

NCDOT's Innovation Challenge

October 2, 2025



CLEAR

Communicate Lessons, Exchange Advice, Record

Jiana Brown, HDR
Strategic Communications

Innovation Challenge

NCDOT launches the **annual Innovation Challenge** to encourage all NCDOT employees to submit their ideas and/or best practices that help NCDOT operate more efficiently.



A new **theme** is created and/or chosen by the CLEAR team every year.



The period for **submissions** is open for a month.



A panel of **judges** review all responses based on scoring criteria.



The top two **winners** are notified and receive a certificate with NCDOT merch.



A yearly **video** features the winners and allows them to explain their innovative idea.

VMU's CLEAR Innovation Challenge

Launched in 2020

- New theme every year
 - 2020: The Lightbulb Moment
 - 2021: Implemented Innovation
 - 2022: Observation is the Key
 - 2023: Idea Sharing
 - 2024: Improving Training

Innovation Challenge Recap

2024 Innovation Challenge

Theme: Improving New Hire Training

Status: Implementation Meetings



8
Divisions Represented

2024 Winners



Tolmy Butler

*Administrative Specialist NCDMV
Elizabethtown
Disaster Response Website*



Mikel Kibel

*Safety Consultant
Division 13
Safety Training Program*



CLEAR

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Innovation Challenge Recap

2023 Winner Highlight







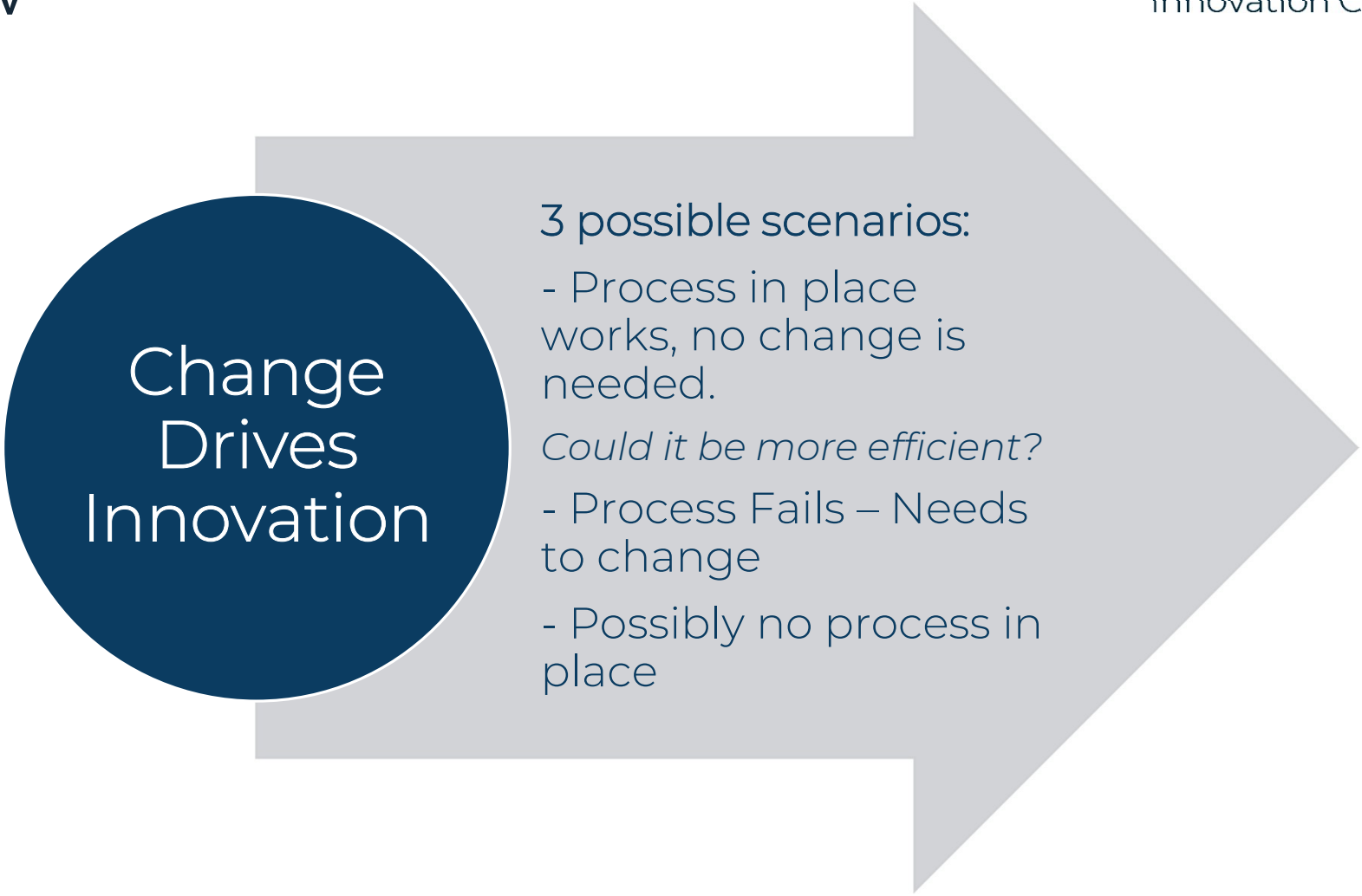
NORTH CAROLINA
Department of Transportation

