The Impact of Load Rating Methods on Federal Bridge Program Funding
FHWA May 2005 (revised February 2006)

Introduction:

Beginning with the April 2005 data collection for the National Bridge Inventory (NBI), the FHWA allowed the inventory rating and operating rating to be reported as a Rating Factor (RF) using either the Load Factor Rating (LFR) method or Load and Resistance Factor Rating (LRFR) method. FHWA's memorandum dated March 22, 2004, Attachment 1, outlined these changes. Prior to this change, the LFR method using MS loading (HS metric equivalent) was the national standard for computing inventory and operating ratings reported to the NBI.

The change provided the ability to report Allowable Stress Ratings (ASR), LFR or LRFR for both operating and inventory ratings (NBI Items 64 and 66) by a RF rather than a tonnage. Also new was the concept of using different loadings depending on the method of rating, i.e. MS for Allowable Stress (AS) and LFR vs. HL-93 for LRFR. The possible affects these changes have on the federal bridge program, specifically funding apportionments, will be reviewed.

It's important to note that only eligible structures determined to be deficient, i.e. structurally deficient (SD) or functionally obsolete (FO), are considered in the process for apportioning Highway Bridge Program (HBP) funding. A sufficiency rating (SR) for each structure is determined for program eligibility purposes. Deficient structures, as defined in attachment 2, with an SR value less than 50 are eligible for replacement, 50 to 80 are eligible for rehabilitation, and above 80 are not considered eligible. Other eligibility rules also apply, i.e. the structure must be of bridge length and had not been constructed or had major reconstruction within the past ten years. Bridges must be deficient and eligible in order for their deck area to be considered as the basis for the HBP funding apportionments.

The inventory rating, NBI item 66, is the only load-rating item that has the potential to affect funding levels. Item 66 is a factor in determining the calculation of NBI item 67, structural evaluation. It is also a factor in calculating the reduction for load capacity, B, in the S1 portion of the SR formula. Many States use the operating rating, NBI item 64, to determine if the structure can carry legal loads and make posting decisions, but again, the operating rating does not affect the HBP funding levels.

Summary:

A recent NCHRP project 20-07/task 122 study by Dr. Dennis Mertz of a small sample of bridges reported that LRFR average about 7% higher than LFR for design-load inventory ratings. Our findings indicate that this would cause less than a 2% reduction in national eligible deck area on deficient bridges if all NBI inventory ratings were suddenly changed to LRFR. Other variations in LRFR vs. LFR, and the resultant impact on eligible deck area on deficient bridges, were evaluated. The findings are presented in the attachments. The FHWA does not intend to require the States to re-rate the large inventory of older structures that have already been rated by ASR or LFR with LRFR methods, but rather to allow the States to re-rate existing structures with LRFR per their own policies. Only structures designed or reconstructed using LRFD would be required to be rated using LRFR.

Details:

The FHWA March 22, 2004 memorandum revised the NBI Coding Guide to allow for the reporting of rating factors for ASR and LFR using a MS-18 loading and LRFR using a HL-93 loading. The notional highway loading HL-93 for LRFD and LRFR was developed to provide a more uniform safety factor for structures over various lengths, be more inclusive of AASHTO and State legal loads, and to include legacy exclusion trucks, but this loading is not expressed in tons. The result of a LRFR using HL-93 loading is a RF and conversion of this RF to the current HS loading ton value is not easily done.

The concern of having structure inventory load ratings reported in a uniform manner using multiple design and rating methods each using a different loading function is addressed with the use of rating factors based on the design method and a standard loading for the method of design and rating. Logically, structures designed with allowable stress or load factor, should be rated with LFR using the MS-18 loading. Structures designed with LRFD should be rated using LRFR and the HL-93 loading. This relation between design method and rating method, and their corresponding loads, is not currently an AASHTO or FHWA requirement.

We have historically assigned a tonnage value to a MS-18 or HS-20 load rating performed by the LFR method. The RF is easily determined for these loadings by dividing the rating tonnage by 32.4 tons for MS-18 loading or 36 tons for HS-20 loadings. The result of a LRFR using HL-93 loading is already a RF. The resultant RF for the structure will therefore be determined by a similar methodology and loading function as it was designed for. This will allow for a uniform reporting procedure based on how well the structure is performing in comparison to the current standard for the given design methodology.

The design-load rating values in NBI items 64 and 66 are directly affected by the rating methods; however, only item 66, inventory rating, could affect a bridge's deficiency status and the SR. There are two locations in the NBI coding guide where NBI item 66 is used. The first is item 67, structural evaluation. NBI item 66 along with Average Daily Traffic (ADT) is used in a table to determine a possible value for item 67. The value of item 67 is also based on the coding values of items 59, superstructure, and 60, substructure, or 62 if the structure is a culvert. The lowest of the coding values of these items, or from the table using item 66 and ADT, determines the value of item 67. Item 67 is used directly in determining a small part of the "S2" component used in the calculation of the SR. The importance of item 67 is that if its value is a 3 or lower, the structure would be considered deficient (see attachment 2). If item 67 is a 3 or less due to values in the table, the highest possible SR is 78, making the structure eligible for rehabilitation using HBP funds.

