

# Legislative Committee Update

## Overview of Bridges and History of Truck Weights

September 14, 2011



# What do we have?

14,598 Structures

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6,619 State

7,979 Local

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**2,067 Culverts**

**4,447 Bridges**

**3,532 Culverts**

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6,619 State		7,979 Local	
4,552 Bridges	2,067 Culverts	4,447 Bridges	3,532 Culverts
1,675 Posted			
96 State		1,579 Local	
96	0	1,571	8

# Age of Bridges

	Pre 40's	40's	50's	60's	70's	80's	90's	00's	Avg Age
Local	329	177	752	882	690	676	544	394	40.0
State	225	162	553	1,076	715	641	539	640	36.3
Total	554	339	1,305	1,958	1,405	1,317	1,083	1,034	0

# Condition Codes

## Code Description

- N NOT APPLICABLE**
- 9 EXCELLENT CONDITION**
- 8 VERY GOOD CONDITION – No Problems Noted**
- 7 GOOD CONDITION – Some Minor Problems**
- 6 SATISFACTORY CONDITION – structural elements show some minor deterioration**
- 5 FAIR CONDITION – all primary structural elements are sound but may have minor section loss, cracking, spalling or scour**
- 4 POOR CONDITION – advanced section loss, deterioration, spalling or scour**
- 3 SERIOUS CONDITION – loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete.**
- 2 CRITICAL CONDITION – Advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored, it may be necessary to close the bridge until corrective action is taken.**
- 1 IMMINENT FAILURE CONDITION – major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.**
- 0 FAILED CONDITION – out of service. Beyond repair.**







# Condition of State Bridges

Condition	Deck	Superstructure	Substructure
0	0.0%	0.0%	0.0%
1	0.0%	0.0%	0.0%
2	0.0%	0.0%	0.0%
3	0.0%	0.0%	0.1%
4	0.8%	0.5%	0.7%
5	9.3%	4.9%	9.3%
6	20.2%	14.4%	22.7%
7	53.3%	47.1%	52.4%
8	16.1%	32.8%	14.7%
9	0.2%	0.4%	0.2%

# Condition of Local Bridges

Condition	Deck	Superstructure	Substructure
0	0.2%	0.2%	0.2%
1	0.1%	0.1%	0.9%
2	0.0%	0.1%	1.0%
3	0.3%	0.5%	1.2%
4	2.1%	2.5%	6.1%
5	14.7%	13.8%	18.1%
6	22.2%	24.8%	28.9%
7	45.8%	40.1%	30.4%
8	14.3%	17.3%	12.8%
9	0.3%	0.6%	0.4%

# Vehicle Weights of 1968



Truck with Tandem Axle  
Gross = 54,000 lbs.  
Axle = 18,000 lbs.

Tractor - Trailer  
Gross - 73,280 lbs.  
Axle - 18,000 lbs.



# Vehicle Weights Today



Gross – 66,000 lbs.  
Axle – 23,000 lbs.  
Tandem Axle – 46,000 lbs.

Tractor - Trailer  
Gross - 80,000 lbs.  
Axle – 23,000 lbs.



Harry Patterson Collection

From OCGA 32-6-2

Maximum axle weight set at 18,000 lbs but can be exceeded by up to 13%. Thus, allowing 20,340 lbs/axle or 40,680 lbs/tandem.

For the commodities listed in code, they can exceed the weight limitation up to 23,000 lbs for a single axle and 46,000 lbs for a tandem axle.

*This is a 34.2% exemption.*

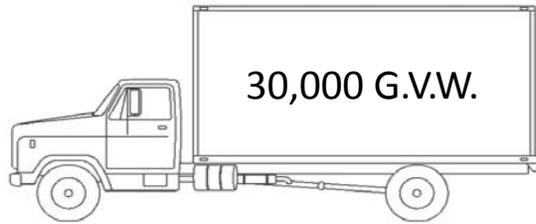
# 10% Increase

An exemption of 10% would bring the legal single axle weight to 25,300 lbs. and the tandem to 53,130 lbs.

*This represents a 40.6% exemption over the legal axle weights of 18,000 lbs (single) and 36,000 (tandem).*

# Design Vehicles vs. Legal Weights

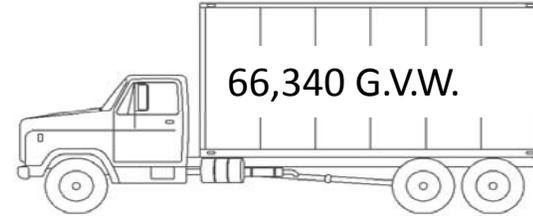
H 15 Design Vehicle



6,000

24,000

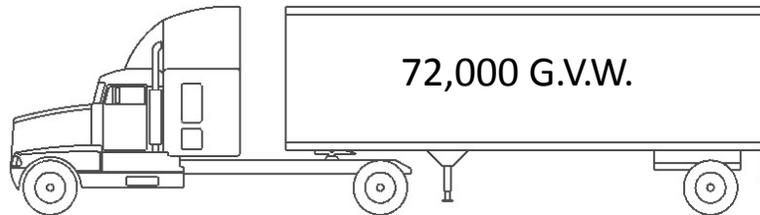
Truck with Tandem Axle



24,150 max.

