's online "community of practice": https://collaboration.fhwa.dot.gov/dot/fhwa/ReNepa/default.aspx
- FHWA, NEPA Implementation Project Development and Documentation Overview: https://www.environment.fhwa.dot.gov/legislation/nepa/overview_project_dev.aspx
- FHWA, Legislation Regulations and Guidance: https://www.environment.fhwa.dot.gov/legislation/federal_transportation_auth.aspx
- NCDEQ, State Environmental Policy Act: http://www.conservation.nc.gov/web/deao/sepa/general-information.
- NCDOT, Conformity with North Carolina Environmental Policy Act: https://connect.ncdot.gov/resources/DMPDT/DMPDT%20Documents/Preconstruction%20Workshop%202018/Presentations/Documentation%20for%20State%20Funded%20Projects.pdf

Primary Additional Resources

- FHWA, Public Involvement Video https://www.fhwa.dot.gov/federal-aidessentials/catmod.cfm?id=42
- FHWA, NEPA Transportation Decisionmaking https://www.environment.fhwa.dot.gov/nepa/trans_decisionmaking.aspx
- NCDOT, Unified Public Engagement Process: https://connect.ncdot.gov/projects/planning/TPB%20Documents/Unified%20Public%20Engagement%20Process.pdf
- NCDOT, Public Engagement Toolkit: https://connect.ncdot.gov/projects/toolkit/Pages/default.aspx
- NC DENR, SEPA Guidance:
  - https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/SEPA/DENR_SEPA_1_50.pdf
  - https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/SEPA/DENR_SEPA_51_100.pdf
  - https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/SEPA/DENR_SEPA_101_129.pdf

Session 3: Scoping & Purpose and Need

HOW DO WE EVALUATE A PROPOSED PROJECT UNDER NEPA AND SEPA? (PART 1)

Study Area

- Initial study area
  - Based on potential construction footprint
  - Needs to encompass range of alternatives
  - Can change through the environmental review process
- Other considerations identified through scoping
  - Natural resource study areas
  - Area of Potential Effect (cultural resources)
  - Community impacts

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

NCDOT's Scoping Process

- Internal Scoping
- External / Interagency Scoping
- Objectives:
  - Understand the problem – history and context
  - Understand resources within the area
  - Identify issues and constraints
  - Discuss potential ideas for solutions
  - Plan project approach and next steps

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

Internal Scoping Process

- Transfer known information and project history
- Understand the problem(s) to be addressed
- Understand problem context and background
- Exchange known information about the project area
- Identify questions, concerns, major constraints or issues
- Identify initial list of issues that will affect decision-making
- Examine potential solutions for the problem
- Discuss the project's schedule
- SEPA/NEPA class of action and merger project status
- Identify and plan future scoping actions and timeframes

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

External Scoping Process

- Results of internal scoping influence external scoping
- External scoping includes appropriate resource agency representatives
- Scoping letter / packet to facilitate meeting
- Scoping meeting content and flow are similar

Role of the Public:

- **Provide input on the transportation problems and identify community and environmental concerns**

Role of Resource Agencies:

- **Provide input on environmental resources and range of alternatives**
- **Participate in scoping meetings and consultation. (CP 1)**

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

Purpose and Need

- Often developed from the problem statement (CTP & LRTP)
- Essential to developing a range of reasonable alternatives
- Assists with the identification of the evaluation criteria for alternatives analysis.
- Focuses on issues that will need addressed by this project
- Must have supporting data

Role of the Public:

- **Provide input on the transportation problems.**

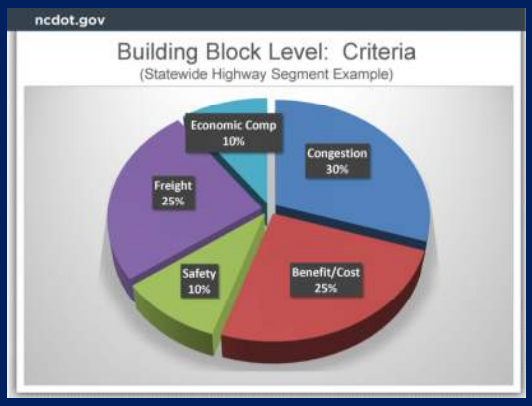
Role of Resource Agencies:

- **Understanding of the transportation problems that need to be solved. CP1**

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

Strategic Transportation Investments

- Prioritizes Capital Expenditures across all modes
  - Mobility/Expansion + Modernization
- Needs-based, data-driven
  - Projects scored using data + local input
- Funding tied directly to prioritization results



Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

What issues might inform purpose and need?

- Capacity
- System Linkage
- Transportation Demand
- Legislation
- Social Demands or Economic Demand
- Modal Interrelationships
- Safety
- Roadway Deficiencies

Traffic analyses can provide data to demonstrate project need.

I-81 Viaduct Project Syracuse, NY

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

I-81 Viaduct Project – NEED

- Part of national transportation network
- Primary N-S route through central NY into Canada
- Major access route to Syracuse
- Substandard design features and deteriorated infrastructure
- High crash rates and levels of congestion
- Lack of connectivity – downtown and surrounding neighborhoods
- Inadequate pedestrian and bicycle accommodations

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

I-81 Viaduct Project – PURPOSE

- Address structural deficiencies and non-standard highway features
- Address vehicular, pedestrian, and bicycle deficiencies
- Maintain or enhance vehicle access to interstate highway network
- Enhance access to Syracuse downtown destinations
- Enhance connectivity between neighborhoods and key destinations
- Maintain access to existing local bus service
- Enhance transit amenities

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

Development of Logical Project Termini

- Definition:
  - Rational end points for improvement
  - Rational end points for review of impacts
- Evaluation of impacts frequently cover a broader geographic area
- Does not preclude staging or phasing of construction.

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

Principles of Logical Project Termini

- In order to evaluate project alternatives on a broad scope:
  A. Connect logical termini and be of a sufficient length
  B. Have independent utility or independent significance
  C. Should not restrict alternatives for other future improvements

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

Different Perspectives on Logical Termini

- Example 1 –US 22: Safety Improvements on rural two lane facility
- Example 2 – US 26: Address traffic growth/congestion by widening roadway on fringe of rapidly growing urban area
- Example 3 – I-28: New interchange in growing urban area
- Example 4 – Route 91 / I-17: Proposed facility on new alignment, multiple build alternatives considered

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

I-77 HOT Lanes (I-3311C, I-5405, & I-4750AA)

- Purpose: to provide immediate travel time reliability along I-77
- Opening and design years are both proposed for 2019
- Need metrics:
  - Travel times through the corridor
  - Reliability (time variability)
  - Non-recurring incidents were included
- Improve 26 miles of I-77
- Introduction of High Occupancy Toll (HOT) Lanes

Scoping | **Purpose and Need** | Alternatives | Avoidance, Minimization, Mitigation

Corridor Studies

- Extremely useful to project development
  - Informs scoping, purpose and need, and logical termini
  - Helps to understand study area characteristics (scoping)
  - Helps to understand previous public involvement outcomes
  - Can help identify transportation system needs
  - Can help identify reasonable range of alternatives

Primary Additional Resources

- AASHTO, NEPA Process: https://environment.transportation.org/environmental_topics/nepa_process/overview.aspx
- AASHTO, Practitioner's Handbook 07 Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects: https://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#6
- FHWA, Environmental Review Toolkit, NEPA Implementation: https://www.environment.fhwa.dot.gov/legislation/implementation.aspx

Class Exercise 1

Purpose and Need

Logical Termini

Session 4: Red Flag Issues

WHAT ARE THE POTENTIAL ISSUES THAT CAN TORPEDO THE SCHEDULE?

Common Red Flag Issues

- Wetland and Stream Impacts (i.e. CAMA impacts)
- Parks, Cultural Resource Impacts, etc.
- Threatened Endangered Species Impacts
- Other Federal Permits (FERC and USCG)
- Indirect and Cumulative Effects
- Environmental Justice
- Public Controversy (Property Owner Litigation)
- Non-traditionally funded projects
- Process (Administration Procedures Act)

Wetland and Streams

USACE Permits

- Waters of the U.S. – moving target!
- USACE responsible for issuing Section 404/408 permits
- Permits require coordination – Section 7 (ESA) and Section 106 (NHPA)
- Major projects – potential navigable waters (USCG)
- USACE can only issue a permit for the LEPDA

NCDEQ Permits (Streams and Wetlands)

- Section 401 Certification (required for Section 404 permits)
- Isolated / non-404 jurisdictional wetlands and water permits
- Riparian buffer rules (Neuse, Tar-Pamlico, water supplies, etc.)
- Stormwater Management Plan

Division of Coastal Management (DCM)

- Coastal Area Management Act Permits - applies to 20 coastal counties
- Development is an activity in Areas of Concern:
  - The Estuarine and Ocean System
  - The Ocean Hazard System
  - Public Water Supplies
  - Natural and Cultural Resource Areas
- Major and Minor Permits and Exemptions

Parks, Cultural Resources, etc.

What Is Section 4(f)?

- Section 4(f) of the USDOT Act of 1966 provides for consideration of:
  - Publicly owned parks/recreation lands
  - Publicly owned wildlife and waterfowl refuges
  - Public and privately-owned historic sites
- Only applies to USDOT
- Applies to projects that are funded or approved by USDOT

Section 4(f) Levels of Determination

No 4(f)	**No impacts to an existing 4(f) property *OR* property is not subject to 4(f)**
No Use	**No incorporation of a 4(f) property into a transportation facility**
de minimis	**"Use," but because of avoidance, minimization, or mitigation there is no adverse effect on the attributes, features, or activities of a 4(f) property**
Programmatic Evaluation	**Minor "Use" of a 4(f) property that meets criteria established by FHWA**
Individual Evaluation	**"Use" of a 4(f) property that does not meet Programmatic Evaluation criteria**

Bonner Bridge, Dare County

- Competing Section 4(f) Resources
- No feasible and prudent avoidance alternative
- Least overall harm alternative - Parallel Bridge Corridor with Phased Approach/Rodanthe Bridge Alternative

What is Section 6(f)?

- Section 6(f) of the Land & Water Conservation Fund Act (LWCF)
- Preserves, develops, and assures accessibility to outdoor recreation
- Strengthen health and vitality
- Provides funds and authorizes federal assistance
- Applies to federally-funded and state-funded projects

SR 1162, Apex Barbeque Road (B-5161)

- Replace Bridge on SR 1162 over Beaver Creek
- Class of Action: Type 1A Categorical Exclusion
- Project missed a Section 6(f) property during scoping

Threatened and Endangered Species

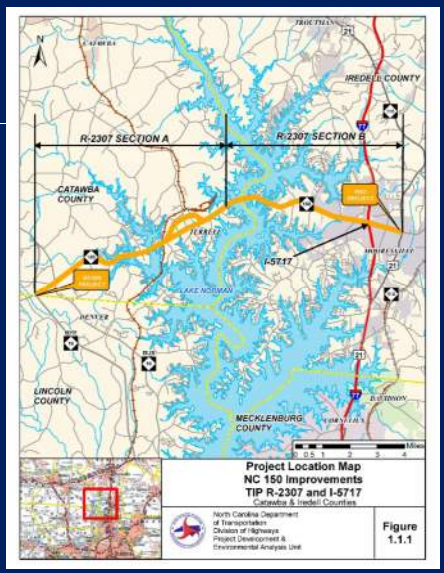
Complete 540 Project (R-2553)

- DEIS relied on Programmatic Biological Opinion for freshwater mussels
- Complaint filed regarding failure to:
  - Set limits on take of protected species
  - Require monitoring of authorized take
  - Establish “trigger” for re-initiation of USFWS consultation
  - Document an accurate environmental baseline
  - Consider how the highway will impact species recovery
- Over-reliance on mitigation can be a risk

Other Federal Permits

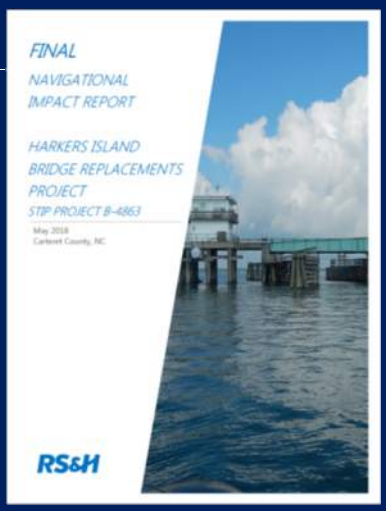
NC 150 Widening (R-2307)

- Lake Norman – in the FERC boundary for the Catawba-Wateree Hydro Project
- Any non-maintenance activity encroaching on the boundary requires a FERC permit
- Coordination with FERC outside of the merger process



Harker's Island Bridge Replacement (B-4863), USCG Permit

- FHWA and USCG MOU
- USCG accepts FHWA Classes of Action
- Vessel Survey Report
- Navigational Impact Study



Indirect and Cumulative Effects

ICE = Litigation Target

- Follow NCDOT's established process
- Screening required for Type III CE-level projects and above
- Litigation
  - 540 Complete
  - I-26 Buncombe and Henderson Counties
  - Winston Salem Outer Loop
  - East West Connector, Gaston

Environmental Justice

Minority and Low-Income Populations

- EJ Principles
  - Meaningful engagement – robust outreach process
  - Avoid, Minimize and Mitigate Disproportionately High and Adverse Impacts
  - Benefits to Burdens
- Identification of study area and reference populations
- Transparent process for identifying impacts

Non-Traditionally Funded Projects

NEPA for Non-Traditionally Funded Projects

- Tolling / Road Pricing Projects
- Transportation modeling
- Alternative screening of non-tolled alternatives
- Expanded study areas (access and mobility)
- Consideration of vulnerable populations (equity and EJ)
- Financial expertise

Process

Managing Red Flag Issues

- Engage in a Robust Scoping Process
- Choose the Correct Class of Action
- Understand jurisdictional authority of other agencies
- Use the Merger Process
- Develop a Public Involvement Strategy
- Apply a Context Sensitive Solutions Approach
- Document, Document, Document

Additional Primary Resources

- AASHTO, Practitioner's Handbook 14 Applying the 404(b)(1) Guidelines in Transportation Project Decision-Making: https://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#13
- HWA, Transportation Decisionmaking: The NEPA/Section 40 Permit Merger: https://www.environment.fhwa.dot.gov/NEPA/nepa404_merger.aspx
- NCDOT, Merger Information: https://connect.ncdot.gov/resources/Environmental/Pages/Merger.aspx
- RRS Park Grant Locator (PARTF, LWCF, CNCB Funded Projects) (Section 6(f))

  https://ncsu.maps.arcgis.com/apps/webappviewer/index.html?id=811d3796d2ce4535888defa3d9dcb7d1

Session 5: Classes of Action

WHAT TYPE OF ENVIRONMENTAL DOCUMENTATION IS APPROPRIATE FOR THE TRANSPORTATION PROJECT?

