



**RRRPO**

**TAC**

**ZOOM Meeting**

**Tuesday-January 21, 2021**

**10 am – 12 noon**

**Public is Invited to Attend**

**ZOOM Link:**

**<https://us02web.zoom.us/j/89660822058>**



# AGENDA: TECHNICAL ADVISORY COMMITTEE

Thursday, January 21, 2021  
ZOOM Mtg.  
10 am-12 noon

## 1. Ethics Statement

Chris Whitley, Chairperson

## 2. Amend/Adopt Agenda.....(ACTION NEEDED)

Chris Whitley, Chairperson

## 3. Approval of Minutes from November 2020.....(ACTION NEEDED)

Chris Whitley, Chairperson

## 4. Election of Chairperson/Vice Chairperson.....(ACTION NEEDED)

Chris Whitley, Chairperson

## 5. NC Freight & Logistics.....(INFORMATION)

Dana A. Magliola, NCDOT Logistics/Freight

## 6. Anson County CTP Update.....(INFORMATION)

Lee Snuggs, RRRPO

## 6. NCDOT Updates

- a. County Updates.....Division Staff
- b. Mobility & Safety Division.....Regional Traffic Staff
- c. NCDOT Corridor Development Engineers.....Scott Miller
- d. Transportation Planning Division.....J. Andy Bailey

## 7. Old Business

## 8. New Business

## 9. Public Comment

## 10. Adjourn

**Next Meeting:**  
**Thursday, March 18, 2021**



## Technical Advisory Committee Meeting Minutes

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**Members Present:** Chris Whitley (Chairman – Albemarle), Tony Lanthrop (NCBOT), Gary Lowder (Badin), Tommy Jordan (Stanly County), Wes Hartsell (Norwood), and Michael Herron (Misenheimer).

**Members Absent:** Jarvis Woodburn (Vice-Chairman –Anson County), Bill Peak (New London), Richard Allen (Peachland), Bud Smith (Oakboro), Stoney Rushing (Union County), Bob Usrey (Wadesboro), and Joey Estridge (Ansonville).

**Others Present:** Tim Brock (NCDOT-TPD), Tim Boland (NCDOT-Div. 10), Scott Miller (NCDOT), Jason Wager, (Centralina Regional Council), Lee Snuggs (RRRPO) and Lisa Park (RRRPO).

### Welcome

The meeting convened at 10:20 am. Quorum was established.

#### 1. Ethics Statement

The Ethics Statement was read to members by Chairman Chris Whitley.

#### 2. Approval of Agenda (Approved)

A motion was made by Michael Herron to approve the agenda and was seconded by Tommy Jordan. The motion was unanimously approved.

#### 3. Approval of Minutes from September, 2020 (Approved)

A motion was made by Tommy Jordan to approve the September, 2020 minutes and was seconded by Gary Lowder. The motion was unanimously approved.

#### 4. RRRPO Letter of Support/Stanly County Senior Services & ACTS (Approved) Lee Snuggs, RRRPO

A motion was made by Tommy Jordan to approve RRRPO support for these jurisdictions and seconded by Michael Herron. The motion was unanimously approved.

**5. Electric and Autonomous Vehicles Presentation (Informative)**  
**Jason Wager, Centralina Regional Council**

Discussion Topics included: Regional Programs; What and Why CAV's? EV's?; What is going on here?; Questions and Discussions.

Connected and Self-Driving Vehicles Possible Benefits: When the majority of the fleet is both connected and automated, significant decreased in crashes, significant increases in safety and reliability; Vehicle spacing on roadways will be safely reduced on a large scale, reducing congestion and creating more throughput; Benefits in all major areas, mobility, safety, and environment.

Why Electric Vehicles? They are cheaper to drive than gasoline, cheaper to maintain than gasoline vehicles and they are fun to drive! They provide cleaner air, energy dollars stay local, fights climate change and supports renewables.

**6. RRRPO Letters of Support (Approved)**  
**Lee Snuggs, RRRPO**

**Union County/Build Grant**

**City of Albemarle/Build Grant**

**Town of Oakboro/Bike & Ped Grant**

**Monarch/5310 Capital – Purchase of Services Funding**

A motion was made by Wes Hartsell to approve RRRPO support for these jurisdictions. It was seconded by Bill Peak and unanimously approved.

**7. FY 2019-2020 PWP Amendment (Approved)**  
**Lee Snuggs, RRRPO**

NCDOT requires an official amendment of the PWP if there is a cost shift of any one category. Staff has billed out more money in the Program & Project Development line item than anticipated because of work for STIP P6.0. Money has been underspent in several other line items, one being Transportation Planning because of the delay in the Anson County CTP. These line items will be shifted but the overall budget will not be changed.

A motion was made by Jarvis Woodburn to approve the 2019-20 PWP Amendment. It was seconded Wes Hartsell and unanimously approved.

## 8. STIP Reprogramming-RRRPO (Informative)

Hannah Cook, NCDOT

STIP Reprogramming Presentation was provided discussing STIP Components, Reprogramming Process and Key Projects in the RRRPO.

## 9. NCDOT Updates:

### a. County: Division Staff

- **NC 24/27 Widening Project (R-2530B)** - The widening of NC 24/27 from Albemarle to Lake Tillery. Work is underway on the project with utility crews making good progress. Currently working on grading, sewer line work, and culvert construction. Project is currently shown as being 29% complete. It is scheduled to be complete at the end of 2023.
- **NC 24/27 Bridges (B-4974)** – Rehabilitation work is continuing. Substructure work is nearly complete. Currently working on epoxy injection of the foundations, constructing barrier walls, and painting. Construction of the bridge is approximately 91% complete. Completion is scheduled for Summer of 2021.
- **Tite Road Bridge Repairs** – The bridge over Camp Branch on Tite Road near Stanfield was closed in August, 2019. A routine bridge inspection determined that extensive repairs were needed to the bridge approaches. Repair work began the week of October 26th. Repairs are expected to take up to three weeks to complete. Detours are in place during the work period.
- **Newly Approved STIP** – The NCDOT Board of Transportation recently approved an updated STIP at their October Board meeting. Most all projects were pushed out. Those delays range from one year to several years depending on the project and the Department’s ability to fund that project. Currently, the Programming Unit is in the process of adding a number of recent TIP amendments. A final document should be available shortly.
- **Animal-Vehicle Crashes** – NCDOT released a report recently that showed that animal-vehicle crashes have increased significantly over the last couple of years. Crashes in 2019 have increased over 2,300 across the State as compared to the 2018 totals. The overall total number of crashes has now exceeded 20,000 crashes per year. Deer are particularly active in the Fall during hunting season, so please be on the lookout for deer near roadways as you are traveling.

**b. Transportation Planning Division: Tim Brock**

- FY22 Budget to hopefully go out no later than December, 2020. Do not expect any significant increases or decreases in funding.
- Background work for Anson County’s CTP has begun with the Community Understanding Report. This report includes massive background and demographic information. Hoping to start in Summer 2021.