NCDOT 2023 Innovation Challenge: Utility Construction Agreement (UCA) Forecasting

Adam Preslar, EI
Division 10 Assistant Utility Engineer
October 2, 2025

Connecting people, products and places safely and efficiently with customer focus, accountability
and environmental sensitivity to enhance the economy and vitality of North Carolina

Identifying Inefficiency



Change Drives Innovation

3 possible scenarios:

- Process in place works, no change is needed.

Could it be more efficient?

- Process Fails – Needs to change

- Possibly no process in place

My Experience

New deadline proposed for Centrally Let projects

- All final agreements are needed 3 months prior to Let

Our Role is coordinating Utility Construction Agreements (UCA's) and Use and Occupancy Agreements (U&O's)

- Relocation of water and Sewer lines inside NCDOT Projects

Current Process: All final agreements received by the Let date

Bottom Line: Current Process in place didn't work or not in place.

My Experience

Current Process: All final agreements received by the Let date

Division 10 was unaware of the change

- Delayed a project

Needed to reevaluate all project scheduled to verify no Let Dates need to move

- Result would depend on type of agreement
 - Different Timelines for UCA and U&O

Research & Investigation

- Researched the current process
- No real procedure in place
 - Central and Division Input
 - Afterthought
- Research steps needed to meet new deadline for our agreements
- Conclusion: Process was not in place, often forgot even after project was Let.

Utility Construction Agreement Forecasting Excel

Initial Process

- Steps initially thought
 - Finalize Agreement documents
 - Plans
 - Estimate
 - Provisions
 - Send Package to Water and Sewer Utility Owners
 - Signed and returned to NCDOT for Project Let
- Realization: Very little was known about this process.

Utility Construction Agreement Forecasting Excel

New UCA Process Timelines

- Start Exhibit review - 45 days
- Draft Agreement - 14 days
- Agreement sent to Owner
- Owner Board Date - Schedule & needs to be received prior to cutoff date
- NCDOT board Date
- Owner signs Agreement
- NCDOT Chief Engineer Signs Agreement - 7 days
- Board of Transportation Meeting prior to Let Date
- Advertising length - 28 days
- U&O – can be signed and returned without this process.

Initial - Development

New UCA Process Timelines

- Hurdles
 - Manual thought process
 - Time consuming
 - Different timelines for:
 - Owner board date frequencies and cutoffs
 - Owner Signing Agreement
 - Engineering & legal review
- Can this be Automated?
 - Need data from all owners

Data Gathering

- Owners inside Division 10
 - Charlotte Water
 - Union County
 - Anson County
 - Stanly County
 - City of Albemarle
 - City of Concord
 - City of Kannapolis
 - City of Monroe

Data Needed from Owners

Factors that impact Agreement timelines

- Engineering & Legal Review time
- Board agenda cutoff period
- Agreement Execution time

Owners	Owner Council Meeting		Extra Review Time (In days)	Agenda Cutoff (In days)	Execution time (In days)
Charlotte Water	10/19/2027	Charlotte Water	0	50	50
Union County	9/20/2027	Union County	30	21	14
Anson County	9/20/2027	Anson County			
Stanly County	10/19/2027	Stanly County			
City of Albemarle	9/20/2027	City of Albemarle	21	7	7
City of Concord	10/14/2027	City of Concord	0	14	14
City of Kannapolis	9/27/2027	City of Kannapolis	7	14	7
City of Monroe	10/5/2027	City of Monroe	0	14	14
Town of Matthews	9/27/2027	Town of Matthews			
Town of Pineville	9/27/2027	Town of Pineville	0	14	0
Town of Waxhaw	9/28/2027	Town of Waxhaw	10	7	30
Town of Weddington	6/14/2027	Town of Weddington	0	14	14
Town of Cornelius	9/20/2027	Town of Cornelius		10	0
Betterment		Betterment	0	14	14