Significant Impacts: Context and Intensity

- Context
  - Context for significance varies with setting
  - Consider short-term and long-term effects
  - Potential controversy
- Intensity
  - Magnitude or severity

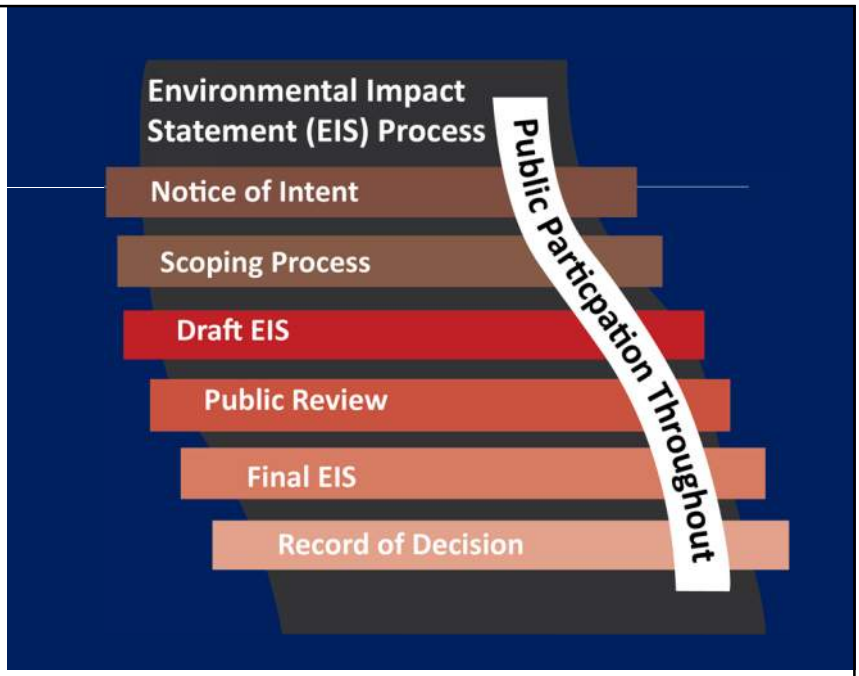
Evaluating Intensity

- Beneficial vs Adverse
- Degree of effects on public health or safety
- Unique characteristics of the geographic area
- Potential for controversy
- Uncertainty/ unique or unknown risks
- Establishment of precedent
- Relationship to other actions/cumulative effects
- Effect on NRHP listed/eligible sites
- Effects on threatened/ endangered species and habitat
- Violation of Federal, State, or Local law protecting environment

NEPA Classes of Action: Documentation

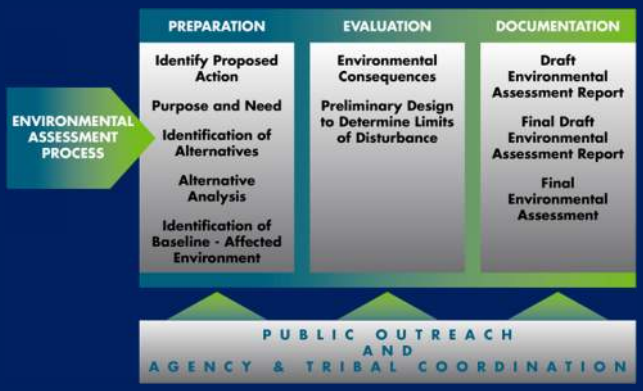
	NEPA	North Carolina SEPA
EIS	Notice of Intent	Scoping notice
	Environmental Impact Statement	Environmental Impact Statement
	Record of Decision	Record of Decision
EA	Environmental Assessment	Environmental Assessment
	Finding of No Significant Impact	Finding of No Significant Impact
CE	Categorical Exclusion	Scope/Minimum Criteria

Environmental Impact Statement Process



Environmental Assessment (EA)

- Concise public document
- Provides sufficient evidence and analysis to either:
  - Issue a Finding of No Significant Impact (FONSI)
  - Prepare an Environmental Impact Statement



Categorical Exclusions

Defined in 23 CFR 771.117(a): Actions meeting definition in 40 CFR 1508.4 that do not involve significant impacts

They do not:

- Induce significant impacts to planned growth or land use
- Require the relocation of significant numbers of people
- Have a significant impact on any resource
- Involve significant air, noise, or water quality impacts.
- Have significant impacts on travel patterns
- Have any cumulatively significant environmental impacts

Categorical Exclusions

- Programmatic CE Agreement
  - Defines requirements and approval procedures for FHWA-funded projects
  - Provides criteria and threshold for each type
- Threshold questions in Appendix C of Programmatic CE Agreement

Documentation Requirements and Approval Procedures
for Federal-Aid Projects Classified as Categorical Exclusions

US Department of Transportation
Federal Highway Administration
North Carolina Division Office

and

North Carolina Department of Transportation

Approved:

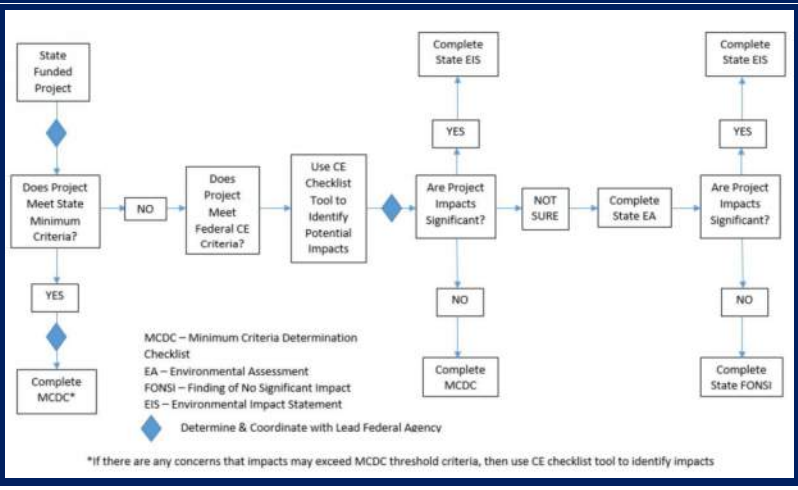
1/27/17
Date
Michael L. Holder, PE, Chief Engineer
NCDOT, Division of Highways

1/27/17
Date
John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

SEPA Documentation

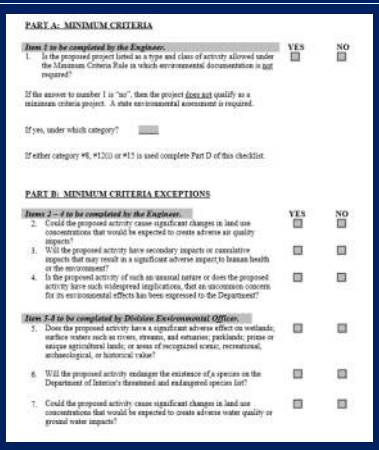
- Minimum Criteria Determination Checklist (MCDC) can be used if:
  - A project is state-funded
  - Qualifies under any of the 29 minimum criteria (19A NCAC 02F.0102 or 23 CFR 771.117(c) and (d))
- Further analysis is required for projects not meeting above criteria

Documentation for State-funded Projects



Minimum Criteria Determination Checklist

- Provides direction for documentation on state-funded NCDOT projects
- Questions screen for significant impacts
- Completed checklists may include project commitments



PART A: MINIMUM CRITERIA

Item 1 to be completed by the Engineer.

1. Is the proposed project listed as a type and class of activity allowed under the Minimum Criteria Rule in which environmental documentation is not required? YES ☐ NO ☐

If the answer to number 1 is "no", then the project does not qualify as a minimum criteria project. A state environmental assessment is required.

If yes, under which category? ____

If either category #8, #12(l) or #13 is used complete Part D of this checklist.

PART B: MINIMUM CRITERIA EXCEPTIONS

Items 2 – 4 to be completed by the Engineer. YES NO

2. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts? ☐ ☐
3. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment? ☐ ☐
4. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the Department? ☐ ☐

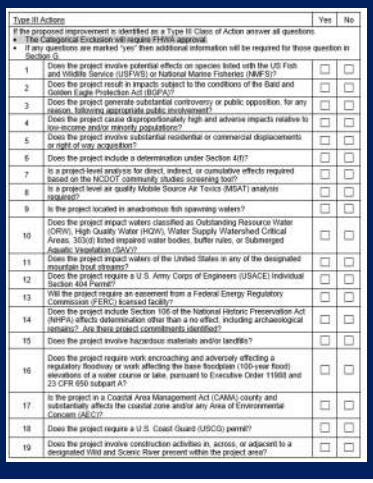
Item 5-8 to be completed by Division Environmental Officer.

5. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value? ☐ ☐
6. Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list? ☐ ☐
7. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or ground water impacts? ☐ ☐

SEPA Documentation

Use CE Type III Checklist to determine:

- Coordination Requirements
- Level of Impact (context and intensity)
- Lead Federal Agency
- Documentation Requirements



Type III Actions		Yes	No
If the proposed improvement is identified as a Type III Class of Action answer all questions. • The Categorical Exclusion will require FHWA approval. • If any questions are marked "yes" then additional information will be required for those question in Section G.			
1	Does the project involve potential effects on species listed with the US Fish and Wildlife Service (USFWS) or National Marine Fisheries (NMFS)?	☐	☐
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	☐	☐
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	☐	☐
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	☐	☐
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?	☐	☐
6	Does the project include a determination under Section 4(f)?	☐	☐
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?	☐	☐
8	Is a project level air quality Mobile Source Air Toxics (MSAT) analysis required?	☐	☐
9	Is the project located in anadromous fish spawning waters?	☐	☐
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	☐	☐
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	☐	☐
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	☐	☐
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	☐	☐
14	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a no effect, including archaeological remains? Are there project commitments identified?	☐	☐
15	Does the project involve hazardous materials and/or landfills?	☐	☐
16	Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	☐	☐
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	☐	☐
18	Does the project require a U.S. Coast Guard (USCG) permit?	☐	☐
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	☐	☐

Beyond the MCDC

- Documentation if not Federally funded:
  - Combined State EA / FONSI
  - State EIS
- Submitted to the State Clearinghouse
- Public and Agency Review:
  - 30 days for EA
  - 45 days for Draft EIS, 30 days for Final EIS

Reevaluations

- Used to determine the validity of ROD, FONSI, or CE designation
- A Reevaluation is required if:
  - No FEIS completed within 3 years of DEIS
  - No major steps (ROW, final design plans, etc.) to advance the project within 3 years of decision
  - Major design changes
- NCDOT Project Environmental Consultation Form

Supplemental Documents

- Required when substantive environmental (human / natural) impacts result from:
  - Changes in the proposed actions
  - New information or circumstances
- NOT required when changes, new information of circumstances:
  - Do not result in previously unidentified substantive impacts
  - Reduce adverse impacts without introducing new substantive impacts

Supplemental Documents

- Can be of limited scope
  - Address only new changes/information
  - Explain why the supplemental document was prepared
- May be prepared at any time (following DEIS, combined FEIS/ROD, FEIS, ROD, EA, or FONSI)
- Generally following the environmental review process (no scoping)
- Consideration of timing and scope

Primary Additional Resources

- AASHTO, Practitioner's Handbook 15 Preparing High-Quality NEPA Documents for Transportation Projects: https://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#14
- FHWA, NEPA Classes of Action: https://www.environment.fhwa.dot.gov/nepa/classes_of_action.aspx
- NCDOT, Documentation for State funded projects Webinar: https://connect.ncdot.gov/resources/DMPDT/DMPDT%20Documents/Documentation%20for%20State%20Funded%20Projects/Documentation%20for%20State%20Funded%20Projects.pdf

