

EXPERIENCE

FIRST SERGEANT | NCSHP | 2003-PRESENT

FIRST SERGEANT OVER THE SIZE AND WEIGHT SECTION
VICE CHAIR OF THE SIZE AND WEIGHT COMMITTEE
(CVSA). OVER THE VARIABLE MESSAGE BOARD
PROGRAM.

OVER THE HIGH PRIORITY ITD GRANT
OVER THE WEIGH STATIONS.



CVSA AND THE INTERNATIONAL SOCIETY FOR WEIGH-IN-MOTION

APPLICATION FOR ENFORCEMENT

TRAFFIC SAFETY

COLLECTION AND USE OF WIM DATA

RECENT APPLICATIONS

- APPLICATION FOR ENFORCEMENT



Sen Marshall Arthur Rauch Hwy

85

NC State Scale House

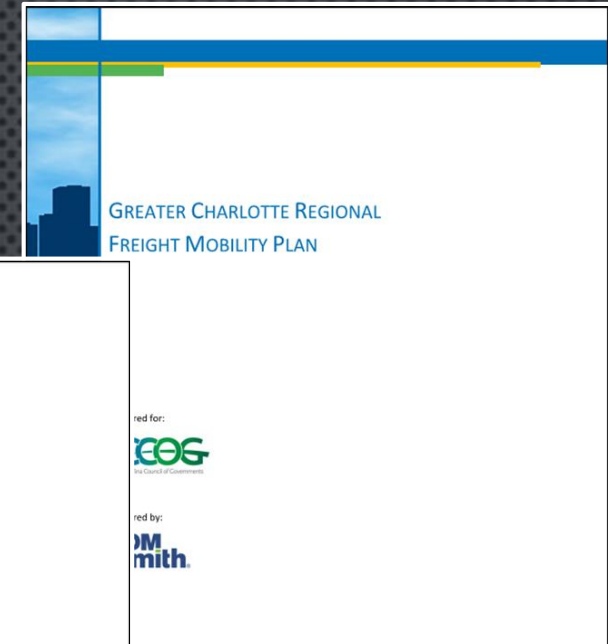
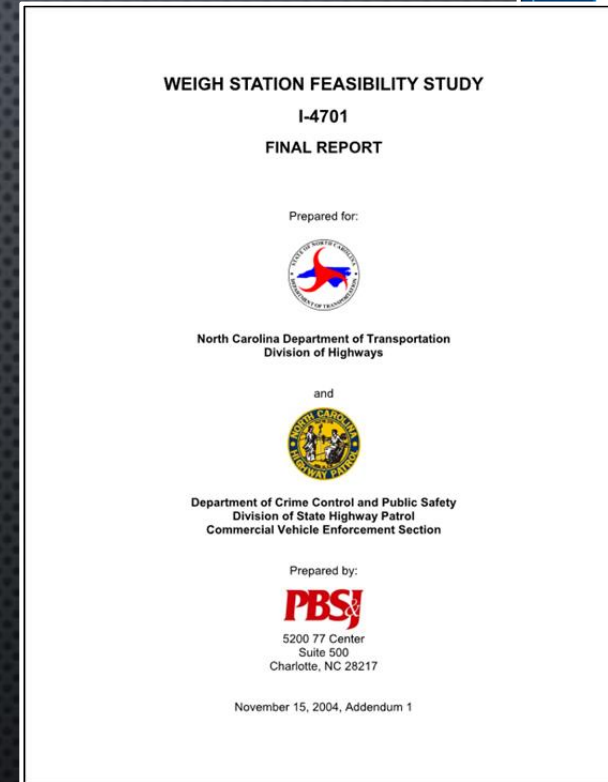
Abernethy Creek

✓ WEIGH STATION FEASIBILITY STUDY
(2004)

✓ GREATER CHARLOTTE REGIONAL
FREIGHT MOBILITY PLAN (2016)

✓ NORTH CAROLINA STATEWIDE
MULTIMODAL FREIGHT PLAN (2017)