**10. Old Business: None**

**11. New Business:**

- Discussion of upcoming TCC Chair/Vice Chair elections on January 2021 Agenda.
- 2021 TCC/TAC Schedule will be provided in December 2020.

**12. Public Comment: None**

**13. Adjourned at 11:44 am**

Tommy Jordan made the motion to adjourn and it was seconded by Michael Herron. The motion was unanimously approved.

**Adopted: This the 21st day of January, 2021.**

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**TAC Chairperson**

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**Lee Snuggs, Secretary**



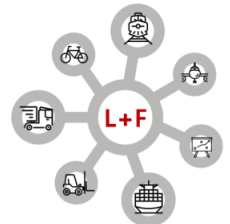
# NORTH CAROLINA

Department of Transportation



## Rocky River RPO Transportation Advisory Committee

Dana Magliola  
Office of Logistics + Freight, NCDOT  
12 January 2021



# Agenda

- Introduction: NCDOT Office of Logistics + Freight
- Supply Chain Context: North Carolina
- Freight Behavior + Congestion Costs
- RRRPO Deep Dive: Freight
- Shifting Supply Chain Dynamics



*Please feel free to ask questions during today's presentation.*



# Introduction



## Dana Magliola

- NCDOT Office of Logistics + Freight
- Supply chain/freight PM, SME at NCDOT
- Maritime + freight forwarding, applied research background
- Connecting transportation strategy, planning, + investment to commerce + industry



MAERSK



NC STATE UNIVERSITY  
POOLE COLLEGE OF MANAGEMENT  
SCRC

NC STATE

Industry Expansion Solutions



*Please feel free to ask questions during today's presentation.*

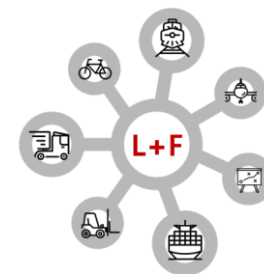
## NCDOT Office of Logistics + Freight Three Strategic Pillars + **One Objective.**

- Drive North Carolina's development as the preeminent environment for freight transport + logistics services
- Promote understanding and facilitate freight + logistics activities throughout the state
- Resource project delivery from planning to construction, ensuring infrastructure investment is connected to industry + commerce

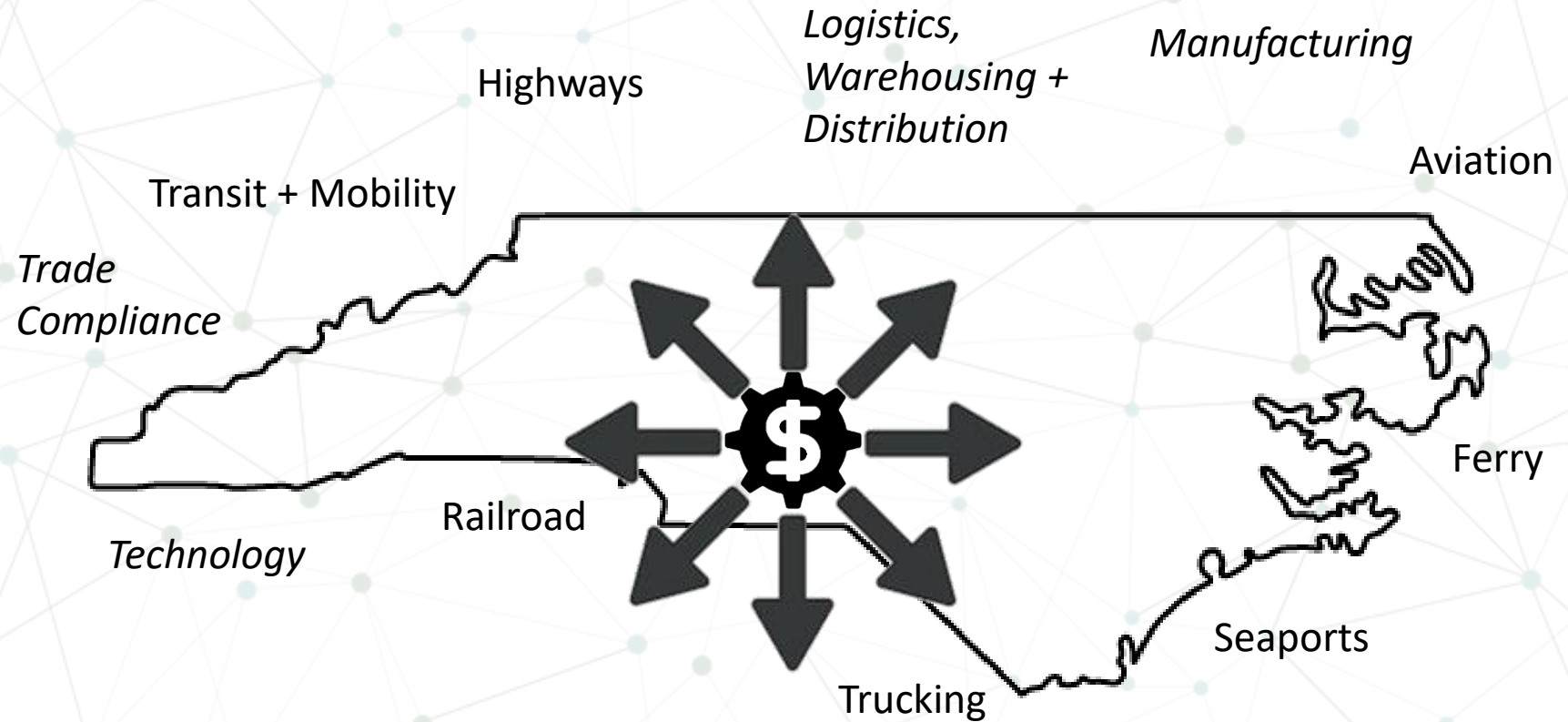
**Support the economic + social well-being of all North Carolinians**