Session 6: Alternatives and Mitigation

HOW DO WE EVALUATE A PROPOSED PROJECT UNDER NEPA AND SEPA? (PART 2)

Alternatives Analysis is the Heart of the Process

- Links solutions to goals
- Demonstrates consideration of all possible solutions
- Requires consideration of other laws and regulations
  - Section 404(b)(1) of Clean Water Act
  - Section 4(f) of the USDOT Act
- Requires documentation using consistent evaluation criteria
- Involves all stakeholders

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Align solutions to the underlying problems

Typical Problem

- Lack of transportation options
- Demand that exceeds system capacity
- Through traffic on residential streets
- Lack of system or route continuity
- Safety
- Infrastructure in disrepair
- Need for access to developing land

Transportation Solutions

- Transit improvements
- Bicycle and pedestrian facilities
- Traffic control improvements
- Law Enforcement
- Access management
- Transportation demand management strategies
- Traffic calming
- Increased capacity along existing facility
- Reconstructed roads, bridges
- Construction of new roads

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Preliminary Alternatives

- Use earlier planning studies
- Incorporate suggestions from agency and public scoping comments
- Incorporate a combination of elements or concepts
- **CANNOT EXCLUDE alternatives based on project sponsor preference**

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Reasonable Range of Alternatives

- Considers purpose and need
- Based on environmental and community features
- Is **NOT** necessarily defined by legislative mandates
- Is different than **Practicable**
- Is **Feasible** and **Prudent** (applies to Section 4f)
- Used to determine the **Detailed Study Alternatives**

Role of the Public:

- **Provide input on the range of alternatives that should be considered.**

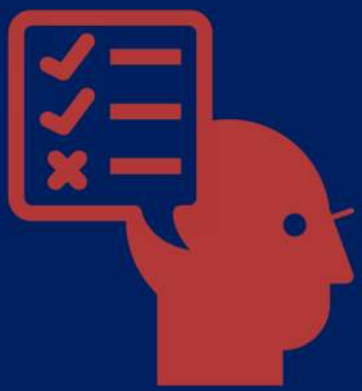
Role of Resource Agencies:

- **Understand and support the range of alternatives to be carried forward as detailed study alternatives . CP2**

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Alternatives Analysis

- Evaluation Criteria
  - Purpose and Need
  - Environmental Impacts
  - Cost
- No Action Alternative cannot be eliminated



Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

What is Practicable? Section 404(b)(1)

Any one of these can eliminate an alternative

- **Costs**
  - Based on industry
  - Neutral
  - Not financial standing
- **Existing Technology**
  - Similar to engineering feasibility
- **Logistics**
  - Lack of access is an example

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

What is Feasible and Prudent? Section 4(f)

- **An alternative is not feasible if it:**
  - Cannot be built (sound engineering)
- **An alternative is not prudent if it:**
  - Does not meet the purpose and need
  - Creates safety and operational problems
  - Results in severe resource impacts (after mitigation_
  - Causes problems of extraordinary magnitude

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Selecting a Preferred Alternative

- Evaluate action + no action alternatives.
- Consider direct, indirect, and cumulative impacts.
- Section 404 permit: must be Least Environmentally Damaging Practicable Alternative (LEDPA).
- Section 4(f) resources: Demonstrate no feasible and prudent alternatives.

Role of the Public:

- **Provide input on the alternative that best addresses their interest and needs.**

Role of Resource Agencies:

- **Agreement on the alternative which addresses the purpose and need a minimizes impacts to the extent practicable. CP3**

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Documentation

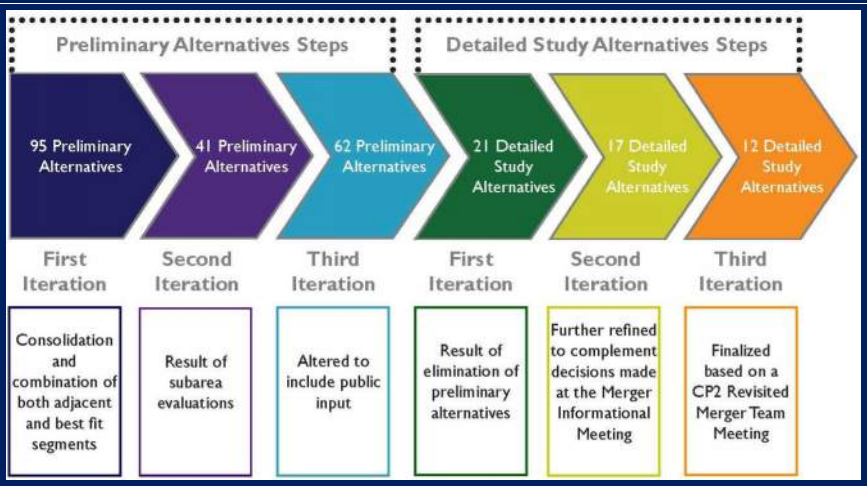
- Description of all alternatives
- Methodology used to evaluate the alternatives
- Data used in the evaluation process (including limitations)
- Agency and public input
- Explanations for eliminating any alternatives

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Case Study Examples

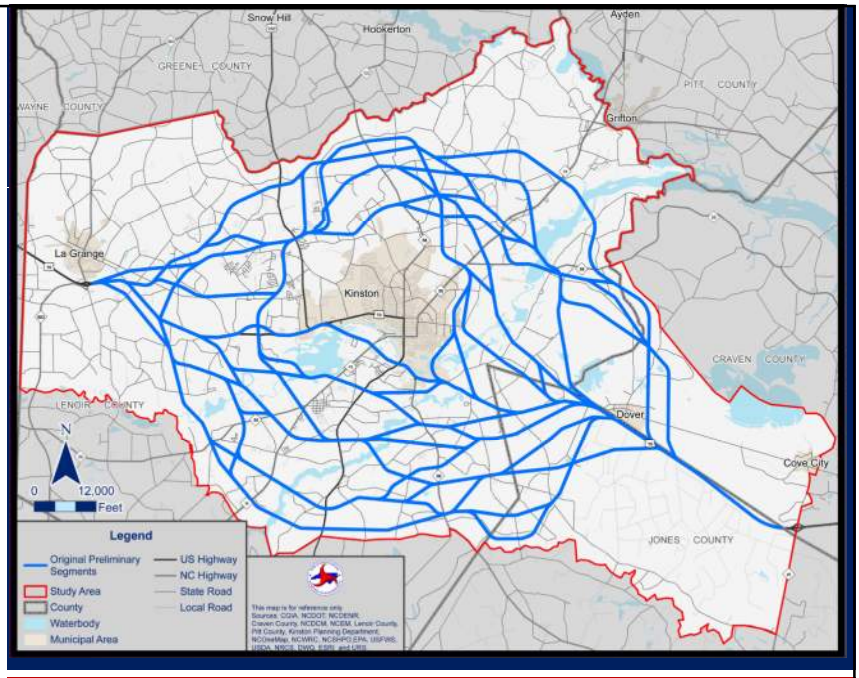
Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Kinston Bypass Alternatives Development



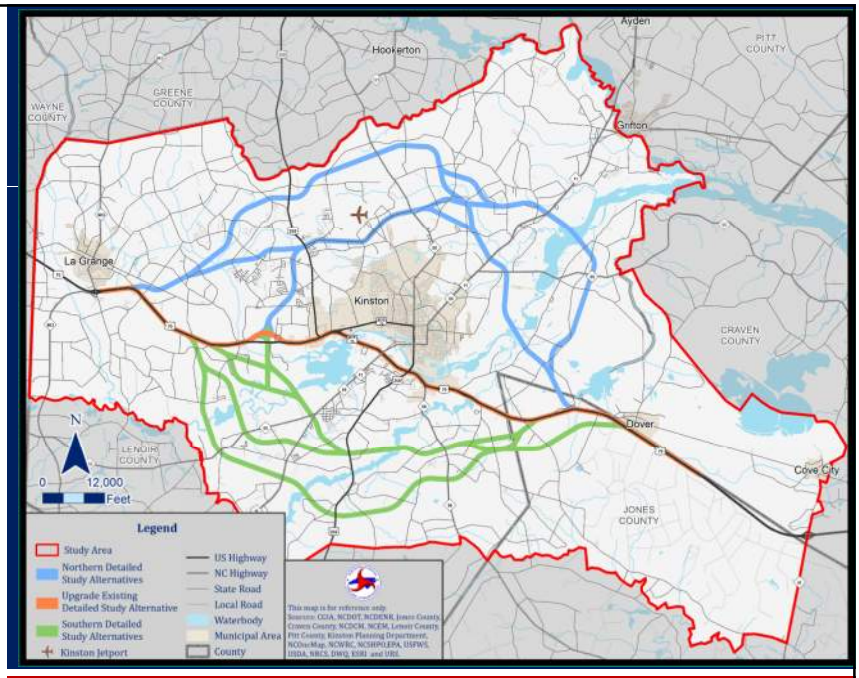
Kinston Bypass (R-2553) Alternatives Development

Preliminary Alternatives Development



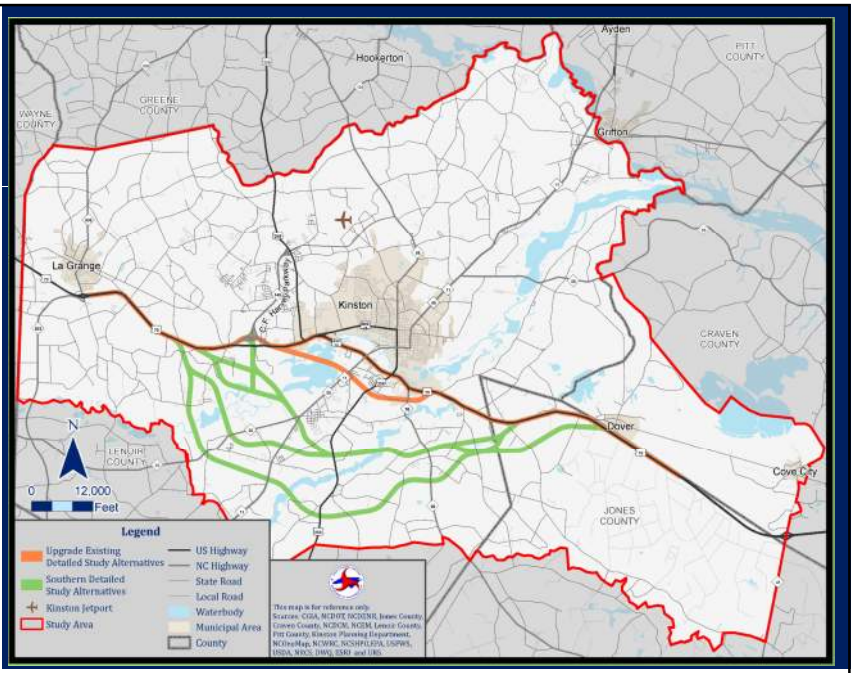
Kinston Bypass (R-2553) Alternatives Development

Preliminary Alternatives Development



Kinston Bypass (R-2553) Alternatives Development

Detailed Study Alternatives



Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

Kinston Bypass Alternatives Summary

- Evaluation based on **wetland and stream predictive model**
- Alternatives development influenced **heavily influenced by the public**
- Followed **Merger process** for agency input

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

I-81 Viaduct Project – Alternatives

Alternatives Considered and Carried Forward:

- No Build
- New Viaduct
- Community Grid

Alternatives Considered and Dismissed:

- Viaduct Rehabilitation
- Depressed Highways (DH-1 & DH-2)
- Western Bypass
- Boulevard & New Highway (West)
- Tunnels (T-1 through T-7; Orange)

Scoping | Purpose and Need | **Alternatives** | Avoidance, Minimization, Mitigation

I-81 Viaduct Project

Selection of a Preferred Alternative: Community Grid

- Need for safe and efficient transportation
- The social, economic, and environmental effects of the project alternatives
- National, state, and local environmental protection goals

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

Avoidance, Minimization, and Mitigation

- Identify measures to avoid and minimize
- Mitigate unavoidable impacts
- Incorporate measures into the proposed action

Role of the Public:

- **Provide input on potential impacts and measures to avoid, minimize & mitigate adverse impacts.**

Role of Resource Agencies:

- **Provide input on potential impacts and measures to avoid, minimize & mitigate adverse impacts. CP 4a**
- **Meet permitting & other regulatory requirements. CP 4b and 4c**

Scoping | Purpose and Need | Alternatives | Avoidance, Minimization, Mitigation

Mitigation includes

- Avoiding the impact
- Minimizing the impact
- Rectifying an impact by repairing, rehabilitating, or restoring
- Reducing an impact through preservation and maintenance
- Compensating for an impact by replacing resources