The inventory rating/ADT table used in coding item 67 could easily be modified to be based on RF for clarity rather than the current use of tonnages. But, as used in the FHWA 2004 memo, converting the RF to a pseudo number by multiplying by 32.4 to use in the table will yield the same rating for item 67 as if we had converted the table to RFs. (See Attachment 5)

The second use of the inventory rating (item 66) is in calculating the reduction factor "B" of the "S1" component in the SR formula. See appendix B of the coding guide.

The base equation for this calculation is:

$B = (1\text{-}RF)^{1.5} \times 60.0$ where RF = rating factor

In the past, we have expressed this equation in two different forms based on the whether the ratings were to be reported in HS-20 or MS-18 loadings.

Replacing inventory rating (IR) with either:

IR = RF x 36 for HS loadings or
IR = RF x 32.4 for MS loadings

yields the following equations that have been used in appendix B of the coding guide:

$B = (36.0 - IR)^{1.5} \times 0.2778$ where IR is NBI item 66 Inventory Rating in US tons
$B = (32.4 - IR)^{1.5} \times 0.3254$ where IR is NBI item 66 Inventory Rating in metric tons.

In the future, for clarity, perhaps this equation should express item 66 in RF rather than the current IR. Presently, as indicated above, the RF for item 66 can be multiplied by 32.4 to yield a pseudo value for determining "B". This pseudo number does not represent a real tonnage load but just a number needed to allow the current programs to operate correctly. As stated above, the end result, i.e. the coding of item 67, the "B" value, and the SR value, are the same whether you use the actual RF or the pseudo number.

The important concept to remember is that the "B" value, and hence the SR, are being determined based on how well the structure is performing in its current inspected condition in comparison to the rating standard, i.e., the appropriate design load.

Funding impact:

By rating a bridge using LRFR instead of LFR, the RF for a given structure may change. The concern of how this change might affect a structure's deficiency status and SR, thereby influencing individual States HBP funding apportionments, has been raised.
As previously stated, only deficient and eligible bridges are considered in the apportionment process. Once a structure is considered deficient, its SR is used to determine if it is eligible for funding. Structures with a SR above 80, under construction or reconstruction, or that have been built or reconstructed in the last 10 years are not eligible. Structures with a SR below 50 are eligible for replacement and structures with a SR between 50 and 80 are eligible for rehabilitation. The deck area for this group of eligible and deficient structures is divided into four groups: on-system and off-system with SR between 50 and 80 and on-system and off-system with SR below 50. The three-year average bridge construction unit cost data as reported by each State is then used to determine a total cost to replace/repair the structures. Different costs are used for the on-system versus the off-system, and for replacement versus rehabilitation. Unit costs for rehabilitation are taken as 68% of the replacement costs. This "needs" calculation (deck area (times) unit cost) is generated for each state. A ratio of the state needs vs. the national

needs (sum of all state needs) is determined and that becomes the state's apportionment factor for calculating their share of the total HBP funds available in a given year. Some corrections are used such that no State's share exceeds 10% or is under 0.25% of the total national fund.

The question of what would happen to the eligible deck area on deficient bridges if States were to re-rate all their bridges from LFR to LRFR will now be reviewed. First the FHWA suggests that only those structures designed or rehabilitated using LRFD should be rated using LRFR with HL-93 loading. This should alleviate most concerns over sudden changes in deck area on deficient bridges, as any changes would occur over an extended period of time, as LRFD becomes the standard design methodology for all States.

To understand what could happen if states were to re-rate all their structures using LRFR, we varied NBI item 66 for the complete bridge inventory to determine how susceptible the eligible bridge area is to change (See attachment 3). The Bridge Management Information Systems Laboratory at the FHWA Turner-Fairbanks Research Center performed 9 NBI data runs where they varied item 66 (inventory rating) to determine the affects on eligible area on deficient bridges. The data runs were made by varying item 66 from plus 20 percent to minus 20 percent, in 5 percent increments. Based on this analysis, several charts were produced. Three bar charts show the relative percent change in eligible deck area for all highways, federal-aid system and off system bridges for the three groupings of SR values: $SR \leq 80$; $SR < 50$; $80 \geq SR \leq 50$. A fourth chart (shown first) was developed for the analysis with $SR \leq 80$ showing a factored deck area where the full deck area of replacement structures is used, but only 68% of the area of rehabilitation is used for structures eligible for rehabilitation. This will capture the affect of the difference in values (unit costs) assigned to replacement vs. rehabilitation.