# North Carolina's Supply Chain



# Local. Regional. National. Global.

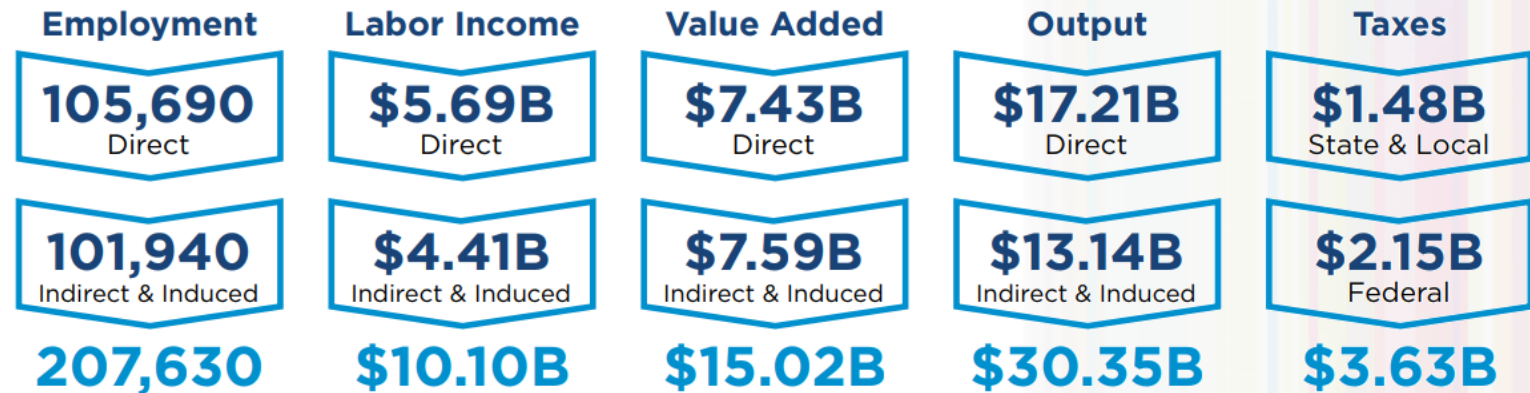


NC's supply chain is all about *access to marketplace*.

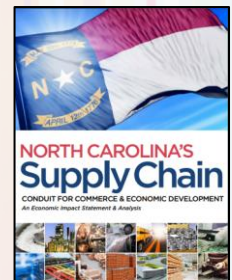


- Logistics + freight is an important part of the North Carolina's economy:

TOTAL ECONOMIC IMPACT OF THE SECTOR

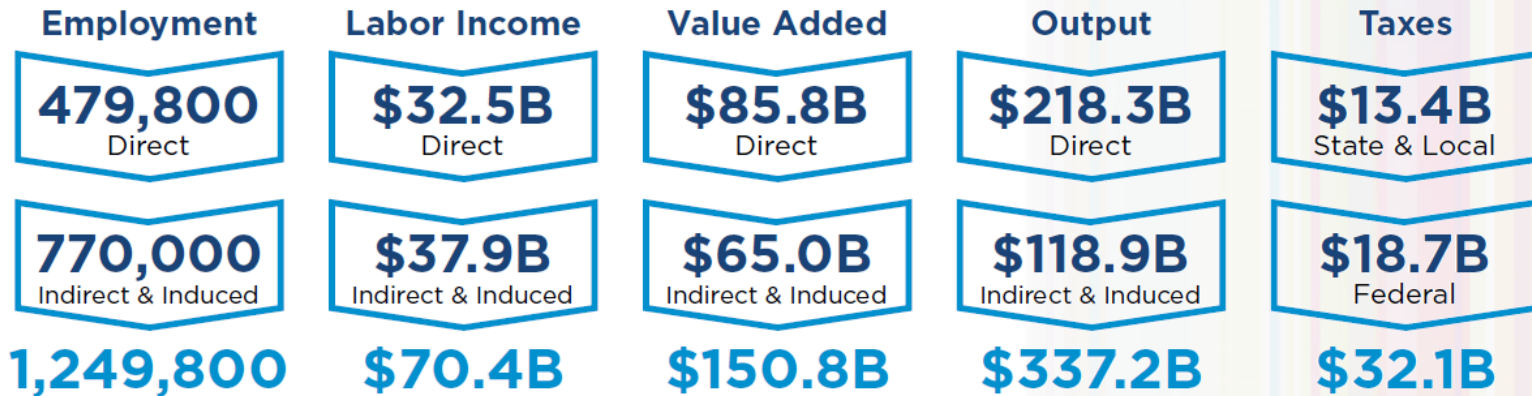


Transportation, Distribution & Logistics

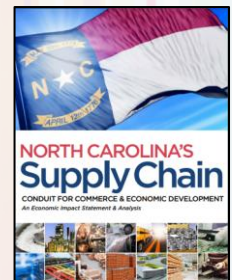


- North Carolina’s supply chain sectors are significant:

TOTAL ECONOMIC IMPACT OF THE SUPPLY CHAIN



- Pharmaceutical, Biologics & Medical Products
- Chemical Manufacturing
- Industrial Machinery & Transportation Equipment
- Tobacco & Foodstuffs
- Transportation, Distribution & Logistics
- Metal Products
- Electronics
- Communications & Computer
- Textiles
- Household Goods & Furniture
- Building Materials
- Paper Products
- Wood Products
- Manufacturing Not Elsewhere Specified



“Transportation, Distribution & Logistics.” *North Carolina’s Supply Chain: Economic Impact Statement & Analysis (2016)*

# Freight Behavior + Congestion Costs



# Congestion Costs the Economy

- User Delay Costs → Commercial congestion on the North Carolina Priority Freight Highway Network cost the North Carolina economy nearly **\$240M** in 2020

Performance Measure	Sep-20	% CHANGE (month to month)	Q3 Quarterly Summary	Quarterly % CHANGE Q2→Q3	Oct-20	% CHANGE (month to month)	Nov-20	% CHANGE (month to month)	Dec-20	% CHANGE (month to month)	Quarterly Summary	Quarterly % CHANGE	2020 Totals
Freight Network Travel Time Index (weekday)	0.93	1.1%	0.94	0.4%	0.93	0.0%	0.93	0.0%	0.98	5.4%	0.95	0.4%	0.94
NCPFN System Total Cost of Delay	\$ 18,940,678	1.9%	\$ 18,784,702	25.5%	\$ 21,240,174	12.1%	\$ 16,901,801	-20.4%	\$ 18,515,038	9.5%	\$ 18,885,671	0.5%	\$ 239,989,264
NCPFN System Average Daily Total Cost of Delay	\$ 610,990	1.9%	\$ 605,958	24.2%	\$ 685,167	12.1%	\$ 545,219	-20.4%	\$ 597,259	9.5%	\$ 609,215	0.5%	\$ 657,505
NCPFN System Average Daily Cost per VMT	\$ 0.07	0.0%	\$ 0.067	25.0%	\$ 0.07	0.0%	\$ 0.06	-14.3%	\$ 0.06	0.0%	\$ 0.063	-5.0%	\$ 0.07
Top 10 Bottlenecks Total Cost of Delay	\$ 255,421	-23.6%	\$ 286,287	-12.1%	\$ 444,671	74.1%	\$ 315,565	-29.0%	\$ 549,424	74.1%	\$ 436,553	52.5%	\$ 4,345,875
Top 10 Bottlenecks % of Total Cost	1.35%	-25.0%	1.53%	-28.8%	2.09%	55.2%	1.87%	-10.8%	2.97%	58.9%	2.31%	51.4%	1.81%
Top 10 Bottlenecks Average Daily Total Cost of Delay	\$ 8,239	-23.6%	\$ 9,235	-12.7%	\$ 14,344	74.1%	\$ 10,519	-26.7%	\$ 17,723	68.5%	\$ 14,195	53.7%	\$ 11,907
Top 10 Bottlenecks Average Daily Cost per VMT	0.29	-35.6%	\$ 0.353	-8.6%	0.32	10.3%	0.44	37.5%	0.57	29.5%	\$ 0.443	25.5%	\$ 0.40