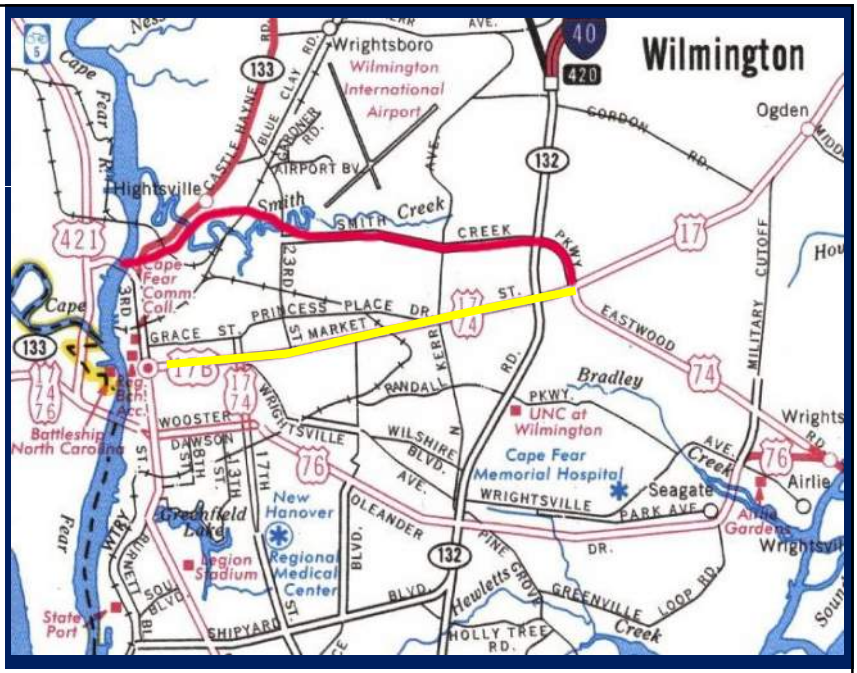
Required by Other Agencies' Regulations:

- **Section 106**
- **Section 404**
- **Section 4(f)**
- **Section 6(f)**
- **Section 7 of Threatened and Endangered Species Act**
- **CAMA Act**

Scoping | Purpose and Need | Alternatives | **Avoidance, Minimization, Mitigation**