As a check, the Office of Bridge Technology examined the sensitivity of deck area on deficient bridges to variations in NBI item 67. This is the primary item affected by NBI item 66 that could change a structure's deficiency status. It should be noted that if a structure becomes deficient due to item 67 becoming a 3 or less based on the table, the maximum SR the structure could have would be a 78, making the structure eligible for funding. We divided these structures into two groups: See attachment 4.

1) Structures that if re-rated higher would no longer be deficient. (Item 67 changes from a 3 or lower to a 4 or higher)

   The category of deficient bridges where NBI item 67 is a 3 or less, and item 67 is the only item causing the structure to be deficient so that raising it to a 4 would cause the structure to no longer be deficient, includes only 3.6% of the national eligible deck area on deficient bridges. Individual state percentages vary, indicating that the impact on funding would also vary. It must be emphasized that these percentages are based on a somewhat unrealistic scenario, i.e. all States chose to re-rate their entire inventory with LRFR, and all the bridges in this category rated high enough so that they were no longer deficient. Based on research by others comparing LFR to LRFR, it is known that such an assumption is not completely realistic.

Attachment 4 provides statistics based on the NBI. Columns 4 and 5 provide the total number and area of eligible deficient bridges by state. Columns 8 through 10 provide data on bridges that are deficient due only to item 67 being under a 4. If any of these bridges were to be re-rated higher using LRFR so that item 67 became a 4 or higher the corresponding bridge deck area would no longer be considered in the apportionment process.

2) Structures that if re-rated lower could become deficient and eligible. (Item 67 changes from a 4 to a 3 or lower)

The last 3 columns of attachment 4 display information on the number of structures that are not deficient and item 67 equals a 4. It is assumed that if any of these bridges were to be re-rated lower using LRFR and item 67 drops to a 3 or lower, the bridge deck area would become eligible. In practice the 10-year rule would prevent a number of these structures from becoming deficient. If we assume a State was to re-rate their bridges and all this groups' area would become eligible, the total deck area on deficient bridges could rise by 9%. The likelihood of all this area becoming eligible is remote. Further studies of samples of bridges indicate that LRFR will give about a 7% higher rating than LFR, making this case even more unlikely.

Conclusions:

A recent research study of a small sample of bridges reported that LRFR average about 7% higher than LFR for inventory ratings. Using the charts for +5% and +10% (attachment 3) increase in item 66 for the factored bridge area category, the average change on a national level for area on deficient bridges is -1.7%. The maximum and minimum values range between –0.1% to –5.8% for the individual States. Earlier studies indicated that LRFR might yield lower inventory rating results, as an example looking at the charts for a 10% lower rating for item 66 results in a national increase of eligible deck area on deficient bridges of 5%. Considering the small magnitude of these changes, it is unlikely that the actions of a few states would affect the funding of other states. Full implementation of LRFR is likely to occur gradually, as LRFD becomes more common, making the changes in deck area on deficient bridges even more difficult to detect.

Recommendation:

Inventory Ratings:

For structures that were designed with allowable stress or load factor, the continued use of LFR reported in either a tons rating or a rating factor based on MS-18 would be considered the standard practice. If a State desires to rate a structure designed with allowable stress or load factor using LRFR, the corresponding HL-93 loading must be used. For structures designed or reconstructed using LRFD, then LRFR using HL-93 loading is to be used to rate the structure. For structures that use load tests to determine a load rating for item 66 those loads will be reported in rating factor based on a MS-18 truck, even though the actual load test was likely performed with other than an MS-18 truck configuration.

Operating rating:

Operating ratings (NBI item 63) offer a different set of issues and problems. Once LRFR inventory and operating ratings, based on design loads (HL-93), are determined for possible screening of allowed loadings, legal and permit load LRFR ratings for specific trucks like the AASHTO type 3 trucks can be used for posting and permitting (see LRFR specification flow chart 6-1). The tonnage for these specific trucks can be determined and used for posting and permitting. It is the intent of the FHWA to collect only inventory and operating ratings based on the design loadings, which in the case of LRFR would be HL-93, and for AS or LFR would be MS-18.

For structures that were designed with allowable stress or load factor, the continued use of LFR reported in either a tons rating based on a MS loading or a rating factor based on MS-18 loading would be considered the standard practice. We will convert LFR using MS-18 loadings to a rating factor by dividing the tonnage rating by 32.4 to determine a rating factor. If a State desires to rate a structure designed with allowable stress or load factor using LRFR methods, to report in the NBI, it may do so provided that HL-93 loadings are used. Structures designed with LRFD using HL-93 are to be rated and reported to the FHWA based on LRFR methods using HL-93 in a rating factor.