These timelines are unique to each owner in North Carolina

Forecasting a Schedule

Utilize Excel to store all data

Hide all raw data

Only output relevant needed information

- Format the sheet and cells to be responsive and project data
 - Conditional Formatting
 - If-Then statements
 - Provides feedback

Build off Let Date input and work backwards

UC Agreement Forecasting	50391
Utility Owners/Municipality:	City of Albemarle
Let Date:	02/16/27
Advertising length:	28
Advertisement Date:	01/19/27
Start Exhibit Review:	5/29/2026
Start Agreement:	7/13/2026
Agreement Sent to Owner:	7/27/2026
DEQ Permitting Date:	8/3/2026
Agreement NCDOT board Date:	9/3/2026
Owner Board Date:	8/17/2026
Partially Executed:	8/24/2026
Fully Executed:	8/31/2026
Project BOT Meeting:	10/1/2026

Rough Draft

Light green indicates an input cell

- All other cells are locked

Only inputs needed:

- Project name
- water/sewer owner
- Let Date
- Advertising length (28 days is standard)

Dark Green is conditional formatting

- Green means it meets the new PS&E deadline
- Red would mean a schedule change is needed

UC Agreement Forecasting	U-5761
Utility Owners/Municipality:	City of Kannapolis
Let Date:	03/17/28
Advertising length:	28
Advertisement Date:	02/18/28
Start Exhibit Review:	7/5/2027
Start Agreement:	8/19/2027
Agreement Sent to Owner:	9/2/2027
DEQ Permitting Date:	9/9/2027
Agreement NCDOT board Date:	11/4/2027
Owner Board Date:	9/27/2027
Partially Executed:	10/4/2027
Fully Executed:	10/11/2027
Project BOT Meeting:	12/2/2027

Division Implementation

Overall UCA process takes 4-6 months

- Forecast all projects within a year of Let
- Identified 3 projects with unrealistic schedules
 - Needed schedule changes

Central personnel saw potential and encouraged submission to the CLEAR Program's Innovation Challenge

Statewide – Development CLEAR

CLEAR Announcement



Met with videographer to film introduction



Received a care package, and announcement was posted on NCDOT's YouTube Page



Received an Email from Value Management to set up a feasibility and implementation meeting.

Identify individuals who will help develop the idea and push implementation

- CLEAR will work with you for 1 year – until next winners are announced.

CLEAR Development

- Value Management received feedback to proceed after feasibility meeting
- Representatives from Value Management attend monthly meetings
 - Meeting minutes are sent out after each meeting identifying critical tasks for the next meeting.
- Value Management personnel assist in getting PR for development
 - Project Managers Call
 - Pre-construction Conference
 - Research Seminars
 - Lunch & Learn

CLEAR Development

- User interface decisions
 - Clean and only necessary information
 - Foresee any possible errors:
 - Input error
 - User error
- Assemble massive list of information
 - Split data for gathering
 - Develop Email template for mass emailing

CLEAR Development

All
municipalities,
not counting
private
companies and
counties:

Eastern vs.
Western
*Need same data
as before*

Division 1	Division 2	Division 3	Division 4	Division 5	Division 6	Division 7
Elizabeth City 18,631	Greenville 87,521	Wilmington 115,451	Rocky Mount 54,341	Raleigh 467,665	Fayetteville 208,501	Greensboro 299,035
	New Bern 31,291	Jacksonville 72,723	Wilson 47,851	Durham 283,506	Lumberton 19,025	High Point 114,059
	Kinston 19,900	Leland 22,908	Goldboro 33,657	Cary 174,721	Hope Mills 17,808	Chapel Hill 61,960
	Havelock 16,621		Clayton 26,307	Apex 58,780	Spring Lake 11,660	Burlington 57,303
	Winterville 10,462		Roanoke Rapids 15,229	Wake Forest 47,601		Carrboro 21,295
			Smithfield 11,292	Holly Springs 41,239		Mebane 17,797
			Tarboro 10,721	Fuquay-Varina 34,152		Graham 17,157
				Garner 31,159		Eden 15,421
				Morrisville 29,630		Raidsville 14,583
				Knightdale 19,435		Archdale 11,907
				Henderson 15,060		Elon 11,336
						Summerfield 10,951
Division 8	Division 9	Division 10	Division 11	Division 12	Division 13	Division 14
Sanford 30,261	Winston-Salem 249,545	Charlotte 874,579	Boone 19,092	Gastonia 80,411	Asheville 94,589	Hendersonville 15,137
Asheboro 27,156	Kannapolis 53,114	Concord 105,240	Lenoir 18,352	Mooreville 50,193	Morganton 17,474	Waynesville 10,140
Pinehurst 17,581	Salisbury 35,540	Huntersville 61,376	Mount Airy 10,676	Hickory 43,490		
Southern Pines 15,545	Thomasville 27,183	Kannapolis 53,114		Statesville 28,419		
Laurinburg 14,978	Kernersville 26,449	Indian Trail 39,997		Shelby 21,918		
Archdale 11,907	Clemmons 21,163	Monroe 34,562		Mount Holly 17,703		
	Lexington 19,632	Cornelius 31,412		Belmont 15,010		
	Lewisville 13,381	Matthews 29,435		Newton 13,148		
		Mint Hill 26,450		Kings Mountain 11,142		
		Waxhaw 20,534		Lincolnton 11,091		
		Harrisburg 18,967				
		Albemarle 16,432				
		Stallings 16,112				
		Davidson 15,106				
		Weddington 13,181				
		Pineville 10,602				