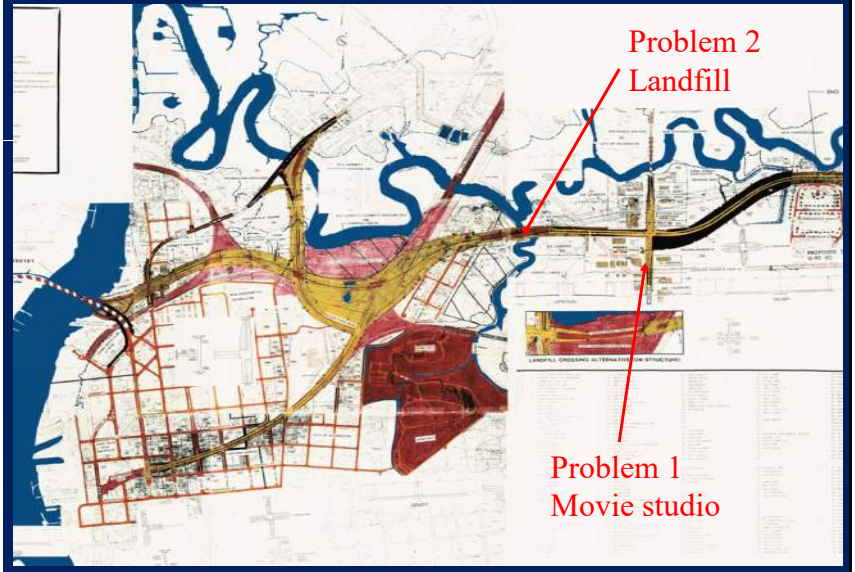
Case Study Example

MLK Boulevard
U-92
Wilmington, NC



MLK Boulevard
U-92
Wilmington, NC

Human and Natural Environment



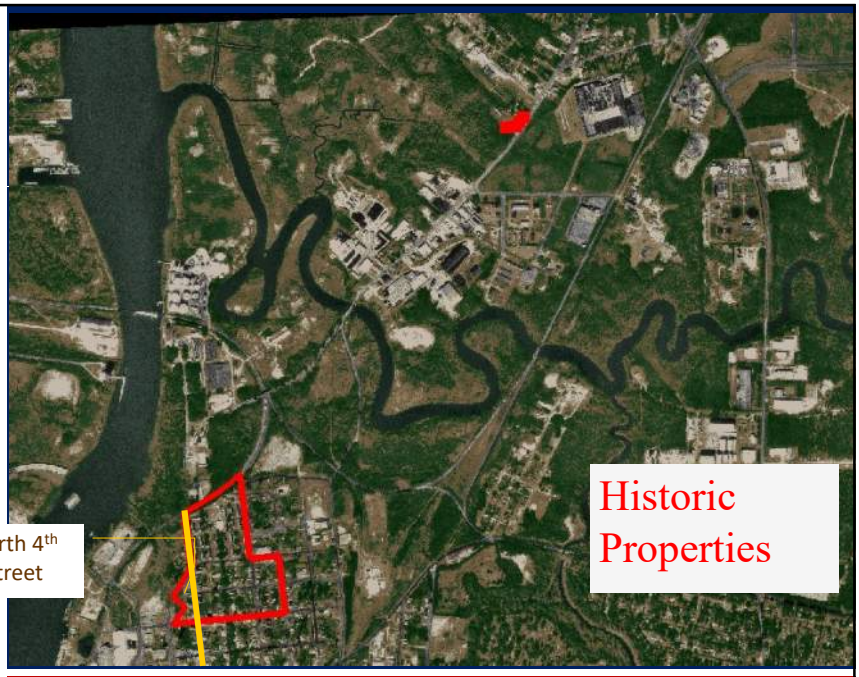
MLK Boulevard
U-92
Wilmington, NC

Human and Natural Environment

MLK Boulevard
U-92
Wilmington, NC

Human Environment

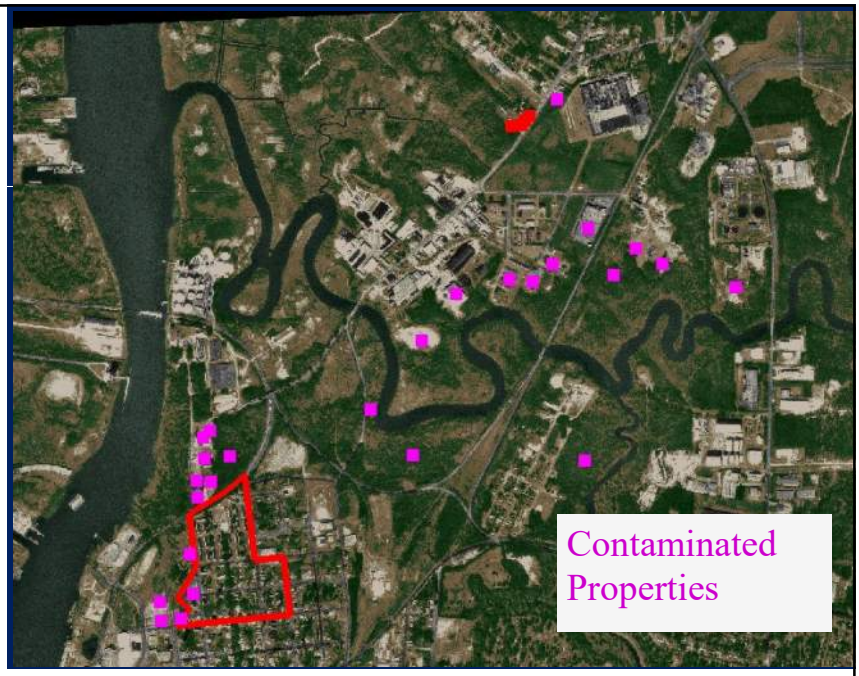
Historic Properties



MLK Boulevard
U-92
Wilmington, NC

Human Environment

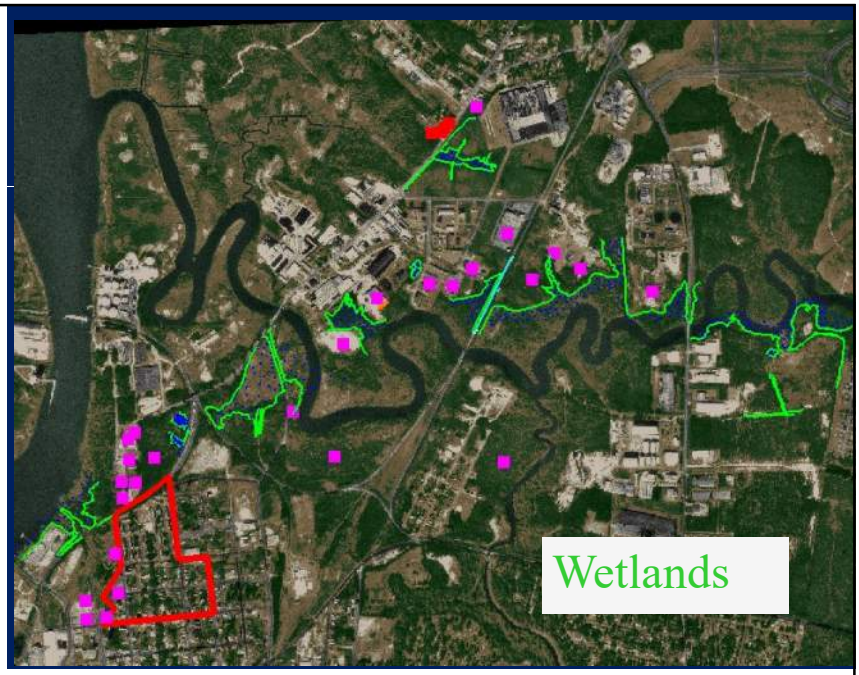
Contaminated Properties



MLK Boulevard
U-92
Wilmington, NC

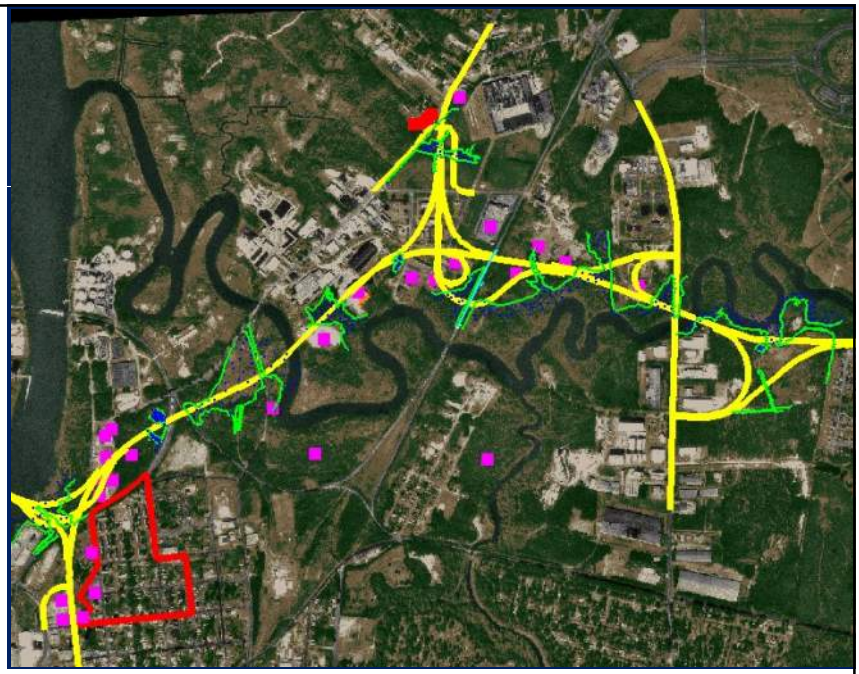
Natural Environment

Wetlands



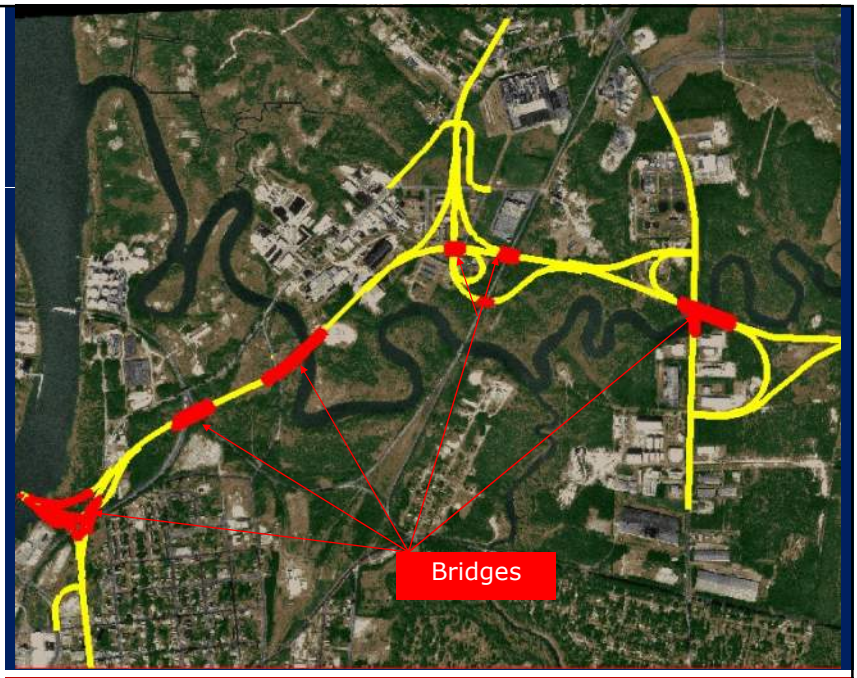
MLK Boulevard
U-92
Wilmington, NC

Avoiding Impacts



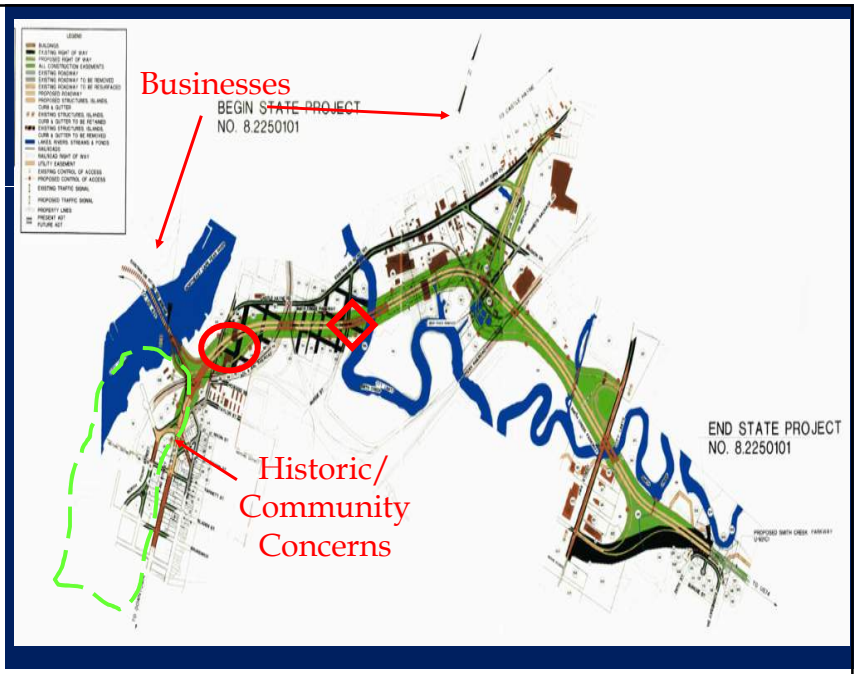
MLK Boulevard
U-92
Wilmington, NC

Minimizing Impacts



MLK Boulevard
U-92
Wilmington, NC

Mitigating Impacts



MLK Boulevard
U-92
Wilmington, NC

Community
Characteristics

MLK Boulevard
U-92
Wilmington, NC

Community/Historic
Impacts

MLK Boulevard
U-92
Wilmington, NC

Cumulative Effects

MLK Boulevard
U-92
Wilmington, NC

Community Enhancements

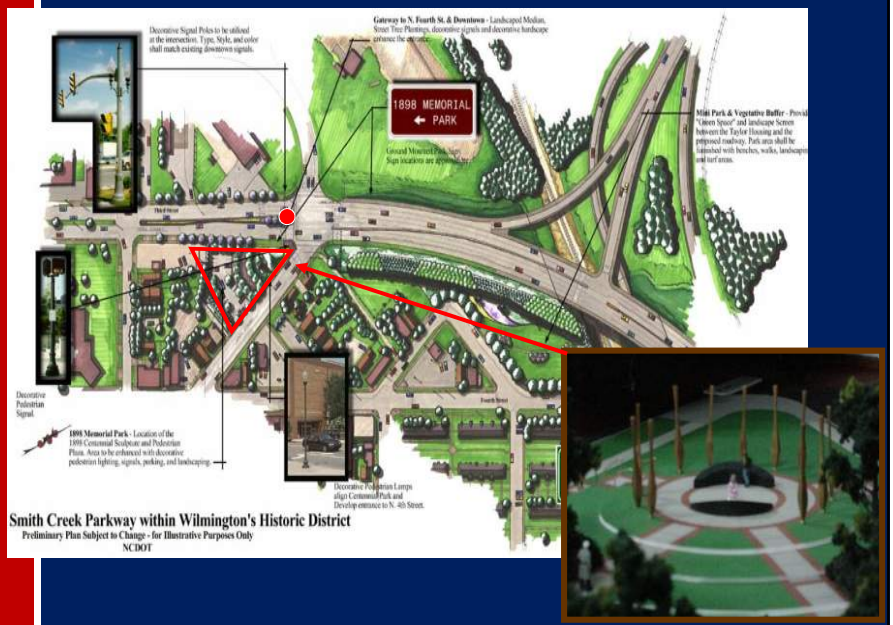
Scoping | Purpose and Need | Alternatives | **Avoidance, Minimization, Mitigation**

Stakeholder / Public Involvement

- North 4th St. Partnership Group
- City Of Wilmington (Planning & Engineering Department)
- Metropolitan Planning Organization
- State Historic Preservation Office
- Local Historic Preservation Organization
- 1898 Centennial Foundation

MLK Boulevard U-92 Wilmington, NC

Mitigation Strategy



MLK Boulevard
U-92
Wilmington, NC

Before

MLK Boulevard
U-92
Wilmington, NC

Visualization

MLK Boulevard
U-92
Wilmington, NC

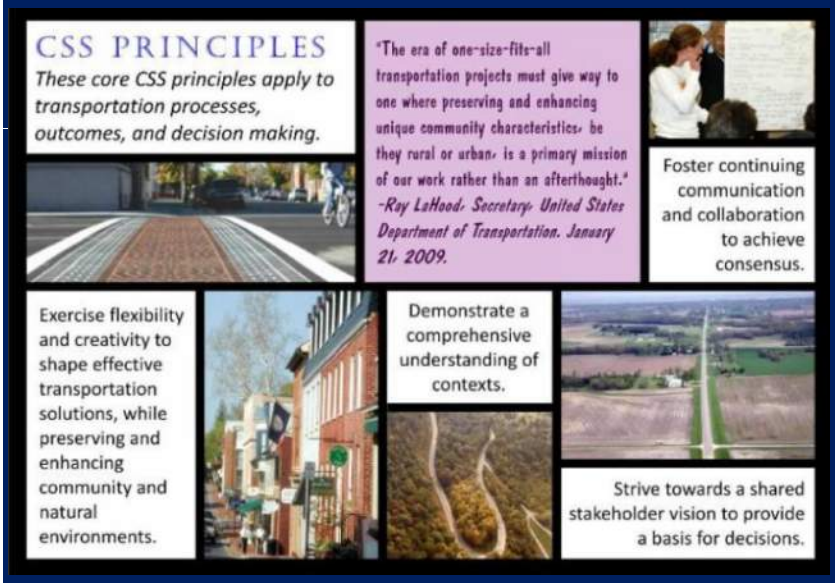
As-built

Scoping | Purpose and Need | Alternatives | **Avoidance, Minimization, Mitigation**

Avoid, Minimize, then Mitigate

- Wetlands avoided with reducing pavement width and bridging
- Several wetland mitigation sites
- Hazardous waste sites avoided and/or cleaned up (one site restored to a wetland)
- Railway corridor preserved
- Historic Community enhancements (Mini-parks, commemoration site with parking lot, land use plan revised, lighting and landscaping)

CSS Core Principals



CSS and Complete Streets

- Complete Streets falls under the CSS umbrella.
- NCDOT's "Complete Streets" policy: Incorporates several modes of transportation
- Benefits include:
  - Improving mobility and access
  - Encouraging the use of alternative forms of transportation
  - Building more sustainable communities
  - Increasing connectivity
  - Improving safety

Why are complete streets important in NC?

- Transportation includes moving cars *and* moving people; connecting, supporting, and building communities.
- Streets contribute to quality of life and economic vitality.
- Provides safe, comfortable, and viable options for transportation.

CSS, Complete Streets, and NEPA

- Helps inform scoping
- Can inform purpose and need
- Identification of alternatives
- Mitigation of impacts.

Role of the Public:

- Provide input during collaborative engagement activities and citizen advisory committees

Role of Resource Agencies:

- Provide input during collaborative engagement activities
- Advise on potential impacts of CSS and measures to reduces these impacts.

Alternatives Analysis Summary

- The heart of your environmental review process
- Transparency – look at all reasonable alternatives
- Use consistent evaluation criteria
- Avoid first, minimize second, and finally mitigate
- Involve your resource agency partners and the public
- Exercise flexibility and creativity
- Document, Document, Document

Primary Additional Resources

- AASHTO, NEPA Process: https://environment.transportation.org/environmental_topics/nepa_process/overview.aspx
- AASHTO, Practitioner's Handbook 07 Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects: https://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#6
- FHWA, Environmental Review Toolkit, NEPA Implementation: https://www.environment.fhwa.dot.gov/legislation/implementation.aspx

Primary Additional Resources

- AASHTO, Context Sensitive Solutions Topic Home https://environment.transportation.org/environmental_topics/context_sens_sol
- FHWA, Context Sensitive Solutions in Transportation Planning: https://www.fhwa.dot.gov/planning/css/
- FHWA, Going the Distance Together: Context Sensitive Solutions for Better Transportation - A Practitioner's Guide: https://www.fhwa.dot.gov/planning/css/key_references/practitionersguide/
- NCDOT, Complete Streets Policy: https://connect.ncdot.gov/projects/BikePed/Pages/Complete-Streets.aspx

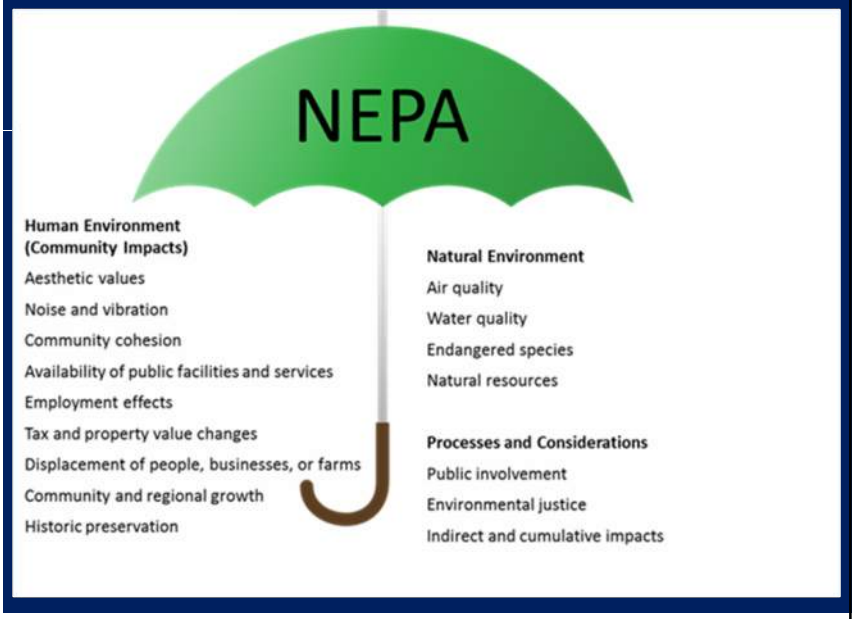
Session 7: Human and Natural Environmental Impacts

WHAT TYPES OF IMPACTS DO WE NEED TO CONSIDER AND WHY?

Types of Impacts (Effects)

- Effects and impacts are generally synonymous – except ESA and NHPA
- Effects include both human and natural environmental considerations
- Effects may be temporary or permanent
- Effects may be both beneficial and adverse
- Adverse effects must be evaluated, even if on balance the effect would be beneficial

The NEPA Umbrella



Resource-Appropriate Study Areas

Should encompass the potential impacts from a project

- Potential project footprint
- Direct community impact study area
- Natural resources
- Area of Potential Effect
- Future land use study area

Natural Environment

- Geology and Soils
- Surface Water
- Terrestrial and Aquatic Resources
- Protected and Conservation Lands
- Protected Species
- Jurisdictional Issues/Floodplains

Natural Resource Technical Report (NRTR)

- Detailed picture of project area natural resources
- Identifies and documents:
  - Protected species
  - Water Resources
  - Regulatory Considerations

Surveying Rockfish Creek near Hope Mills

Rough leaved loosestrife (endangered)

NRTR: Analysis Results

- Identify natural resources to be evaluated
- Provides documentation to support agency coordination
  - Water resources (including permits)
  - Biological resources
- Excerpts to be included in environmental documentation

Role of Resource Agencies:
- **Participate in Merger Process**
- **USFWS Project Review and Consultation**
- **USACE Project Review and Permitting.**

Cultural Resources

- Historic Properties:
  - Prehistoric or Historic Districts
  - Sites, Buildings, Structures, Objects
  - NRHP-Listed or Eligible
- Evaluations inform the Section 106 and Section 4(f) processes

Role of the Public:
Participate in consultation as a Consulting Party or Interested Party.

Role of Resource Agencies:
Concurrence with effect determinations, consultation to resolve adverse effects.