2020 Total Cost: \$239,989,264



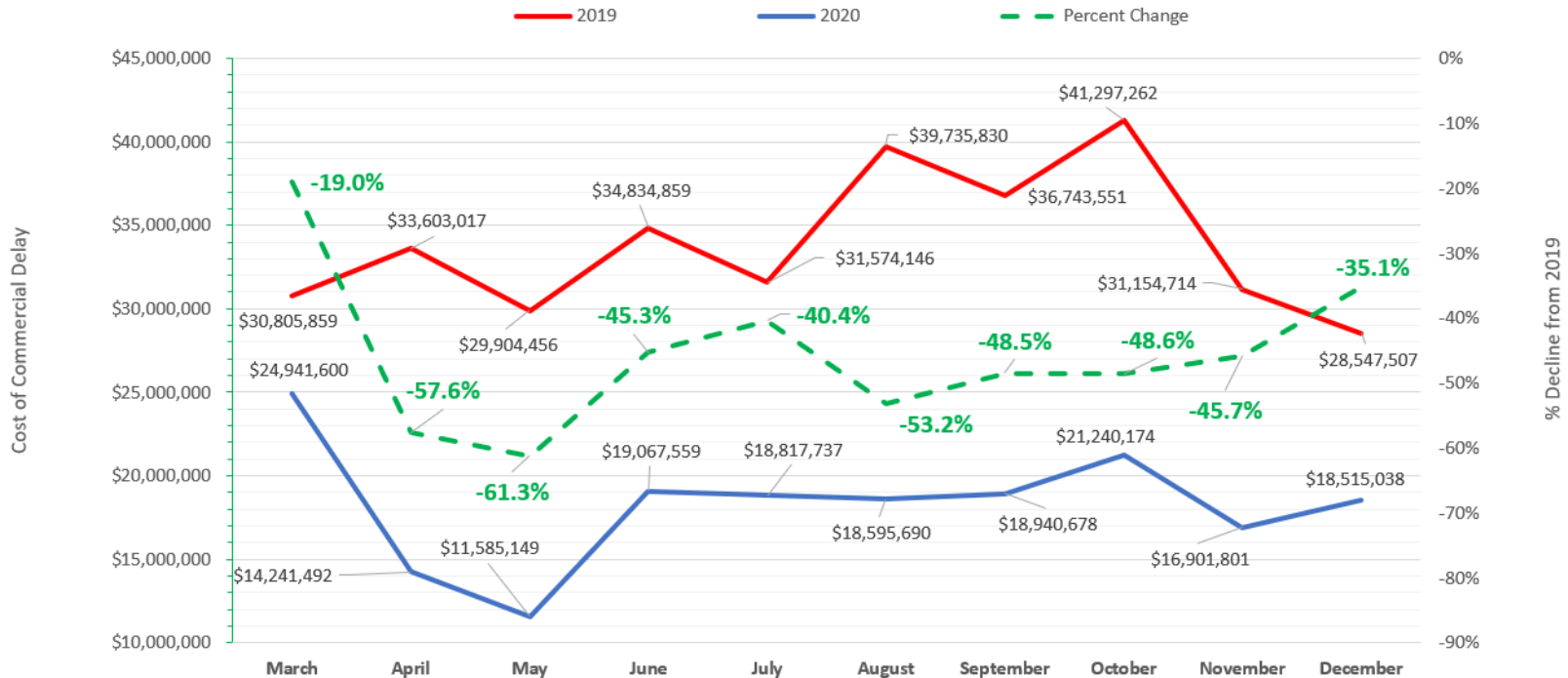
# Congestion Costs the Economy

- User Delay Costs →  
Commercial congestion on the North Carolina Priority Freight Highway Network cost the North Carolina economy nearly **\$240M** in 2020

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Top 10 Bottlenecks Total Cost of Delay	\$ 286,287	\$ 436,553	52.5%	\$ 4,345,875
Top 10 Bottlenecks % of Total Cost	1.53%	2.31%	51.4%	1.81%
Top 10 Bottlenecks Average Daily Total Cost of Delay	\$ 9,235	\$ 14,195	53.7%	\$ 11,907
Top 10 Bottlenecks Average Daily Cost per VMT	\$ 0.353	\$ 0.443	25.5%	\$ 0.40

# Congestion Costs during COVID-19

## Total Cost of Commercial Delay 2020 vs 2019



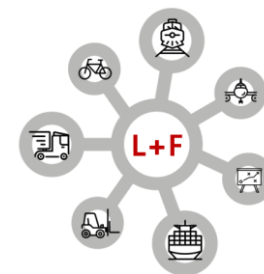
# Congestion Costs

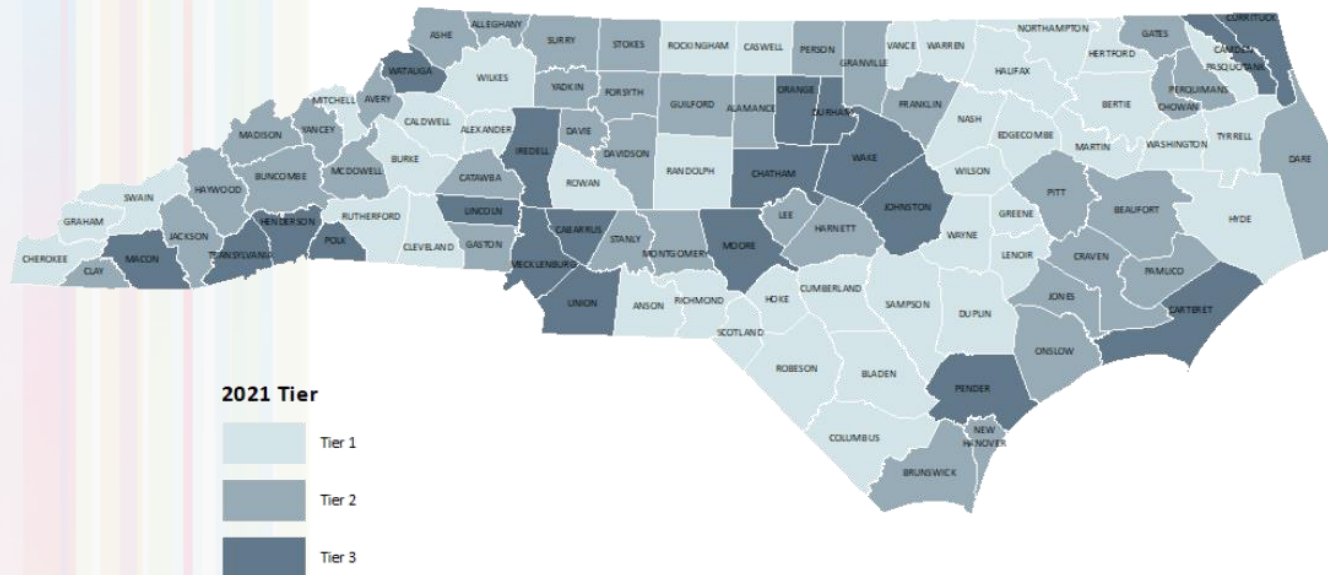
**Congestion Costs – Anson, Stanly, Union Counties (2018-2020)**