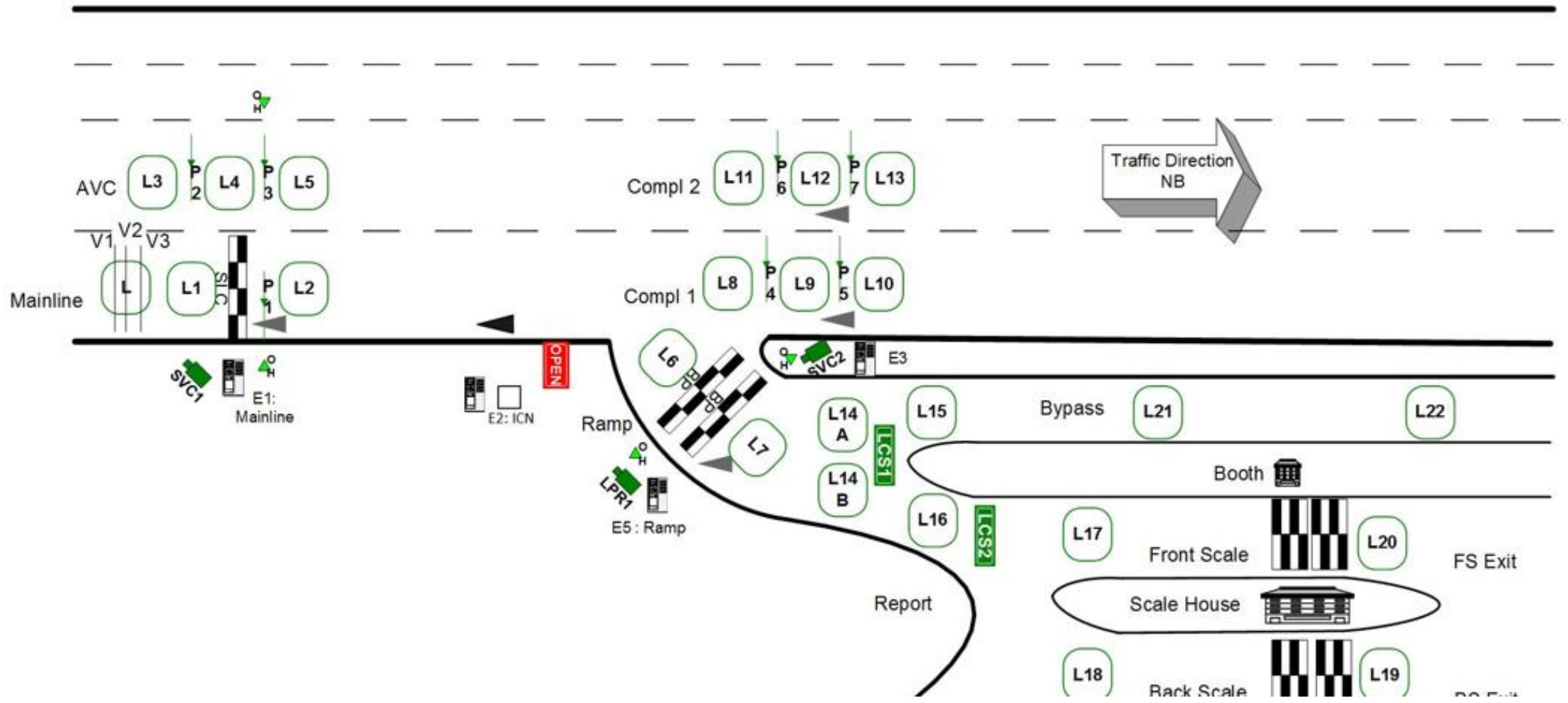
✓ WEIGH STATION FEASIBILITY STUDY
(2022)