Attachments:

Attachment 1: March 22, 2004 FHWA memorandum
Attachment 2: Method for determining if a structure is deficient
Attachment 3: Results of data analysis by BMISL
Attachment 4: Results of data analysis by Office of Bridge Technology
Attachment 5: Proposed revisions to Coding Guide Item 67 table to allow rating factor

Attachment 1

MEMORANDUM

U.S. Department of Transportation
Federal Highway Administration

Subject: **INFORMATION**: Revisions to Items 63-66 to Support Load Reporting by Rating Factor

Date: March 22, 2004

From: */s/ Original signed by M. Myint Lwin, P.E.*
M. Myint Lwin, P.E.
Director, Office of Bridge Technology

Reply to Attn of: HIBT-30

To: Directors of Field Services
Division Administrators
Federal Lands Highway Division Engineers

The purpose of this memorandum is to notify your office that we are revising the Recording and Coding Guide for the Structure, Inventory and Appraisal of the Nation's Bridges, (Coding Guide) report number; FHWA-PD-96-001, to allow the use of three additional codes for items 63; method used to determine operating rating, and item 65; method used to determine inventory rating. Currently, these items report Operating and Inventory Rating in metric tons using a MS loading using either the Load Factor (LF), Allowable Stress (AS), or the Load and Resistance Factor Rating (LRFR) methods. The three additional codes (6, 7 and 8) will allow for the reporting of loads by rating factor instead of tons for the three rating methods.

The revised Table for item 63 and 65 is shown below.

Code	Description
1	Load factor (LF) reported in metric tons using MS loading.
2	Allowable stress (AS) reported in metric tons using MS loading.
3	Load and Resistant Factor Rating (LRFR) reported in metric tons using MS loading.
4	Load testing.
5	No rating analysis performed.
6	Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.
7	Allowable Stress (AS) rating reported by rating factor (RF) method using MS18 loading.
8	Load and Resistance Factor Rating (LRFR) rating reported by rating factor (RF) method using HL-93 loadings.

Currently, the Coding Guide requires that only MS loadings be used to determine these two ratings and that the LF method should be the standard rating method used for rating. This is revised to also include HL-93 loadings when reporting by a rating factor using LRFR (code 8). The use of codes 6, 7 and 8 in items 63 and 65 is

voluntary, however, we are encouraging the use of LRFR using HL-93 loadings (item 8) for all new or reconstructed structures that were designed by LRFD.

To report these rating factors to the FHWA items 64 and 66 have been revised to allow for both tons and rating factor input. The format for these data fields has already been defined as ##.#. The format for metric tons, therefore, will be coded as before. When reporting the load by rating factor method we will assume a different coding format of #.## to allow for reporting the rating factor in hundredths. As an example, if a rating factor were to be equal to 0.9 it would be coded as (090). Please see more examples that follow:

Examples:

Rating factor	**Code**
1.0	100
1.12	112
0.75	075

A rating factor (RF) of 1.00 using the LF or AS method with MS loadings would be the same as an MS18 loading. It is possible to convert a code 1 or 2 to a code 6 or 7 in item 63 or 65 by simply dividing the MS tons in item 64 or 66 by 32.4 and report that resultant as the rating factor in the corresponding items 64 or 66. An example is given below:

A structure that is rated with MS loadings using Load Factor (Code 1) is determined to have an operating rating capacity of 40.5 metric tons (MS-22.5). This metric tons value is divided by 32.4 metric tons (MS-18, the equivalent of a 36 ton HS-20 loading) to give a rating factor of 1.25.

40.5 / 32.4 = 1.25

This rating factor is then coded as a 6 in item 63 and coded as 125 in item 64. The same method can be used for converting item 63 from a 2 to a 7 or to convert item 65, Inventory Ratings, for items 1 to 6 and 2 to 7.

No such simple conversion is possible to convert code 3 to code 8 for items 63 or 65.

There are a couple of locations where the value of the MS load in metric tons is used in computations. In these cases the rating factor values for a code 6, 7 or 8 will be multipliedby 32.4 to get a value to be used in these formulas. The SI&A sheets have been revised to report the rating factor when used.

These changes will be available for use afterthe next bridge data submittal in April 2004. If you have any questions please feel free to contact Gary Moss (202) 366-4654 (gary.moss@fhwa.dot.gov) or Ann Shemaka (202) 366-1575 (ann.shemaka@fhwa.dot.gov) of my staff.

Attachment 2

Basic method for determining if a structure is deficient.

Non-Regulatory Supplement for subpart 650, subpart D

HIGHWAY BRIDGE REPLACEMENT AND REHABILITATION PROGRAM (23 CFR 650.409). The National Bridge Inventory will be used for preparing the selection list of bridges both on and off of Federal-aid highways. Highway bridges considered structurally deficient or functionally obsolete and with a sufficiency rating of 80 or less will be used for the selection list. Those bridges appearing on the list with a sufficiency rating of less than 50.0 will be eligible for replacement or rehabilitation while those with a sufficiency rating of 80.0 or less will be eligible for rehabilitation. To be considered for the classification of deficient bridge, a structure must be of bridge length, and had not been constructed or had major reconstruction within the past 10 years.