	2018	2019	2020	Average	Total
Vehicle Hours	276,503	248,363	192,335	239,067	717,201
Total Cost of Congestion to Commercial Enterprise	\$ 27,785,773	\$ 24,957,985	\$ 19,327,738	\$ 24,023,832	\$ 72,071,496

- Cost of congestion + delay to commercial enterprise decreasing
- Completion of regional projects, reduction of activity due to COVID
- *Freight fluidity is a competitive advantage*
- *Growth + continued urbanization may reverse positive progression*

# RRRPO Deep Dive: Freight





County	Adjusted Property Tax Base Per Capita FY-2020-2021		Population Growth July 2016-July 2019		Median Household Income 2018		Unemployment 12 Mth Avg Oct 19-Sept 20		Economic Distress Rank	2021 Tiers
	Value	Rank	% Change	Rank	Income	Rank	Rate	Rank		
ANSON	\$84,218	37	-1.12%	16	\$38,023	10	6.49%	40	14	1
STANLY	\$80,713	28	4.00%	81	\$51,491	73	5.55%	82	73	2
UNION	\$123,606	71	5.38%	88	\$80,428	100	5.29%	89	97	3
<b>NORTH CAROLINA</b>	<b>\$114,013</b>		<b>3.32%</b>		<b>\$53,922</b>		<b>6.40%</b>			

# Anson County, NC

- **61.73% EXPORT / OUTBOUND**  
1,812 thousand tons  
\$1,345M (62.87% value)
- **37.86% IMPORT / INBOUND**  
1,111 thousand tons  
\$791M (36.99% value)
- **0.41% INTRACOUNTY**  
12 thousand tons  
\$3M (0.15%)

Flow Direction



## Anson County, NC

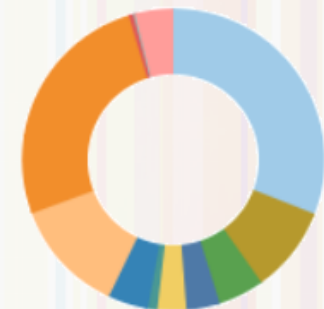
Million Dollars (2045):	<b>\$3,502</b>
Imports/Inbound:	<b>\$1,262</b>
Exports/Outbound:	<b>\$2,236</b>
Intracounty:	<b>\$4.134</b>

95.64% trucks (rail)

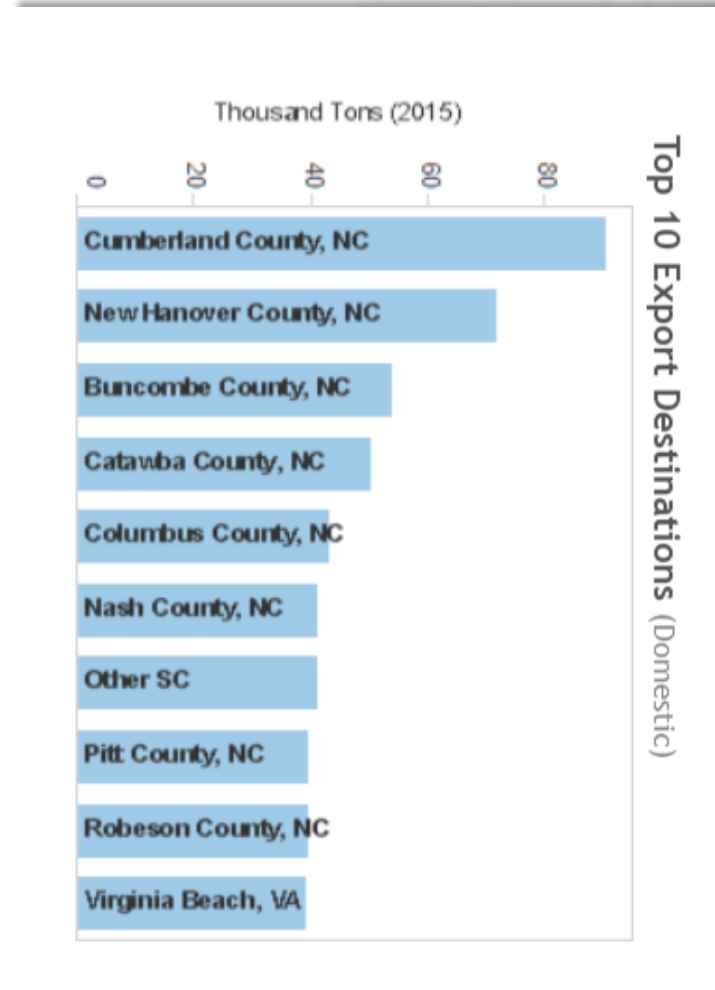
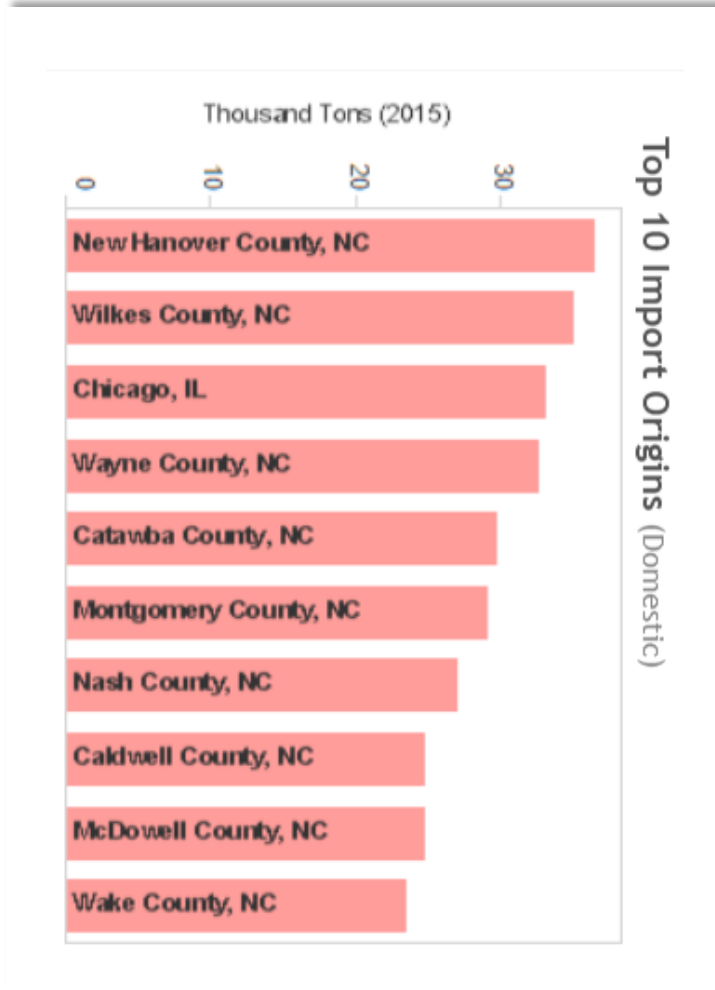
- Mixed Freight: 22.22% (\$468M)
- Chemicals, Pharma, Plastics + Rubber: 16.99% value (\$358M)
- Machinery, Electric, Precision Instr.: 15.22% (\$321M)
- *Aggregates: 31% volume / 0.25% value (\$19M)*
- *Raw + Finished Wood Prod: 26% volume / 11.81% value (\$249M)*