	City (vicinity)	Route	Dir.	Location	Drive Wyze ¹	Pre Pass ¹	DOT Reader ¹	Thermal Imaging ¹	License Plate Reader ¹	Tire Screening Device ¹	WIM Ramp Screening ¹	WIM Mainline Screening ¹	Fiber ¹	Dynamic Message Sign ²	Over Height Detector ²	Sort Signals ²
Buncombe	Asheville	I-40	EB	Approx. 12 miles W of Asheville	A	A		A	A	A		A	A	X		
Buncombe	Asheville	I-40	WB		A		F		F	F		F	A	X	X	
Gaston	Gastonia	I-85	NB	Approx. 2 miles SW of Gastonia	A	A			A	A	A	A	A	X	X	X
Halifax	Enfield	I-95	NB	Approx. 18 miles S of Roanoke Rapids	A	A	A		A	A		F	A	X		X
Halifax	Enfield	I-95	SB		A	A			F		A	F	A			
Henderson	Hendersonville	I-26	EB	Approx. 7 miles N of Hendersonville	A	X ²			F			F				
Henderson	Hendersonville	I-26	WB		A	A			F			F			X	X
Iredell	Statesville	I-40	EB	Approx. 6 miles W of Statesville	A	A			F	F		A		X		
Iredell	Statesville	I-40	WB		A	A	A		A	F		A	A	X		
Mecklenburg	Charlotte	I-85	SB	Approx. 10 miles SW of Charlotte	A				A	A		A	A	X	X	X
Montgomery	Seagrove	I-74	NB	Approx. 3 miles S of Seagrove					A			A				
New Hanover	Wilmington	US 421	NB	Approx. 3 miles E and N of Belville					A			A				
Orange	Hillsborough	I-40/85	EB/NB	Approx. 15 miles W of Durham	A	A			A	A	A	A	A	X	X	X
Orange	Hillsborough	I-40/85	WB/SB		A	A			A	F	A	A	A	X		
Robeson	Lumberton	I-95	NB	Approx. 10 miles N of Lumberton	A	A			F			F		X		
Robeson	Lumberton	I-95	SB		A				F	County		F		X		X
Surry	Mount Airy	I-77	NB	Approx. 3 miles S of the Virginia state line	A	A			A	A		A		X		X
Surry	Mount Airy	I-77	SB		A	A			A		A	F		X		X
Total Stations:	18			Total Items:	16	13	3	1	18	10	5	18	9	13	5	8

WIM Screening System Overview





Commercial Vehicle Screening

Automatic Sorting

Vehicles will be screened and automatically sorted based on compliance for:

- 1. Weight** – Gross Vehicle Weight, Axle(s), Axle Group(s) and Bridging Formula, unbalanced load
- 2. Dimension** – Over Length, Over Height
- 3. Credential/Safety** – Screening based on data in Commercial Vehicle Information Subsystems and Networks (CVISN) as well as North Carolina specific screening

ASTM Type III – Pre-Screening for Enforcement

- Type III is the tightest of all WIM accuracy specifications
- Type III WIM sensors are commonly used for high-end data collection as well as enforcement activities
- Single Load Cell, Bending Plate and Strip WIM sensors are all able to meet the Type III specifications
- Gross vehicle weights must be accurate to within $\pm 6\%$ (95% Compliance)

Function	Type III
Wheel Load	$\pm 20\%$
Axle Load	$\pm 15\%$
Axle Group Load	$\pm 10\%$
Gross Vehicle Weight	$\pm 6\%$
Speed	± 1 mph
Axle Spacing and Wheelbase	± 0.5 feet

WORKING TOGETHER

- FEDERAL
- FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION
- FEDERAL HIGHWAY ADMINISTRATION
- NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
- NATIONAL HIGHWAY SAFETY BOARD
- COMMERCIAL VEHICLE SAFETY ALLIANCE (NON-PROFIT)
- INTERNATIONAL
- THE INTERNATIONAL SOCIETY FOR WEIGH IN MOTION
- INTERNATIONAL ORGANIZATION OF MOTOR VEHICLE MANUFACTURES
- GLOBAL ROAD SAFETY PARTNERSHIP