General Qualifications: In order to be considered for either the structurally deficient or functionally obsolete classification a highway bridge must meet the following:

Structurally Deficient -
A condition rating of 4 or less for
- Item 58 - Deck; or
- Item 59 - Superstructures; or
- Item 60 - Substructures; or
- Item 62 - Culvert and Retaining Walls. (1)

Or an appraisal rating of 2 or less for
- Item 67 - Structural Condition; or
- Item 71 - Waterway Adequacy. (2)

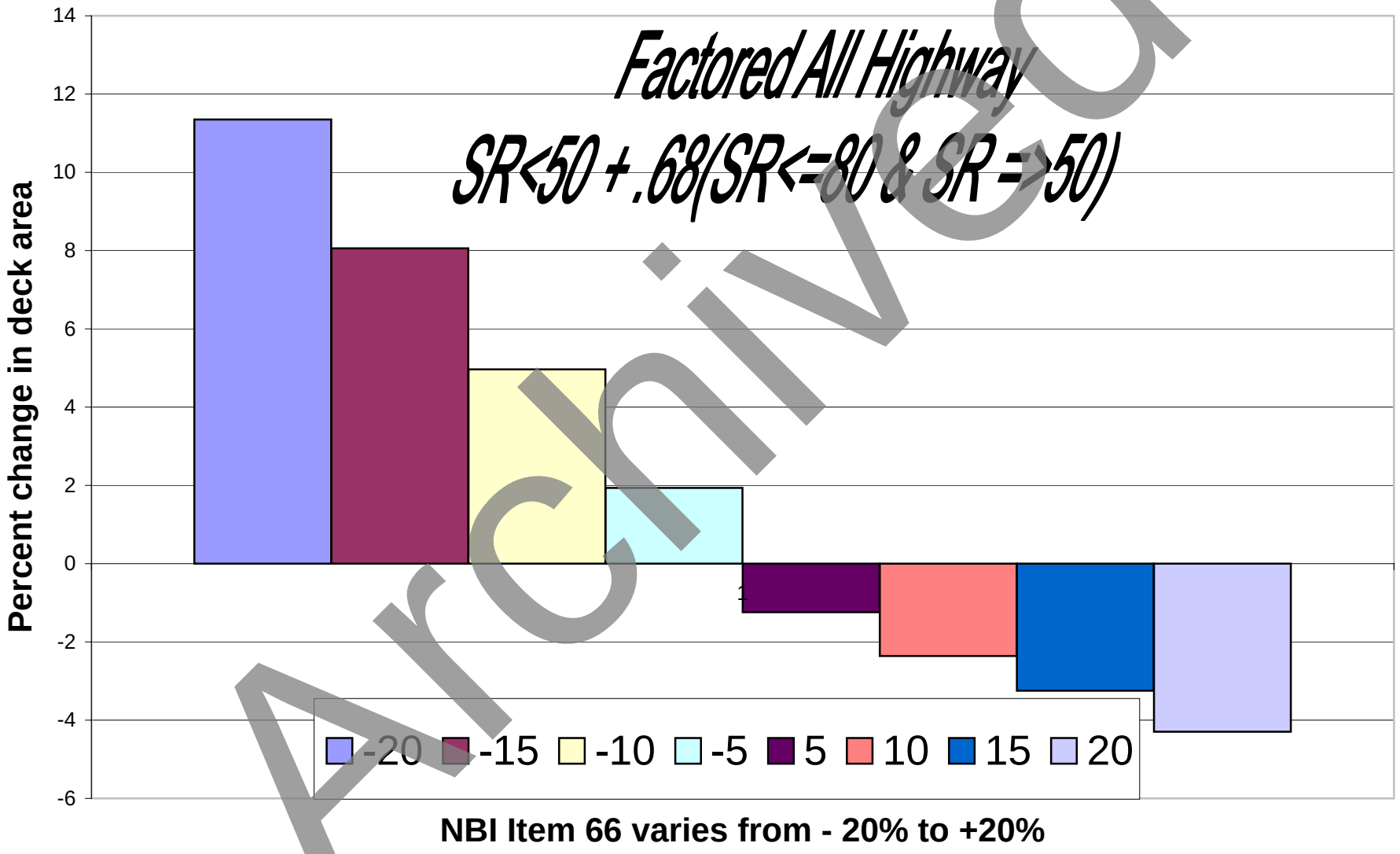
Functionally Obsolete -
An appraisal rating of 3 or less for
- Item 68 - Deck Geometry; or
- Item 69 - Underclearances; (3) or
- Item 72 - Approach Roadway Alignment.