Commodity Type

*Commodity data for rail traffic is suppressed due to confidentiality requirements.*



# Anson County, NC



## Stanly County, NC

- **51.6% EXPORT / OUTBOUND**  
2,356 thousand tons  
\$2769M (50.06% value)
- **46.16% IMPORT / INBOUND**  
2,107 thousand tons  
\$2722M (49.21% value)
- **2.24% INTRACOUNTY**  
102 thousand tons  
\$41M (0.73%)

Flow Direction



96.21% truck, 3.13% rail (air, pipeline)

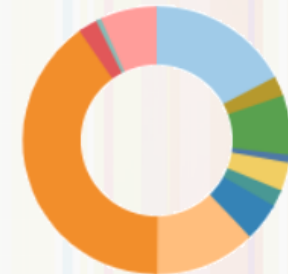
- Machinery, Electric, Precision Instr.: 20.89% (\$1140M)
- Mixed Freight: 19.13% (\$1044M)
- Raw + Finished Wood Products: 13.33% (\$727M)
- *Raw + Finished Wood Products: 40.3% volume / 13.33% value*
- *Aggregates: 17.32% volume / 0.36% value (\$19M)*

## Stanly County, NC

Million Dollars (2045):	<b>\$9,093</b>
Imports/Inbound:	<b>\$4,544</b>
Exports/Outbound:	<b>\$4,491</b>
Intracounty:	<b>\$57.73</b>

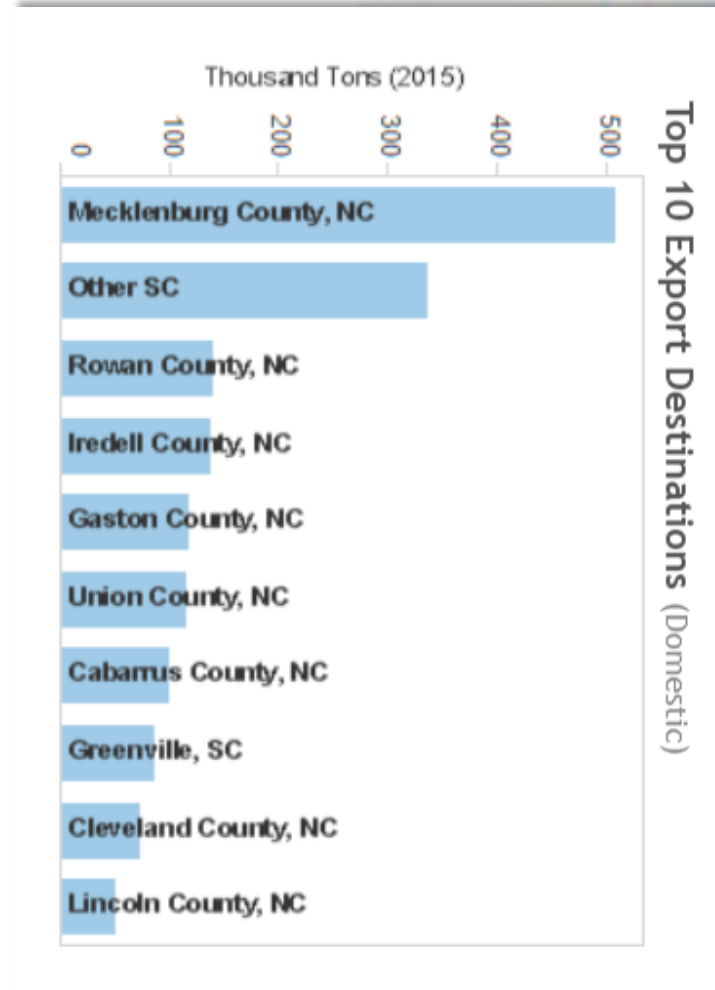
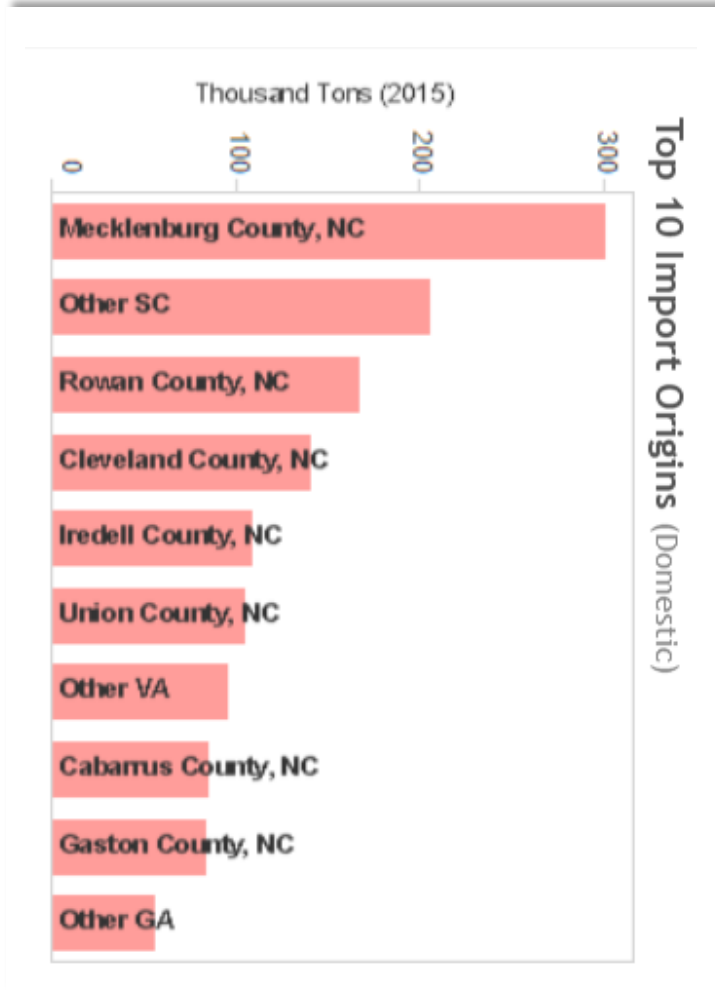
Commodity Type

Commodity data for rail traffic is suppressed due to confidentiality requirements.