NC General Statute 121-12(a)

Protection of Properties in the National Register in North Carolina

- Does not provide protection for unlisted properties
- Historical Commission provides advisory and coordinative mechanism
  - Potentially harmful State undertakings discussed and resolved
  - Give due consideration to competing public interests
  - Recommendations are strictly advisory

Air Quality

- Project-level analyses focus on CO emissions
- O_3 is evaluated as part of regional conformity
- $PM_{2.5}$, PM_{10}, and MSAT addressed at varying levels depending on
  - Nature of the project
  - Regional attainment status

Air Quality: Analysis Results

- Connect planning and project development
- Transportation conformity (where applicable) for FHWA funding
- Enable compliance with CAA and CAAA
- Information on the affected environment
- Inform "significant effects" determination
- Incorporation of appropriate avoidance and mitigation strategies

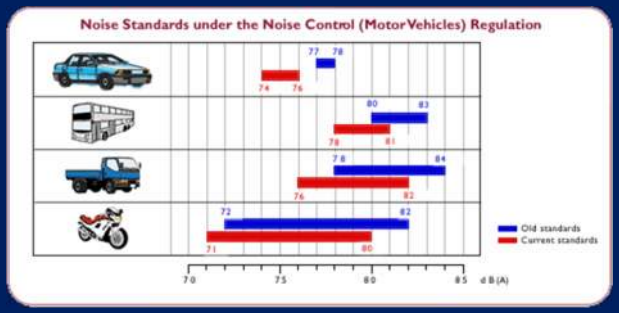
Role of Resource Agencies:

- **Participate in formal interagency consultation for conformity determinations**
- **Provide input on avoidance, minimization, and mitigation measures**

Noise

Traffic noise depends on:

- Volume of traffic
- Vehicle type (car, truck, motorcycle, bus)
- Traffic speed
- Pavement condition
- Distance between sensitive receptors and roadway



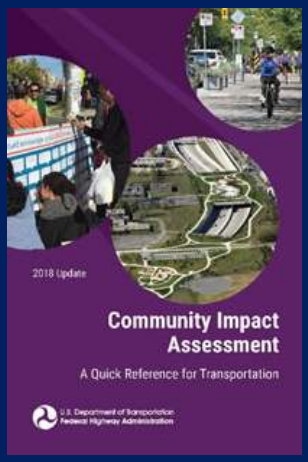
NCDOT Traffic Noise Policy

Implements the requirements of 23 CFR 772

- Federal aid projects: applies to Type I projects
- Applies to State funded projects:
  - Full control of access US or Interstate route where through-traffic lane(s) added
- All other State-funded projects: comply with SEPA & North Carolina Administrative Code
  - Noise barriers considered where practicable

Social and Economic Effects

- Scoping and public outreach
- Community Characterization Report
- Community Impact Assessment
- FHWA, CIA: A Quick Reference for Transportation



Community Characteristics Report (CCR)

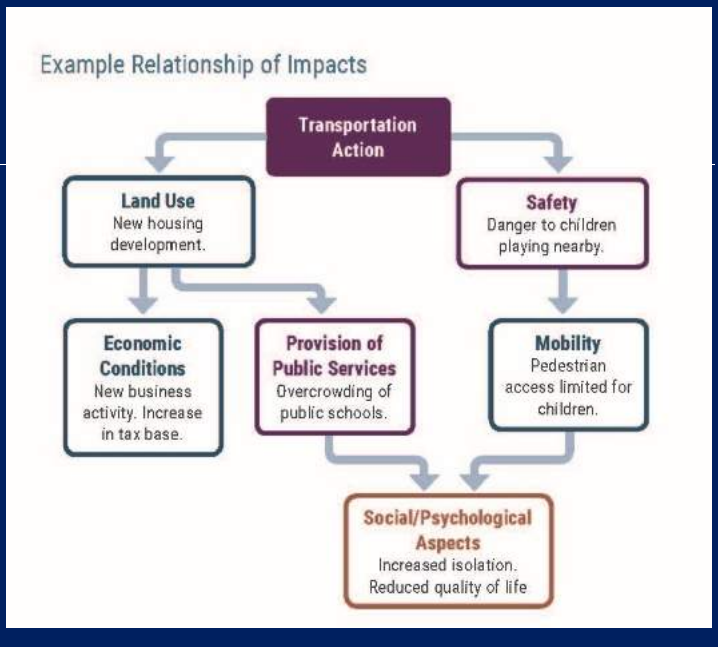
- EJ Populations
- LEP / LA Populations
- Recreational Resources
- Section 6(f) Resources
- Agricultural Resources and Activity
- Bicycle, Pedestrian, and Transit Routes and Safety
- EMS and School Bus Routes
- Business and Economic Resources
- Local Area Plans, Goals, and Development Activity
- Community Resources
- Community Cohesion
- Community Health

Community Impact Assessment (CIA)

- Safety
- Mobility and Access
- Social and Psychological Aspects
- Economic Conditions
- Physical Aspects
- Visual Environment
- Land Use
- Provision of Public Services
- Displacement

CIA results enable compliance with EJ, Title VI, and LEP directives.

CIA: Relationship of Community Impacts



What role does the public play in CIA?

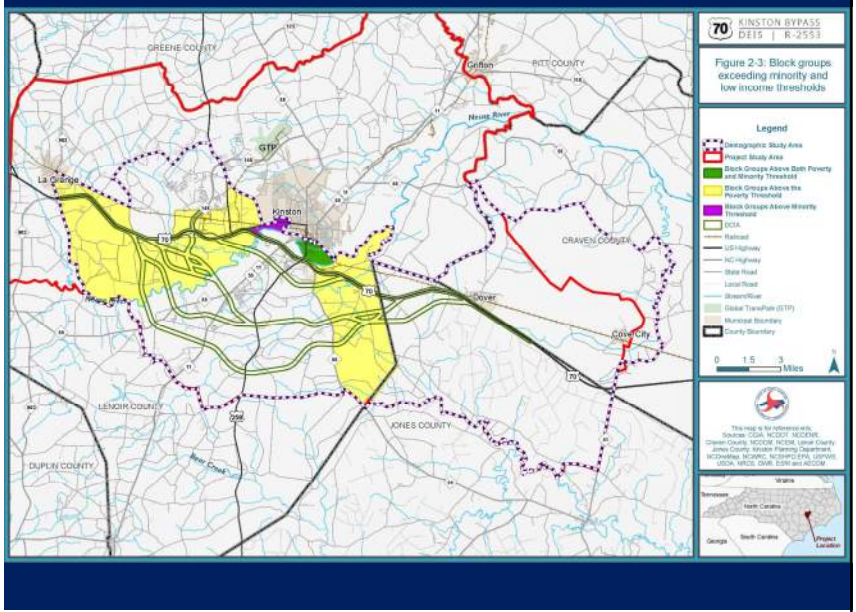
- Development of:
  - A vision and goals for the transportation system and communities
  - Project's purpose-and-need statement and identification of alternatives
- Identification of:
  - Community characteristics
  - Potential community impacts from transportation
  - Avoidance, minimization, mitigation, and enhancement opportunities

Environmental Justice (EJ) Principles

1. Meaningful Engagement
2. Avoid, Minimize, and Mitigate Disproportionately High and Adverse Impacts
3. Benefits and Burdens

Minority and Low-Income Populations

Kinston Bypass DEIS



Defining EJ: Adverse Effects

- ***Disproportionately high and adverse*** effects on minority & low-income populations
  - Predominately borne

  OR
  - Impacts are more severe or greater in magnitude

Example EJ Effects:
- **Community cohesion**
- **Air quality, noise, and soil contamination**
- **Economic vitality**
- **Aesthetic values**
- **Displacement**
- **Disruption of public services**
- **Increased traffic congestion**

I-26 Connector (I-2513): EJ Issues

- Burton Street community - low-income, predominantly African American neighborhood
- Previously impacted:
  - Original construction of I-240 in the 1960s
  - US 19-23-70 in the 1970s
- Recurring community impacts and displacement of housing units

I-26 Connector (I-2513): EJ Mitigation

- Improve connections between commercial corridors (sidewalks)
- Incorporate a Burton Street history mural on proposed sound wall
- Construct Smith Mill Creek park and community gathering space
- Implement traffic calming measures
- Intersection improvement for Florida Ave/Patton Ave

Limited English Proficiency (LEP)

- Identify potential LEP populations
  - ACS data
  - Language group that speaks English "less than very well"
  - Threshold is 5% of the DSA population
- Provide meaningful access to persons with LEP
  - Translation of vital documents for public outreach
- Beyond LEP: Language Assistance (LA) populations not identified from ACS data

Tribal Consultation

- Government-to-Government Consultation
- Required for policy and regulatory matters
- Required by Section 106 of the NHPA
- Early consultation is essential
- No initial response ≠ no interest

Other types of impacts

- Visual
- Utilities
- Hazardous materials
- Vibration
- Construction Impacts

Primary Additional Resources

- FHWA, Natural Environment Legislation: https://www.environment.fhwa.dot.gov/legislation/other_legislation/natural_environment.aspx
- FHWA, Human Environment Legislation: https://www.environment.fhwa.dot.gov/legislation/other_legislation/human_environment.aspx
- FHWA, Other Environmental Topics: https://www.environment.fhwa.dot.gov/env_topics/other.aspx
- FHWA, Summary of Environmental Legislation Affecting Transportation: https://www.fhwa.dot.gov/environment/env_sum.cfm
- FHWA, Environmental Justice https://www.environment.fhwa.dot.gov/env_topics/ej/guidance_ejustice-nepa.aspx

Class Exercise 3

Identify Potential Environmental Impacts

Session 8: Assessing Indirect and Cumulative Impacts

HOW DO YOU IDENTIFY AND ASSESS INDIRECT AND CUMULATIVE EFFECTS?

Impacts vs. Effects

- "Secondary impact" not in CEQ regulation or guidance
- Found in FHWA's position paper
- Secondary and Cumulative Impact Assessment in the Highway Project Development Process, April 1992
- Secondary impacts = indirect effects
- Cumulative impacts = impacts from multiple projects or recurring impacts
- Indirect does not equal cumulative

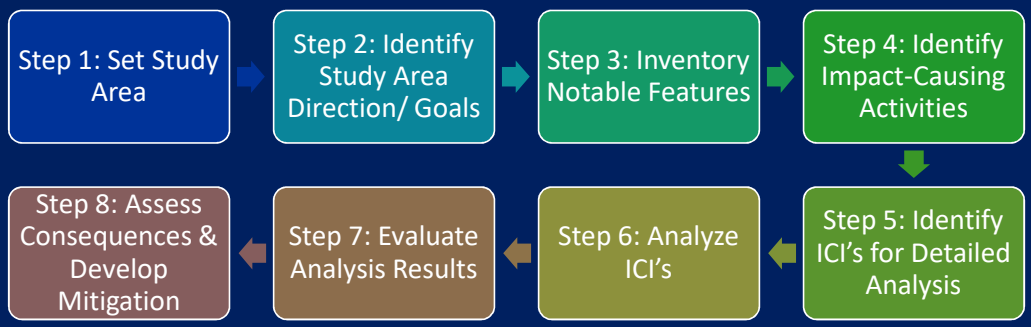
Evaluating Indirect Effects

- Identify the "but for" actions –
  - Actions that would not or could not occur except for the implementation of a project
- Likely effects related to those reasonably foreseeable "connected actions"

Evaluating Cumulative Effects

- Impacts of proposed action + past, present and reasonably foreseeable actions
- Past actions provide context for a given resource.
- What contributes to the cumulative effect?
  - Present actions
  - Direct + indirect effects of proposed action
  - Actions from reasonably foreseeable future actions
  - Recurring community impacts

Eight-Step ICI Assessment Process

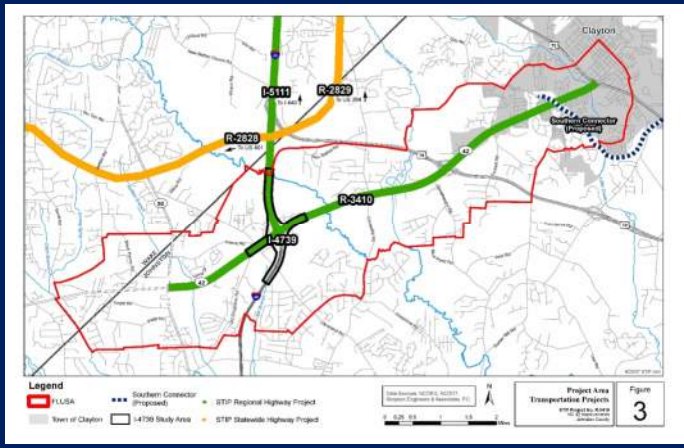


Evaluating Indirect and Cumulative Effects

- Not required for Type I or Type II CEs
- Develop Future Land Use Study Area (FLUSA)
- Indirect Effects Matrix
  - Update information gathered during scoping
  - Identify trends in population and employment growth and development
  - NCDOT guidance provides criteria for levels of concern
- Results of the IE Matrix drives the next steps

NC 42 Widening (R-3410): IE Matrix

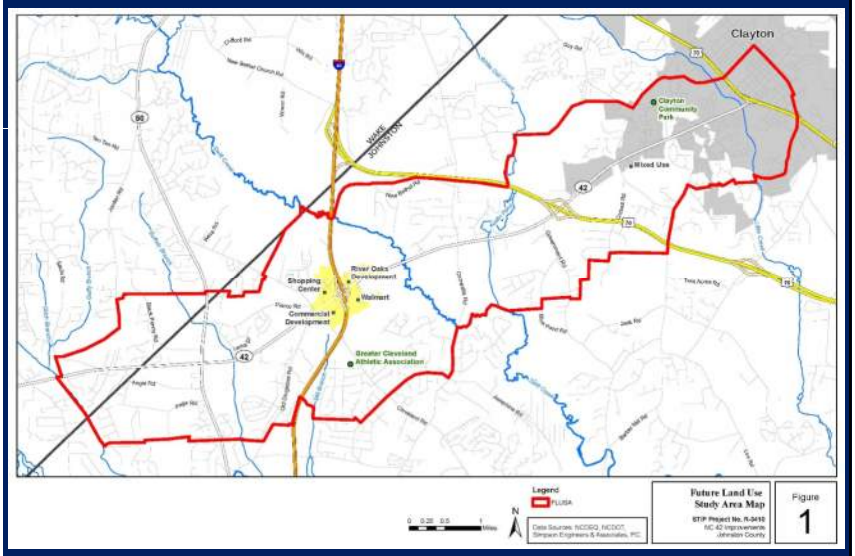
- Widen NC 42 from NC 50 to US 70 in Wake and Johnston Counties
- Multiple transportation projects in the FLUSA
- High development pressure in the FLUSA