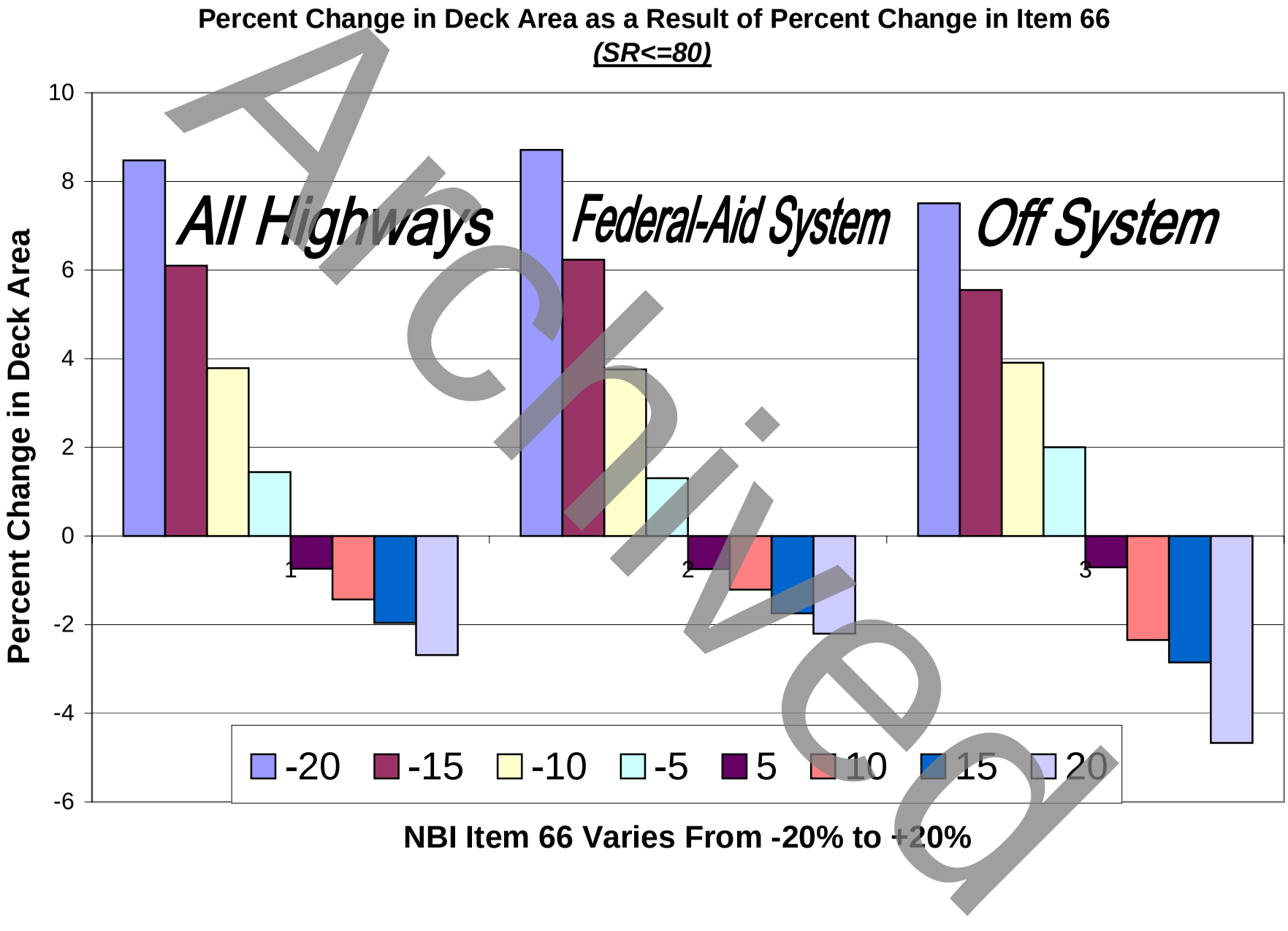
Or an appraisal rating of 3 for
- Item 67 - Structural Condition; or
- Item 71 - Waterway Adequacy. (2)

