



Transportation

Addresses the physical damage and state revenue implications of the transportation infrastructure

1. Summary

The following is documentation of the methodology used to estimate transportation needs due to Hurricane Florence.

Preliminary estimates are based on a combination of windshield (initial) estimates, detailed site inspections, and historical data from prior similar events. The preliminary total impact is estimated at \$476.1 million with an unmet impact of \$120 million after expected federal and private funding is account for.

The total Department of Transportation highway and bridge system need is estimated at \$260 million, \$195 million of which we expect to be covered by Federal sources of funding, resulting in an unmet highway and bridge system need of \$65 million. The Department will assess the status of their funds and realign them to cover the unmet needs of this event. Public transportation needs are estimated at \$1.7M, all of which is estimated to be covered by FEMA and FTA.⁹ Rail system damage of \$1.1 million is reimbursed at a 50% rate by users, resulting in an unmet rail need of \$550,000. Damages related to Ports is estimated to be \$54 million, \$8.3 million is covered by private insurance. Nine Aviation systems are reporting damages with four of them reporting direct damage estimates of \$4 million and \$260,000 of indirect damages. The remaining five systems' damages are to be determined. Aviation facilities are submitted by other government entities directly to their reimbursement sources resulting in no direct effects to DOT. Damages for non-system (local) roads have also been estimated to be \$54.6million, \$40.9 million of which we expect to be covered by Federal sources of funding, resulting in an unmet local transportation need of \$13.7 million. Damages for private roads have been estimated to be \$43.6 million. The state has appropriated \$65.0 million towards transportation, resulting in \$160.6 million of unmet impact.

⁹ During and post event, transit system needs are fully reimbursed by FEMA and FTA funds. Pre-event evacuation costs for transit systems are currently unknown; however, these are eligible for 75% reimbursement from FEMA, and the remaining unmet need must be covered by counties.

Preliminary Damage & Need Estimate (Millions)							
				Expected Funding		Appropriated	
Category	Direct	Indirect/ Induced	Total Impact	Federal	Private	State	Unmet Impact
State bridges & roads	\$260.0	\$0.0	\$260.0	\$195.0	\$0.0	-	\$65.0
Public transportation	\$1.7	\$0.0	\$1.7	\$1.7	\$0.0	-	\$0.0
Rail & rolling stock	\$1.1	\$0.0	\$1.1	\$0.0	\$0.6	-	\$0.5
Ports	\$54.0	\$0.0	\$54.0	\$0.0	\$8.3	-	\$45.7
Aviation	\$4.0	\$0.3	\$4.3	\$0.0	\$4.0	-	\$0.3
State revenue impact	\$0.0	\$6.8	\$6.8	\$0.0	\$0.0	-	\$6.8
State Subtotal	\$320.8	\$7.1	\$327.9	\$196.7	\$12.9	-	\$118.3
Non-system (local) roads	\$54.6	\$0.0	\$54.6	\$40.9	\$0.0	-	\$13.7
Private Roads	\$43.6	\$0.0	\$43.6	\$0.0	\$0.0	-	\$43.6
Subtotal	\$419.0	\$7.1	\$426.1	\$237.6	\$12.9	-	\$175.6
Resiliency efforts	\$0.0	\$0.0	\$50.0	\$0.0	\$0.0	-	\$50.0
State appropriations	-	-	-	-	-	\$65.0	-
Total	\$419.0	\$7.1	\$476.1	\$237.6	\$12.9	\$65.0	\$160.6

2. Scope

Structures in scope for transportation estimates include:

- Bridges, tunnels, and roads, including sidewalks
- Public transit, including bus systems
- Rail and rolling stock
- Ports and airports
- Non-system (local) roads
- Private roads

3. Methodology

Estimates were developed by the NC Department of Transportation based on initial assessments of damage, including information obtained from contractors deployed for emergency response and repair. Cost estimates are based on estimated quantities, historic unit costs, and engineering judgments. Non-system (local) road (source data from the 2017 Powell Bill) and Private road (source data from the NCDOT 2016 legislative report) costs were extrapolated using state system proportions of estimated road damages and cost estimates in affected counties. Surveys were conducted of local governments to assess their transportation needs and those results support the methodology used in these estimates.

Item	Location	Cost
Major NC state highways	Statewide	\$260,000,000
DMV	Declared Emergency Counties	\$72,776
Public transportation	Declared Emergency Counties	\$1,700,000
Rails	Declared Emergency Counties	\$1,100,000
Non-system (local) roads	Declared Emergency Counties	\$56,948,026
Private roads	Declared Emergency Counties	\$43,646,230
Aviation (direct costs only)	Declared Emergency Counties	\$3,990,000
Ports	Wilmington/Morehead City	\$54,000,000

4. Assumptions

- Non-system (local) and private road estimates were calculated based on prorated DOT-reported damages by county.

5. Primary Data Sources

- DOT
- Moody’s Credit Outlook (October 2018)
- 2017 Powell Bill
- NCDOT Legislative Report: Non-System Road Survey, June 30, 2016

6. Potential Sources of Funding for Unmet Impact

The Department of Transportation estimates reimbursements from FHWA/FEMA for the highway system and public transportation totaling \$196.4 million. Public transportation has also received a grant of \$340,000 from the Federal Transit Authority (FTA). In addition, North Carolina may receive \$200.0 million in funding from USDOT's Infrastructure for Rebuilding America program (INFRA), which provides discretionary funding for projects that address critical issues with highways and bridges.

Airports, ports, and public transportation use a combination of federal grants and private insurance to return their systems to pre-Florence conditions. Ports will receive an estimated reimbursement primarily from private insurance of \$8.3 million. Aviation will be covered by private insurance in the amount of \$4.0 million. The rail system is required by state law to receive 50% of their damage estimate as reimbursement from the Short Line Railroad. Their current reimbursement estimate is \$550,000.

7. State Funding Recommendation for Unmet Impact

Rebuilding - \$79 million

State Match for Federal Funds - \$65.0 million (Highway Fund)

Utilizes the existing cash balance of the Highway Fund to provide the required state match of \$65 million. This match will draw down \$195 million in federal funding.

Match for Local Government Assistance – \$14.0 million (General Fund)

Provides grants to local governments for repair of non-system (local) road damage and other similar projects.

Resiliency - \$50 million

Building Smarter and Stronger Resilient Roads - \$50.0 million (General Fund)

Provides funds to help leverage federal grants for designing roads, bridges, pipes, and other transportation structures to better mitigate the effects of extreme weather events. This mitigation should minimize transportation system and local property damages in future events. Initial potential projects include upgrades of eastern sections of I-40, southern sections of I-95, US 70 (future I-42), and US 421.

8. State Funding Provided in S.L. 2018-134 and S.L. 2018-136

State Match for Federal Transportation Assistance - \$65.0 million

Allocates funds to the Department of Transportation for the required 25% state match for FEMA/FHWA funds to conduct repairs and debris removal for the transportation infrastructure.