CLEAR Development

- All data was gathered near the end of 2024
- Programming - 3 months
- Developed a plan to release the tool
 - Allow time for feedback
 - Inaccurate resource is not a resource
- Additional Uses:
 - Similar data is needed for municipal agreements
 - Additional data needed
 - Tool can be used for more than Utilities.

Implementation

Statewide Implementation

- Presented final forecasting sheets to all except 2 Divisions
 - All divisions will provide feedback
 - Period should close this year to make final revisions
 - After all revisions final document will be posted and released for NCDOT and PEF use.
- Added a cover sheet for a better user interface
 - Hides all data from consumer editing

Final Thoughts

Finalized block to provide Project Managers

- Realistic timelines for deliverables from PEF's

Value Management & Utilities Unit

- Allocated personnel and resources to expand this tool statewide

- My Tasks:
- Assemble team to complete the project
- Facilitate monthly update meetings for progress
- Ensure development schedule was realistic
- Work with the team to meet milestones
- Maintain the vision and drive to complete the project

Click to update Let Date	
UC Agreement Forecasting	U-5761
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Agreement Sent to Owner:	12/03/25
DEQ Permitting Date:	12/10/25
Agreement NCDOT board Date:	01/01/26
Owner Board Date:	12/22/25
Partially Executed:	12/29/25
Fully Executed:	1/5/2026
Project BOT Meeting:	1/31/2026

Contact Us

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NCDOT 2025 Innovation Challenge

Breaking Barriers with Project Delivery

Identify and implement process improvements from concept through maintenance that support efficient project delivery, cost-effective solutions, and value-driven outcomes.

Submissions: September 17th – October 13th

Winners will be featured in a video and receive a certificate & NCDOT swag!

For more information, visit CLEAR's Innovation Challenge connect page or email CLEAR@ncdot.gov!



ncdot.gov

NC Transportation Innovation Council (NC-TIC)

The purpose of the NC-TIC is to foster a collaborative culture within NCDOT for the rapid implementation of meaningful innovations to efficiently deliver to the public a modern, high quality transportation system.

NC-TIC's activities are focused on three primary areas – **internal innovation, academic partnerships, and industry partnerships** – and supported by stakeholders and committees.

FHWA has established several incentive programs to encourage the consideration and deployment of technology and innovation.

Through multi-discipline collaboration, the NC-TIC leads the consideration and approval of proposals for technical assistance and/or funding from such programs.

Additional Innovation Highlights



- Provides **technical assistance** and **up to \$125,000 in total funds per state** to offset the costs of standardizing innovative practices.
- Funds activities such as conducting internal assessments, initiating capacity building, developing guidance, drafting standards and specifications, organizing peer exchanges, implementing system process changes, etc.

Innovation Coordinators

- Act as liaisons for the CLEAR Program in their Units, Divisions, or local offices.
- Help drive organizational change around future transportation technology and innovations.
- Disseminate information and opportunities related to innovation from the NC-TIC, industry, and across NCDOT.
- Engage staff in brainstorming ideas, implemented successes, and best practices for submission to the CLEAR Program.

Quarterly Newsletter – Innovation Around NCDOT

Identifying innovation outside of the annual Innovation Challenge...

First Edition – Coming Soon!

Additional Innovation Highlights

ISSUE NUMBER: 001

DATE: 00/00/0000

NCDOT NEWSLETTER

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EMPLOYEE SPOTLIGHT

write a sentence about thanking employees for their hard work on several model projects.

FIRST LAST NAME
Job Title

FIRST LAST NAME
Job Title

FIRST LAST NAME
Job Title

PROJECT SPOTLIGHT

Project Title Name

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STAY UP-TO-DATE WITH OUR UPCOMING EVENTS

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