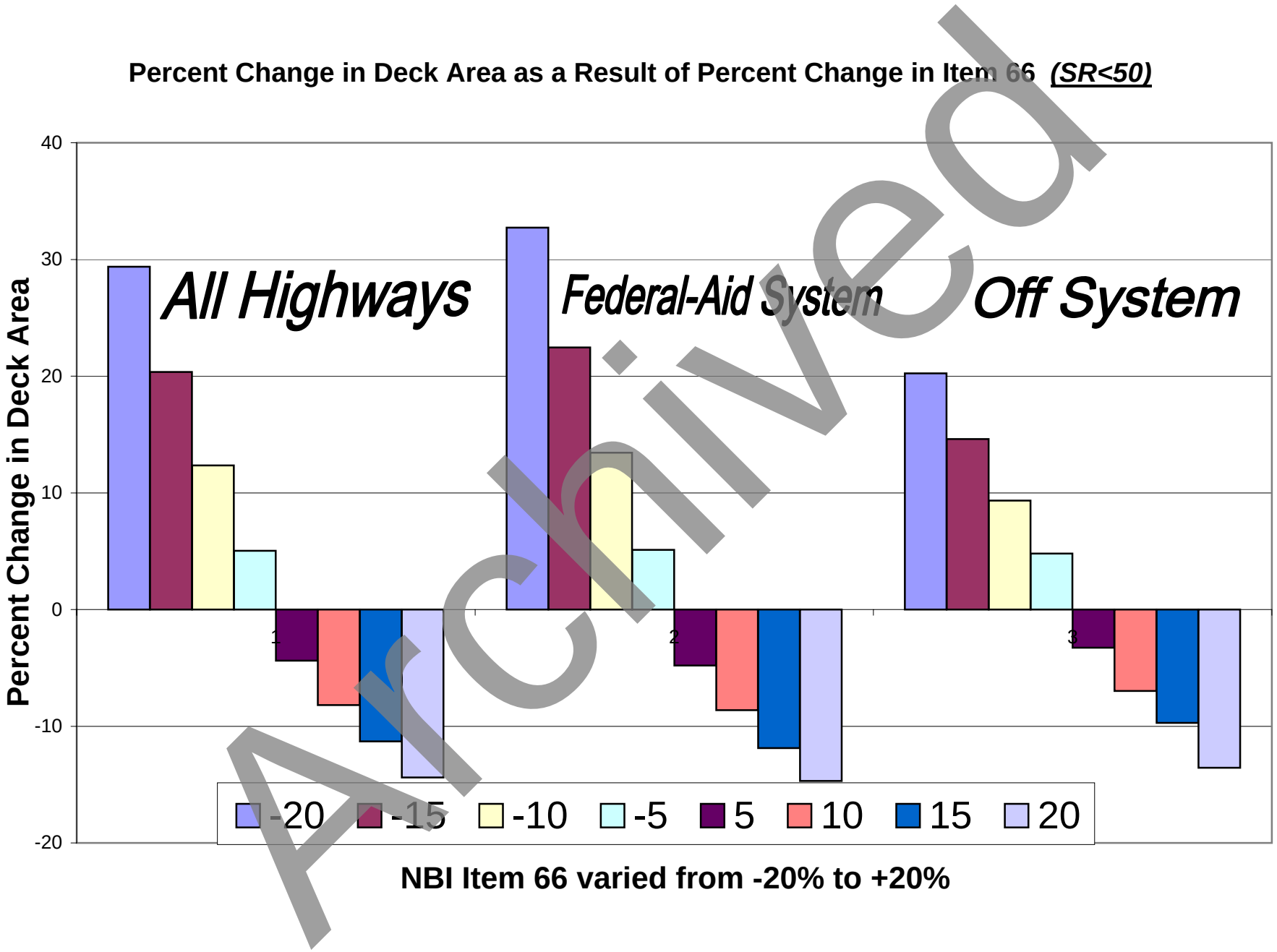
Any bridge classified as structurally deficient is excluded from the functionally obsolete category.