# Stanly County, NC



## Union County, NC

- 47.5% EXPORT / OUTBOUND  
4,960 thousand tons  
\$8204 (52.27% value)
- **50.78% IMPORT / INBOUND**  
5,301 thousand tons  
\$7343M (46.78% value)
- 1.71% INTRACOUNTY  
179 thousand tons  
\$149M (0.95%)

Flow Direction



### Union County, NC

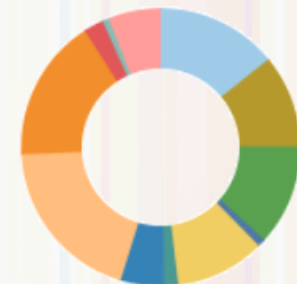
Category	Value
Million Dollars (2045):	<b>\$26,115</b>
Imports/Inbound:	<b>\$12,112</b>
Exports/Outbound:	<b>\$13,763</b>
Intracounty:	<b>\$240.0</b>

87.95% trucks, 11.45% rail (pipeline, air)

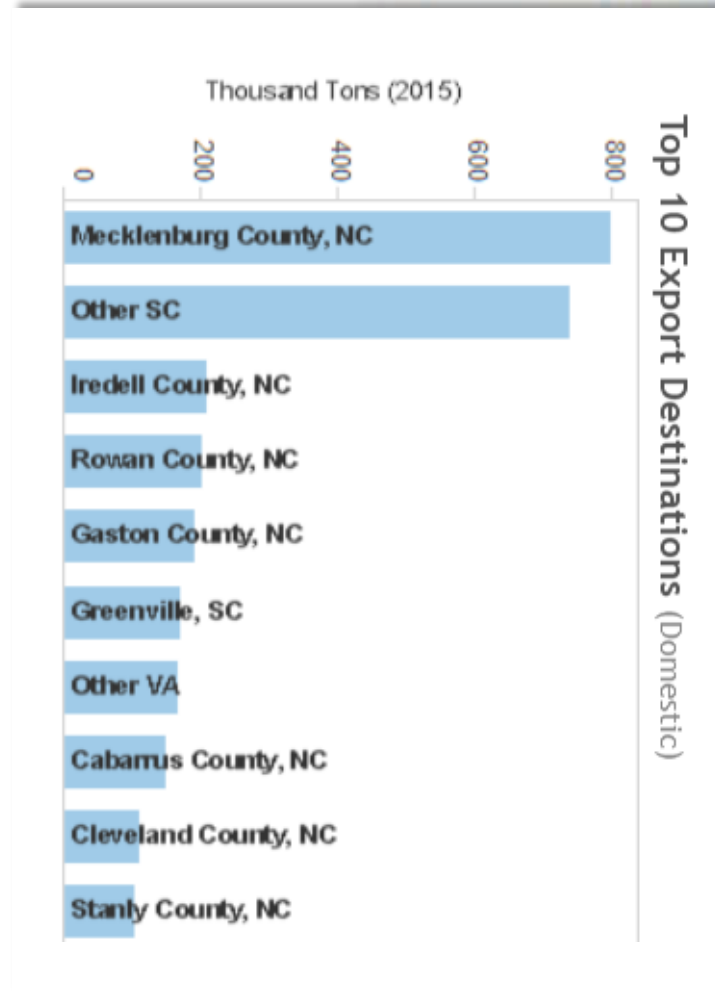
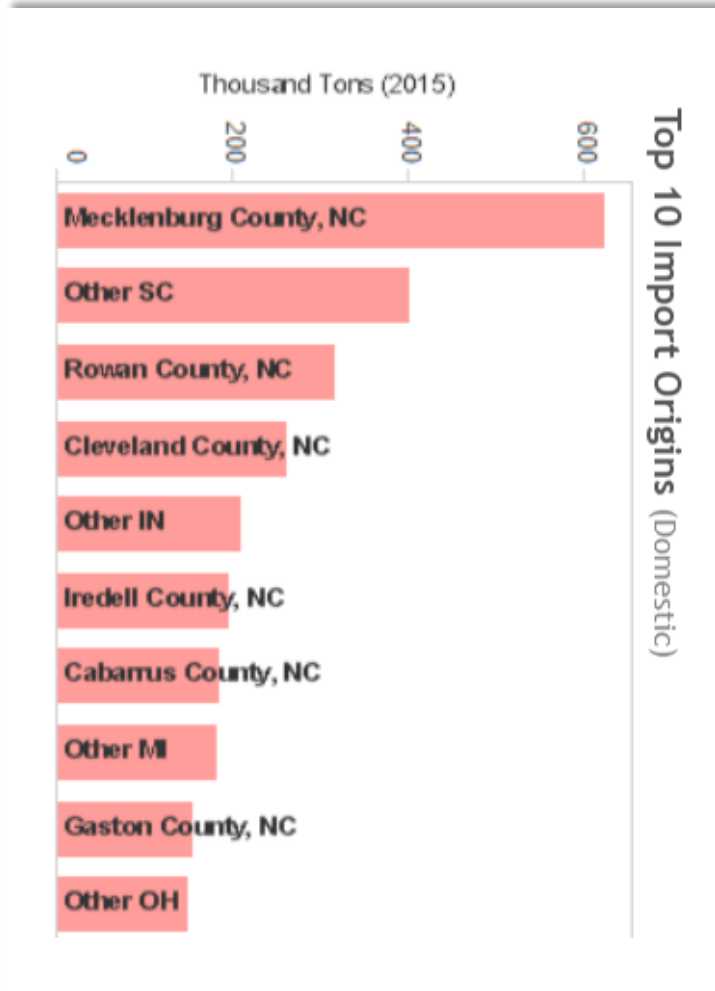
- Chemicals, Pharma, Plastics + Rubber: 15.82% value (\$2387M)
- Machinery, Electric, Precision Instr.: 15.01% (\$2266M)
- Mixed Freight: 14.33% (\$2162M)
- *Raw + Finished Wood Products: 16.7% volume / 4.45% value (\$1108M)*

Commodity Type

*Commodity data for rail traffic is suppressed due to confidentiality requirements.*



# Union County, NC



# Shifting Supply Chain Dynamics



# Shifting Supply Chain Dynamics

## CHANGE AGENT: eCommerce

- eCommerce growth and adoption accelerated by COVID
- U.S. eCommerce sales will exceed \$794B in 2020
- 2020 growth rate of +32%, nearly double last year
- Online grocery shopping rates more than double in 2 years
- Ongoing shift from brick + mortar retail paradigm
- Highly concentrated marketplace
- Curbside pickup popularity