WORKING TOGETHER

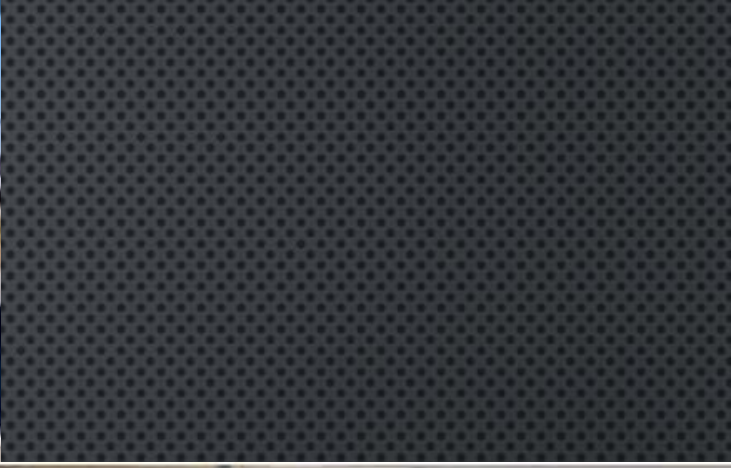
- STATE, CITY AND LOCAL GOVERNMENT LEO
- NORTH CAROLINA DEPARTMENT OF PUBLIC SAFETY
- NORTH CAROLINA STATE HIGHWAY PATROL
- NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
- OFFICE OF STRATEGIC PLANNING
- TRANSPORTATION PLANNING DIVISION
- DIVISION OF HIGHWAYS

Static Mode

- Weighs at a stand still
- With or without Software

Dynamic Mode

- Weighs in Motion (WIM)
- 6-10 KPH MAX
- Software Required



Portable WIM

Single Unit Trucks	Pickup Truck	12 Passenger Van	Buses
	Platform	Concrete Mixer	Tank
	Bobtail (Tractor Unit)	Dump	Dumpster Transport
	Enclosed Vans	Recreational Vehicle	
Semi-Trailer Unit Trucks	Enclosed Van	Reefer Enclosed Van	Drop Frame Van
	20ft Intermodal Container	40ft Intermodal Container	Refrigerated 40ft Intermodal Container
	Basic Platform	Agricultural Van	Livestock
	Automobile Transport	Logging	Pneumatic Tank
Multi Trailer	Platform	Hopper	
	Platform	Dump	Tank



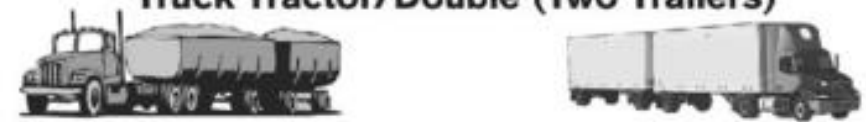
Truck/Trailer (Single-Unit Truck Pulling a Trailer)



Tractor/Semi Trailer (One Trailer)



Truck Tractor/Double (Two Trailers)



NEW SUSPENSION VS. OLD SUSPENSION



DUAL WHEEL LOAD SCALE





Total Weight	Difference	Individual Tire Weights		Group	Individual Tire Weights		Difference	Total Weight
		Outer	Inner		Inner	Outer		
9620	1580 28.2%	4020	5600	Ax5	4620	3640	980 21.2%	8200
8640	1040 21.5%	3800	4840	Ax6	5000	3360	1640 32.8%	8300
8360	1240 25.8%	3560	4800	Ax7	3920	4160	-240 -6.1%	8000
8460	1300 26.6%	3580	4880	Ax8	4240	3300	940 22.2%	7500

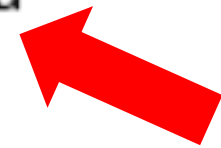
Weight on Inner Tires are all significantly higher than outer tires except for Axle 7 right side. Due to under inflated inner tire the outside tire weight is higher. PSI on inside tire was noticeably low but could not obtain a PSI reading.

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SO WIM IS???

- SCREENING? YES!

INFRASTRUCTURE PROTECTION? YES!

SAFETY? YES!



JULY 21 1954

QUESTIONS?

KENDELL.JACKSON@NCSHP.GOV