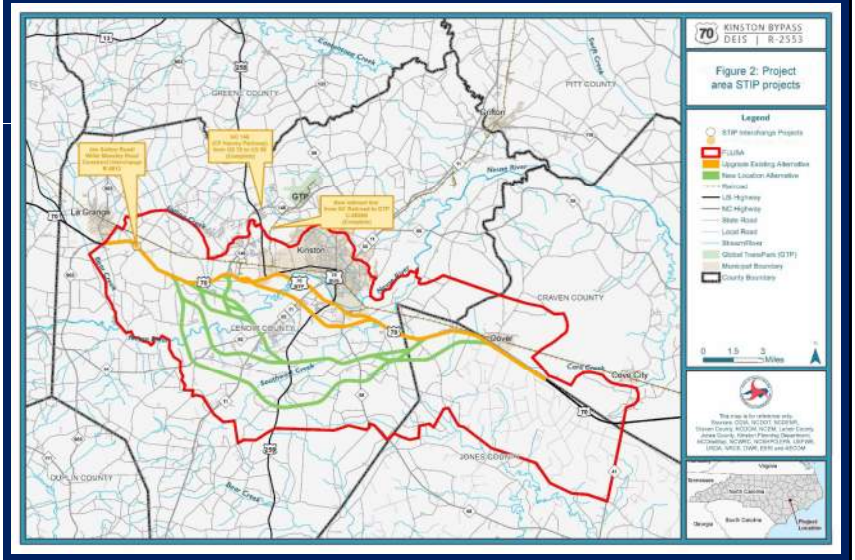
Step 1: Future Land Use Study Area (FLUSA)

- Types of boundaries to consider:
  - Parcel / Property
  - Watershed / HUC
  - Waterways or ridgelines
- Avoid arbitrary use of boundaries (e.g., county line)
- Should encompass all alternatives

NC 42 Widening (R-3410) FLUSA



Kinston Bypass (R-2553) FLUSA

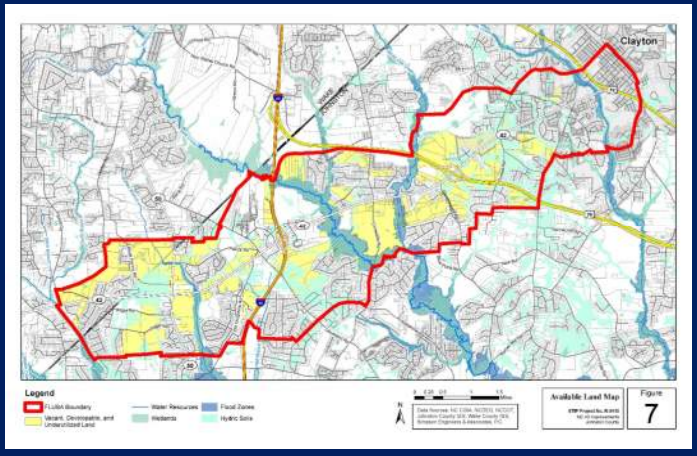


Step 2: Study Area Goals / Direction

- Population growth or decline
- Comprehensive land use plans
- Water and sewer availability
- Available land
- Market for development
- Local growth management regulations

NC 42 Widening (R-3410): Available land

- 38% of FLUSA considered to be available
- Strong land use controls (city and county)
- Growth will be limited by wastewater capacity



Step 3: Notable Features

- Ecosystem Conditions
- Socio-Economic Conditions
- Community Facilities
- Historical/Archaeological Features
- Other Valued Features of the Human Environment

NC 42 Widening (R-3410): IE Matrix Results

Indirect Land Use Effects Screening Tool - R-3410 - NC 42 Improvements from NC 50 to US 70 Bus., Johnston County

Rating	Scope of Project	Travel Time Savings	Forecasted Population Growth	Forecasted Employment Growth	Available Land	Water/Sewer Availability	Market for Development	Public Policy	Notable Environmental Features	Result
More Concern	Major New Location	> 10 minute travel time savings	> 3% annual population growth	Substantial # of New Jobs Expected	5000+ Acres of Land	All services existing / available	Development activity abundant	Less stringent; no growth management	Targeted or Threatened Resource	
⬆						X	X		X	
↑			X	X	X					
↔										Possible Land Use Scenario Assessment
↓	X	X						X		
⬇										
Less Concern	Very Limited Scope	No travel time savings	No population growth or decline	No new Jobs or Job Losses	Limited Land Available	No service available now or in future	Development activity lacking	More stringent; growth management	Features incorporated in local protection	

Land Use Scenario Assessment (LUSA)

Develops land use scenarios and assesses them for indirect land use effects based on:

- Population and economic trends and forecasts
- Notable human and natural environmental features
- Water and sewer availability
- Available land
- Market for development
- Local growth management regulations
- Land use plans

Step 4: Impact-Causing Activities

Checklist to consider project impact causing activities including:

- Land alteration
- Modification of system input
- Changes in travel patterns
- Changes in travel time
- Access alteration (improved and reduced)

Step 5: Identify Potential Indirect / Cumulative Impacts

- Compare impact-causing activities (Step 4)

  with

- Study area goals and direction (Step 2)

  and

- Notable features (Step 3)

  to

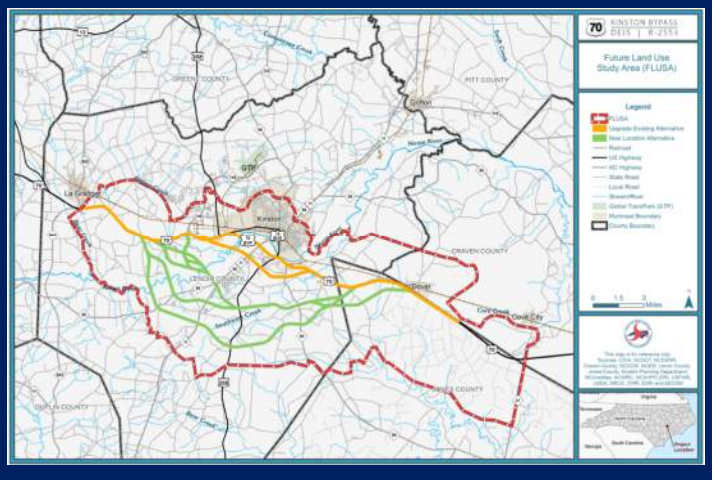
- Explore potential cause-effect relationships
- Identify which effects merit detailed analysis

Step 6: Analyze Indirect and Cumulative Effects

- Identify Probable Development Areas
- Describe existing conditions in the Probable Development Areas
- Develop a “No-Build” Scenario for each Probable Development Area
- Develop “Build” Scenario(s) for the each Probable Development Area

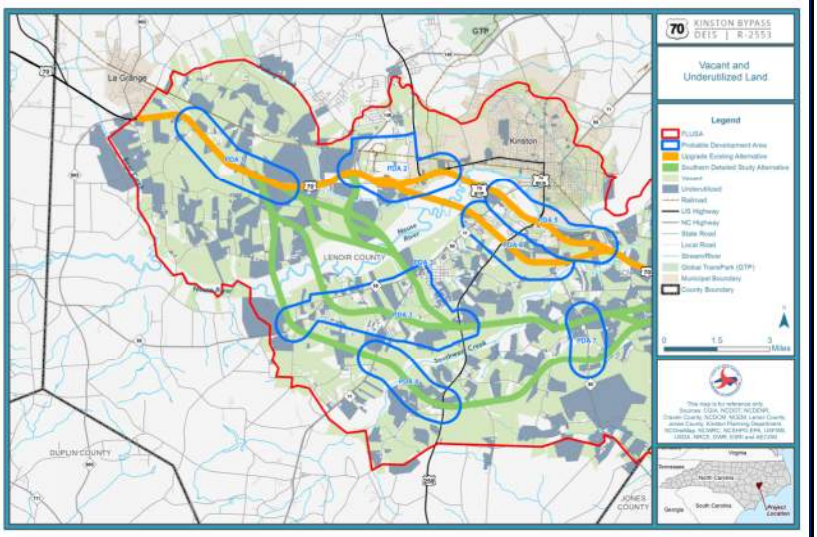
Kinston Bypass (R-2553): ICE Analysis

- Four-lane freeway with full control of access
- Lenoir, Jones, and Craven counties
- Upgrade existing US 70 in Kinston or construct a bypass
- DEIS did not identify a preferred alternative



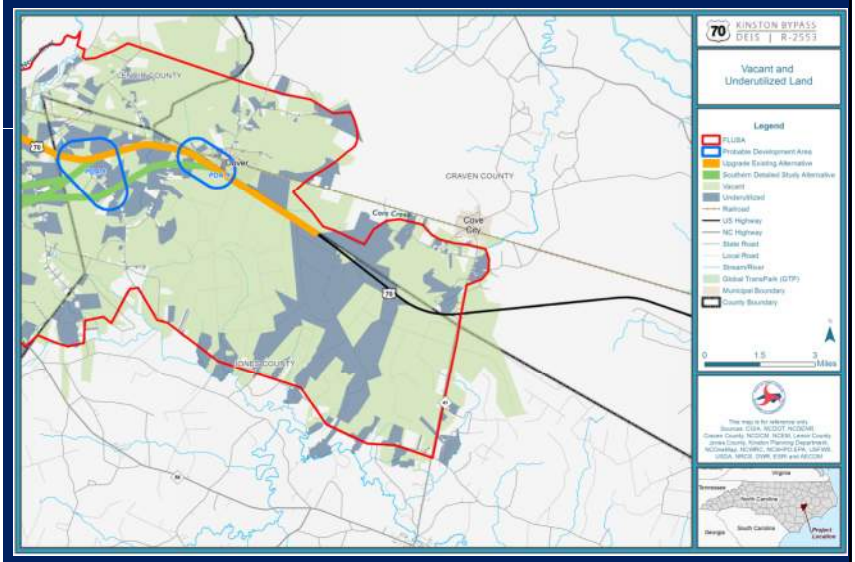
Kinston Bypass (R-2553): PDAs

Western portion of FLUSA



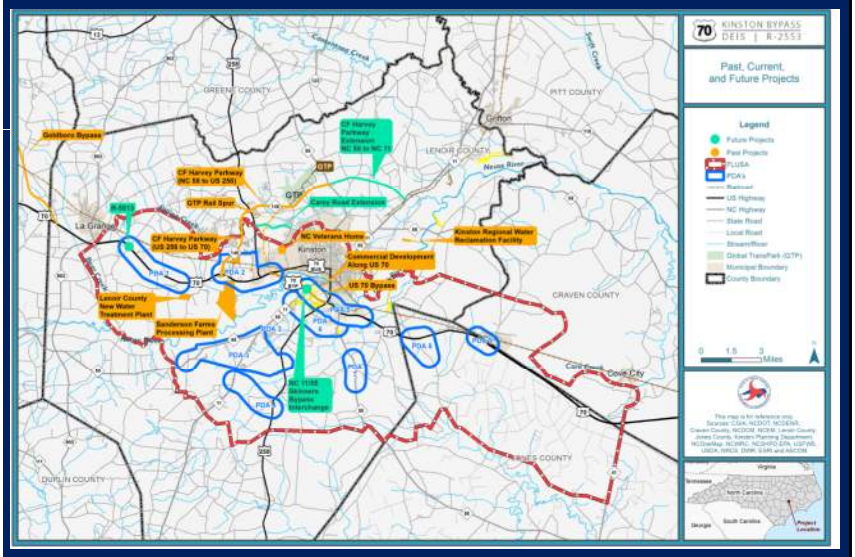
Kinston Bypass (R-2553): PDAs

Eastern portion of FLUSA



Kinston Bypass (R-2553): Other Projects

Past, present, and reasonably foreseeable future projects in the FLUSA



LUSA Matrix and Results

- Comparison of Build and No Build Scenarios
  - Scope of development
  - Development intensity
  - Future Shift of Regional Population Growth
  - Future Shift of Regional Employment Growth
  - Pressure for Land Development Outside Regulated Areas
  - Planned / Managed Land Use and Impacts

Step 6 Results (LUSA)