48,300 max.

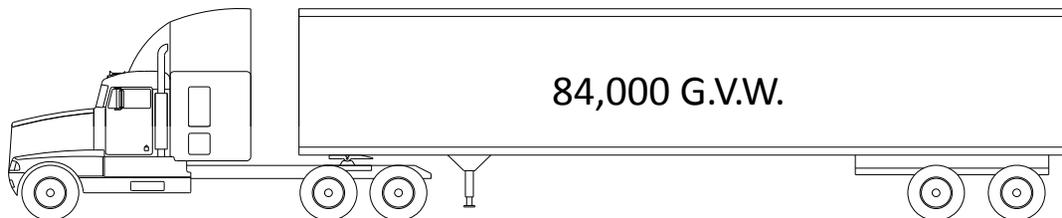
HS 20 Design Vehicle



8,000

32,000

32,000



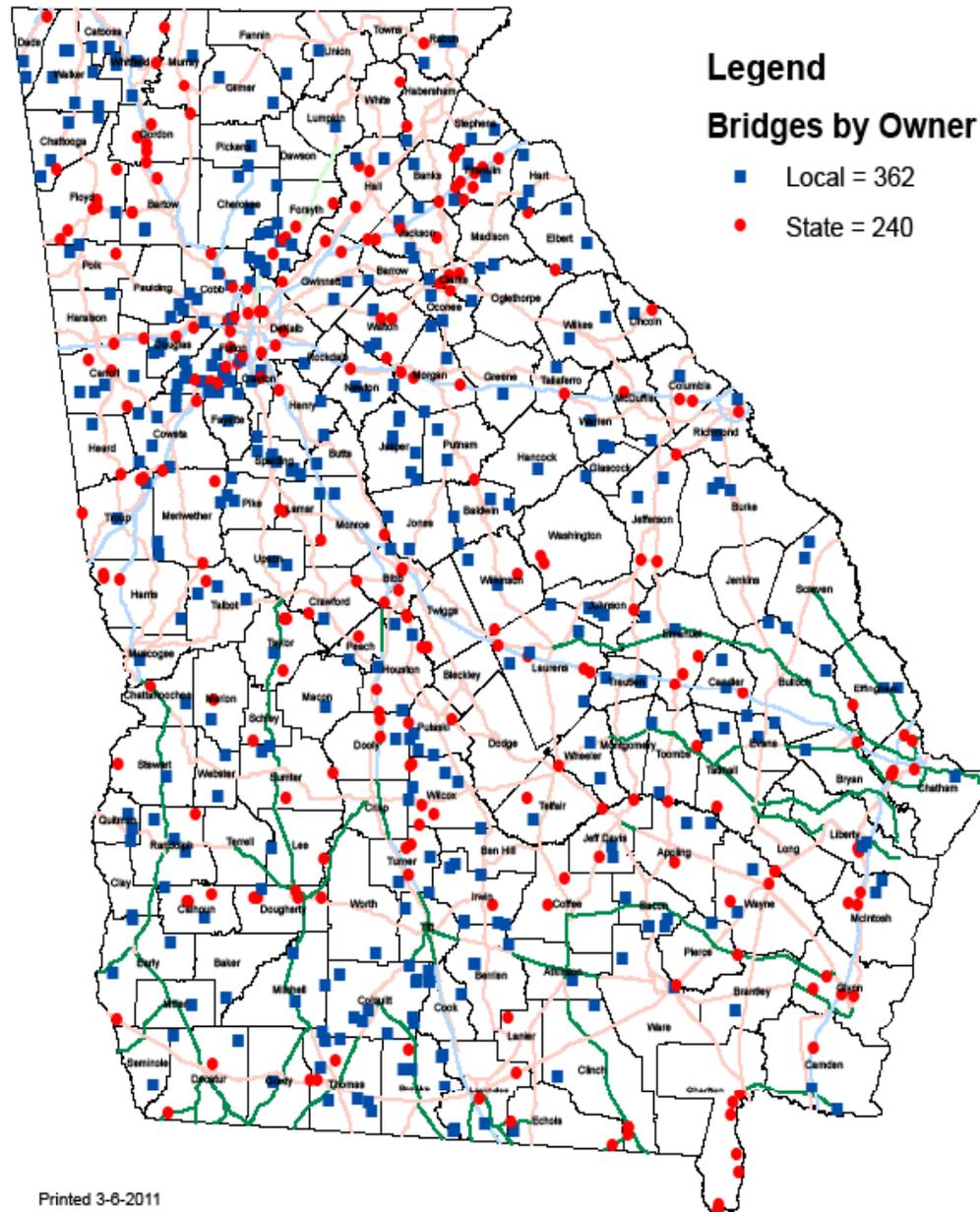
48,300 max.

48,300 max.

# Original Design Loads

	State		Local	
	#	%	#	%
Unknown	5	0%	1,020	23%
H10	1	0%	170	4%
H15	710	16%	1,579	36%
HS15	131	3%	563	13%
H20	98	2%	42	1%
HS20	396	9%	285	6%
HS20+Military	3,211	71%	788	18%

# 10% Increase for 5 Axle Trucks





**Questions?**