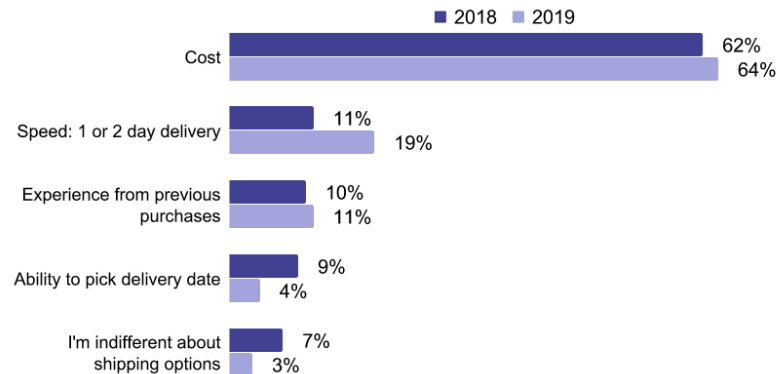
1960s USA Electric Light and Power Companies of America Magazine Advertisement

# Shifting Supply Chain Dynamics

- Consumer expectations: cost + speed
- Increasing expectations for visibility
- Rapid adoption of eCommerce across multiple sectors
- Urbanization driving distribution network design
- Reconciliation of distribution demand with urban, transportation design

## Customer focus on speed increases in 2019

% respondents who said listed factor is the most important when picking shipping option



**Optimum facility count for required service levels in U.S. (to cover 90% of population)**



**Target service level**

**2-3 days**

**Next day**

**Same day**

**Radius covered by 1 facility**

**~650 miles**

**~150 miles**

**~90 miles**

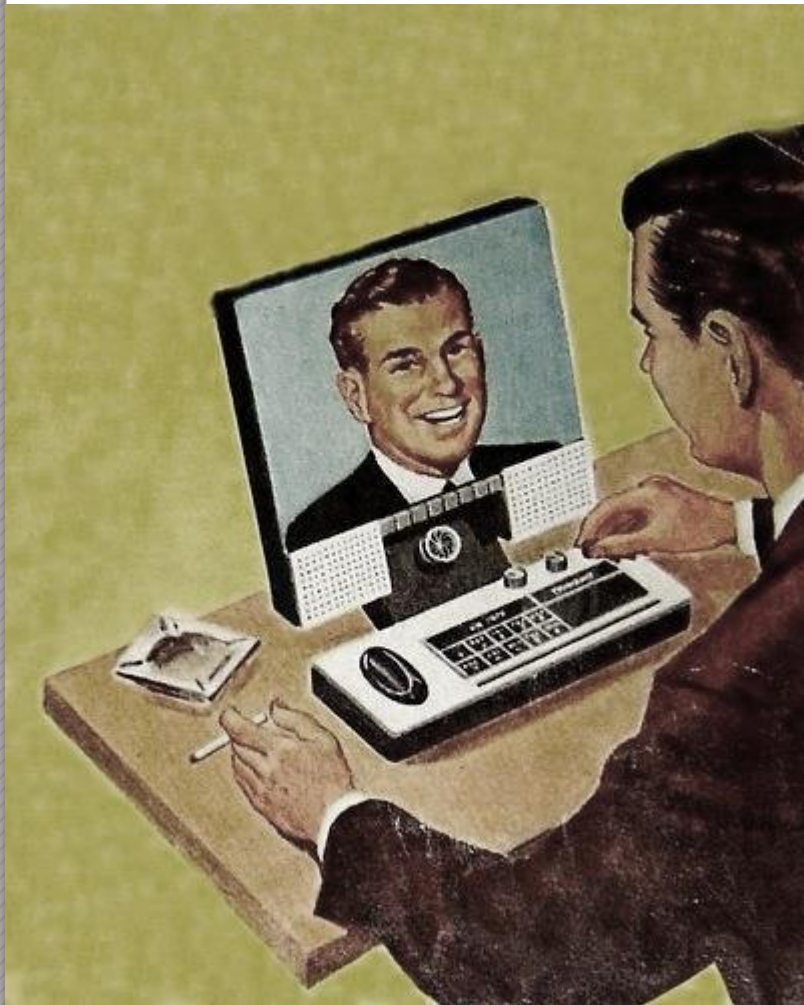
**# of facilities needed**

**~5**

**40-50**

**80-100**

# Shifting Supply Chain Dynamics



- Working pattern changes accelerated by COVID
- Workforce challenges in manufacturing, trucking/transportation
- Increasing supply chain visibility through IOT, blockchain
- Manufacturing 4.0 + automation
- Supply chain, IP cybersecurity concerns

# Shifting Supply Chain Dynamics



*Future Computers, Robert Tinney (1981)*

- Reshoring/near-sourcing for supply chain resilience
- Increasing safety stock, reduced working capital
- Mitigating risk/exposure to tariff uncertainty
- Shifting away from China towards low-cost labor in SE Asia, India
- Growing demand for temperature-controlled storage + transportation



# Shifting Supply Chain Dynamics

## Multimodal, Sustainable, Integrated

- Intermodal growth in global trade
- Ongoing investments in intermodal cargo handling facilities, assets
- Interoperability between modes
- Transit provides workforce efficiencies
- Increasing urban density, demand will drive innovation in delivery by bicycle or trike
- Transportation must be more active and engaged in the supply chain data ecosystem



*Undersea Super Tunnel, Shigeru Komatsuzaki (1981)*

# Shifting Supply Chain Dynamics

## Socio-Economic Considerations

- Addressing global climate change, sea-level rise
- Policy, consumer-driven carbon reduction priorities
- Massive domestic + global income disparity
- Consumer goods demand from growing global middle class
- Access to market as a lever for public health



*Japan Touristen Gehen Unter Wasser, Klaus Burple (1962)*

Dana A. Magliola  
Office of Logistics + Freight  
North Carolina Dept. of Transportation

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Tw: @danamagliola

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1554 Mail Service Center  
Raleigh, NC 27699-1554



Homepage:  
[bit.ly/NCDOTsupplychain](http://bit.ly/NCDOTsupplychain)

NCDOT Connect Resources:  
[bit.ly/FreightConnectNC](http://bit.ly/FreightConnectNC)



## 2021

### Technical Advisory Committee (TAC)

**TAC Schedule:** (Elected Officials)

3rd Thursday, every other month with a rotating location.

<b>January 21, 2021</b>	<b>10am-12</b>	<b>Zoom Meeting</b>
March 18, 201	6-8 PM	SPCC, Raye Boardroom/Polkton
May 20, 2021	6-8 PM	Locust Town Hall/Huneycutt Rm
July 15, 2021	6-8 PM	TBD
September 16, 2021	6-8 PM	SPCC, Raye Boardroom/Polkton
November 18, 2021	6-8 PM	Stanly County Commons Managers Conference Room

### Technical Coordinating Committee (TCC)

**TCC Schedule:** (Staff Officials)

2nd Tuesday, every other month.

**All TCC Meetings will meet at:**

Highway Division 10 - Albemarle

716 W Main St.

Albemarle, NC 28001

<b>January 12, 2021</b>	<b>10 am -12 /Zoom Meeting</b>
March 9, 2021	10 am -12
May 11, 2021	10 am -12
July 13, 2021	10 am -12
September 14, 2021	10 am -12
November 9, 2021	10 am -12

For more information please call Lisa Park @ (704) 986-3871

or look us up online @ [www.rockyriverrpo.org](http://www.rockyriverrpo.org).