Indirect Scenario Assessment Tool - TIP Number - Project Description

Rating	Pressure / Demand for Typically Higher Impact Development	Future Shift of Regional Population Growth to the Growth Area	Pressure for Land Development Outside Regulated Areas	Pressure for Land Development Outside Planned Areas	Development Pattern	Planned / Managed Landuse and Impacts
More Concern	Commercial / Industrial Development with Large Parking Lots Likely	Strong Attraction of Development in this Area	A Large Number of Acres in the Probable Development Areas are Outside a Regulated Area	A Large Number of Acres in the Probable Development Areas are Outside a Planned Area	Strip or Sprawling Development Likely	Land Development and Storm Water Management Goals Not Set
⬆						
↑					No-Build Scenario	
↔	Build Scenario	Build Scenario			Build Scenario	
↓	No-Build Scenario	No-Build Scenario	Build Scenario No Build Scenario	Build Scenario No Build Scenario		Build Scenario No Build Scenario
⬇						
Less Concern	Commercial Development and / or Large Residential Developments Not Likely	No Population Shift Likely	All Probable Development Areas in a Regulated Area	All Probable Development Areas in a Planned Area	Likely to Support Clustered Development	Development Areas are Consistent with Land Development and Storm Water Management Goals

Step 7: Evaluate Analysis Results

- Detailed evaluations may not be necessary
  - LUSA matrix identifies potential for indirect effects
  - Cumulative effects matrices identify potential for cumulative effects
- Key criteria to determine detailed evaluation:
  - Potential for uncertainty in underlying assumptions
  - Changes in assumptions could result in significant changes in the findings

Cumulative Effects Matrices (Step 7)

- Notable Community Features
- Notable Habitat Features
- Notable Water Quality Features

Cumulative Effects Matrix - Human Environment - TIP # - Project Name

Rating	Notable Community Features			Result
More Concern	Unique Resources Not Protected / Recognized			
	Past Actions	Current Activities	Future Development	
High				
Medium - High				
Medium				
Medium - Low				
Low				Cumulative Effects Not Expected
Less Concern	Features Incorporated in Local Planning and Protection			

Step 8: Assess the Consequences and Develop Mitigation and Enhancement Strategies

- Identify potential significant / unacceptable impacts
- Identify practicable mitigation/enhancement measures
- Identify measures within the jurisdiction of the sponsoring agency
- Identify sponsoring agency's role when measures are not within its jurisdiction

LUSA Results (Steps 6, 7, and 8)

Project Under Indirect Effects Threshold

- Prepare Indirect Land Use Summary Statement
- Prepare Water Quality Statement
- Prepare Cumulative Effects Summary Statement

Project Issues Identified

- Prepare Indirect Land Use Summary
- Recommendations / Next Steps (mitigation)

SEPA: Four-Step Process for Evaluating Secondary and Cumulative Impacts

SEPA Guidance	NCDOT ICI Guidance
• Step 1: Gathering Information →	• Steps 1, 2, and 3
• Step 2: Determining Significance of SCI →	• Steps 4, 5, 6, and 7
• Step 3: Reducing Significance of SCI →	• Step 8
• Step 4: Documenting Your Findings	

Primary Additional Resources

- AASHTO, Practitioner's Handbook 12 Assessing Indirect Effects and Cumulative Impacts under NEPA: http://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#11
- FHWA, Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process: https://www.environment.fhwa.dot.gov/guidebook/qaimpact.asp
- NCDOT, Guidance for Assessing Indirect and Cumulative Impacts of Transportation Projects in North Carolina, Volume I: Guidance Policy Report: https://connect.ncdot.gov/resources/environmental/compliance%20guides%20and%20procedures/volume%2001%20assessment%20guidance%20policy%20report.pdf

Session 9: Streamlining Initiatives

WHAT ARE NCDOT'S EFFORTS TO STREAMLINE AND IMPROVE PROJECT DEVELOPMENT?

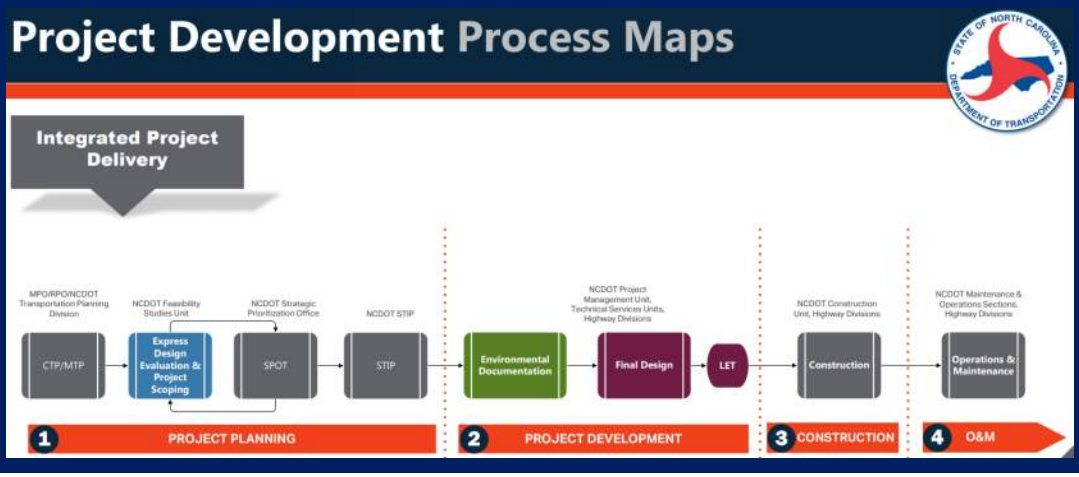
NCDOT Streamlining Initiatives

- Integrated Project Delivery (IPD)
- Delivering Efficient, Effective Projects (DEEP)
- Merger Process
- ATLAS
- TOP^{3}S
- Integration Project (Planning and Environmental Linkages)
- Express Designs and Scoping Reports
- Other Interesting Initiatives

Integrated Project Delivery (IPD)

- Implementing transparent, repeatable, and accountable procedures
- Initial recommendations May 2019
- Recommendations refined May – November 2019
- Procedures of each unit will be updated, NCDOT becomes matrix organization

The IPD Big Picture



Developing Efficient Effective Projects (DEEP)

- Created at June 2018 Summit; senior leadership from NCDOT, DEQ, USACE, and FHWA agreed to enhance and improve coordination, with special focus on integration
- Aims to make project development and delivery more effective and efficient as it relates to environmental coordination and permitting
- Coordinated with IPD

Merger Process Recommendations

- Shift from Process to Matrix
- Encourage Pre-Meetings
- Require Packet Review
- Timely Packet Availability
- Consider Facilitator
- Update Roles and Responsibilities
- Formalize Merger Screening
- Update Merger Training

Project Atlas

- "**A**dvancing **T**ransportation through **L**inkages **A**utomation and **S**creening"
- NCDOT effort to improve program delivery and streamline project development

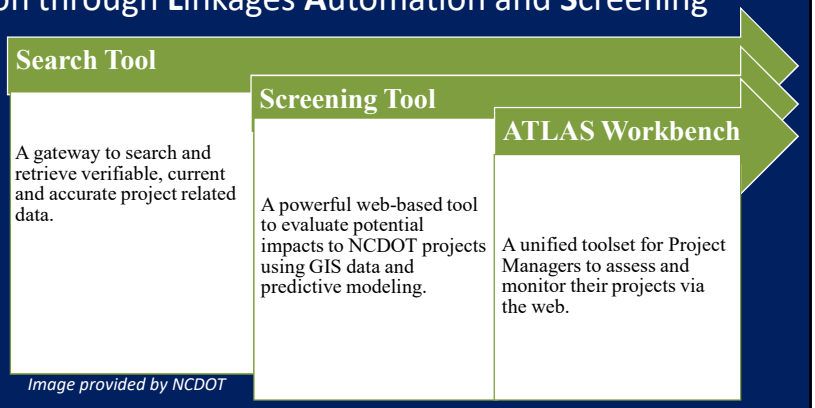


Image provided by NCDOT

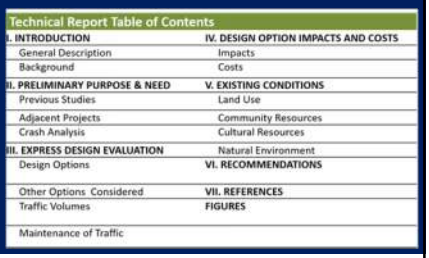
Transportation Online Planning Prioritization Programming System

- Envisioned to be a one-stop shop for pre-STIP project information
- Will feed into ATLAS
- Consistent metadata will make digital resources more accessible
- Coordinated with IPD

TOP^{3}S

Express Designs and Scoping Reports

- NOT intended to be exhaustive nor satisfy NEPA
- NOT detailed engineering, in-depth data collection nor fieldwork
- Intended to be an initial step in project planning and design
- Provides a conceptual design and preliminary cost estimate
- Provides a Scoping Screening Checklist
- Provides a Scoping Technical Report


Technical Report Table of Contents

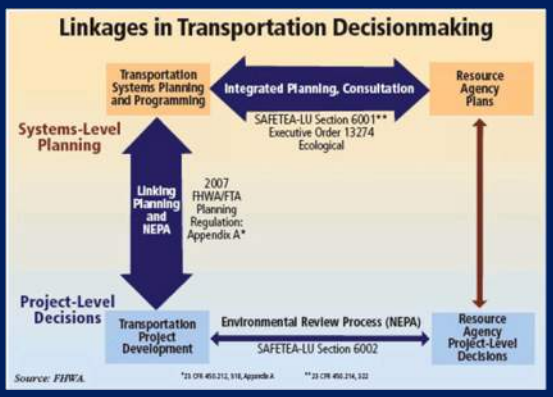
I. INTRODUCTION	IV. DESIGN OPTION IMPACTS AND COSTS
General Description	Impacts
Background	Costs
II. PRELIMINARY PURPOSE & NEED	V. EXISTING CONDITIONS
Previous Studies	Land Use
Adjacent Projects	Community Resources
Crash Analysis	Cultural Resources
III. EXPRESS DESIGN EVALUATION	Natural Environment
Design Options	VI. RECOMMENDATIONS
Other Options Considered	VII. REFERENCES
Traffic Volumes	FIGURES
Maintenance of Traffic	

Project Shelving Guidance

- Encourages coordination with Division Management on next STIP cycle
- Addresses each phase of project development
- Provides a checklist for each phase

What is Integration?

- Seamlessly connect long-range planning & project development
- Support timely project delivery
- Transfer of information
- NEPA decisions use long range planning data
- Meet legal requirements
- The spirit of NEPA and permitting



Integration Linkages:

Work that is done during the CTP process could inform or serve as the starting point for NEPA/SEPA

CTP		Project Development
Problem Statement	→	Purpose & Need
Alternatives Analysis	→	Alternatives Analysis
Unreasonable Solutions	→	Alternatives Selected for Detailed Study
Multi-modal Analysis	→	Multi-modal Alternatives
Community Impact Assessment	→	Community Impact Analysis
Land Use	→	Indirect & Cumulative Effects
Public Involvement	→	Public Involvement
Mitigation Opportunities	⇄	Mitigation Needs & Opportunities

Interagency Coordination Protocol

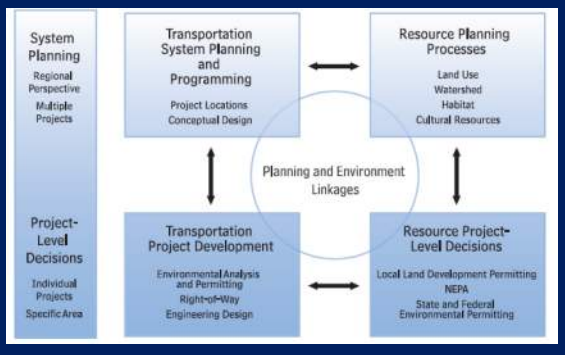
- Documents resource agency contacts for their coordination and input
- Establishes expectations for information transportation planners will provide to resource agencies
- Establishes expectations for feedback from resource agencies

1. Initiate Contact
2. Coordinate with Agencies on Data and Goals
3. Validate Resource and Transportation Priorities
4. Coordinate on Project Proposals and Alternatives Analysis
5. Submit Draft Transportation Plan for Review
6. Submit Final Transportation Plan

Integration Streamlines Project Delivery

CTP Data, analyses, and decisions can be useful in project development and NEPA/SEPA process

- Informs development of the purpose and need
- Provides framework for the alternatives analysis
- Provides context for evaluation of community impacts and ICE



Other Interesting Initiatives

- Sustainable Highways Initiative (i.e., Greenroads)
- Resilient Infrastructure (i.e., Climate Change and Vulnerability Assessments)
- Transportation and Public Health (Active Transportation)
- Environmental Management Systems
- Performance Based Planning and Performance Based Practical Design
- Right-sizing
- Connected and Automated Vehicles

Additional Primary Resources

- AASHTO, Practitioner's Handbook 10 Using the Transportation Planning Process to Support the NEPA Process: https://environment.transportation.org/center/products_programs/practitioners_handbooks.aspx#9
- FHWA, Planning and Environment Linkages: https://www.environment.fhwa.dot.gov/env_initiatives/pel.aspx
- NCDOT, Integrated Project Delivery: https://connect.ncdot.gov/projects/Integrated-Project-Delivery/Pages/default.aspx
- NCDOT Linking Long Range Transportation Planning and Project Development: https://connect.ncdot.gov/projects/planning/Pages/Integration-Project.aspx
- Project ATLAS Webinar: https://connect.ncdot.gov/resources/Environmental/Project%20ATLAS/ATLAS%20Webinar%20February%202019%20Presentation.pdf