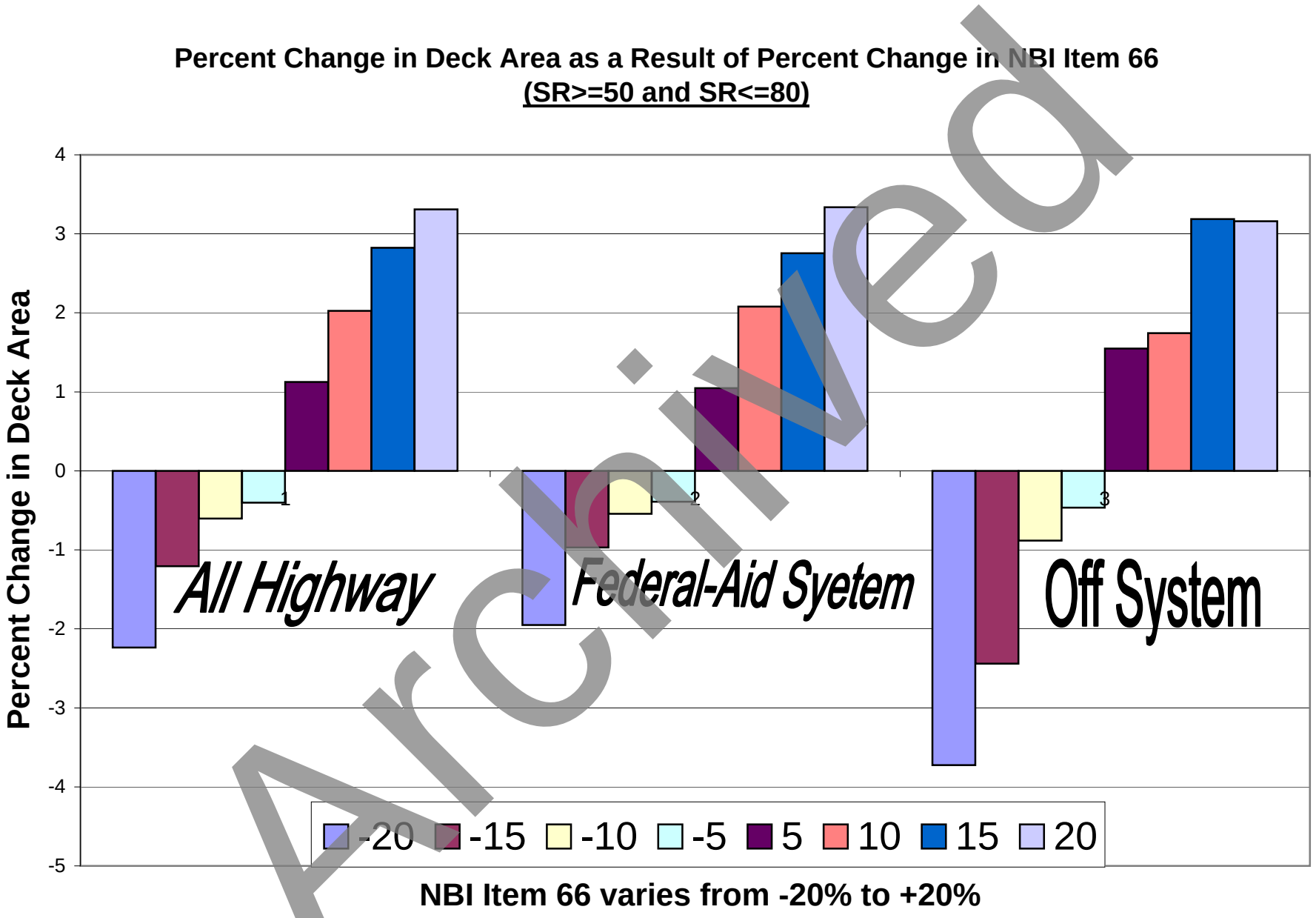
Foot Notes
1. Item 62 applies only if the last digit of Item 43 is coded 19.
2. Item 71 applies only if the last digit of Item 42 is coded 0, 5, 6, 7, 8 or 9.
3. Item 69 applies only if the last digit of Item 42 is coded 0, 1, 2, 4, 6, 7 or 8.

Percent Change in Deck area as a result of percent change in Item 66 *SR<=80*




Percent Change in Deck Area as a Result of Percent Change in Item 66
(SR<=80)
All Highways
Federal-Aid System
Off System
Percent Change in Deck Area
10
8
6
4
2
0
-2
-4
-6
1
2
3
-20
-15
-10
-5
5
10
15
20
NBI Item 66 Varies From -20% to +20%


Percent Change in Deck Area as a Result of Percent Change in Item 66 (SR<50)
Percent Change in Deck Area
40
30
20
10
0
-10
-20
All Highways
Federal-Aid System
Off System
1
2
3
-20
-15
-10
-5
5
10
15
20
NBI Item 66 varied from -20% to +20%


Percent Change in Deck Area as a Result of Percent Change in NBI Item 66
(SR>=50 and SR<=80)
Percent Change in Deck Area
4
3
2
1
0
-1
-2
-3
-4
-5
1
2
3
All Highway
Federal-Aid Syetem
Off System
-20
-15
-10
-5
5
10
15
20
NBI Item 66 varies from -20% to +20%

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES - 20 percent reduction in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	8.5	29.4	-2.2	8.7	32.7	-2.0	7.5	20.2	-8.7	11.3
MAXIMUM	35.2	233.5	43.0	39.2	300.5	45.8	30.4	6429.0	53.1	32.6
MINIMUM	0.8	6.7	-32.4	0.8	8.1	-30.9	0.2	1.2	-53.8	3.9
Alabama	5.3	32.5	-6.9	3.5	33.5	-5.9	10.3	31.2	-11.4	8.7
Alaska	13.3	26.2	-2.8	18.5	45.9	-2.4	0.2	1.2	-6.3	16.0
Arizona	28.1	31.7	27.4	34.7	30.5	35.3	6.0	31.6	-3.6	28.4
Arkansas	5.2	33.9	-20.4	5.3	37.0	-19.5	4.7	23.7	-26.5	10.4
California	13.4	42.8	6.8	13.6	44.2	7.1	11.0	30.6	2.1	15.8
Colorado	15.0	45.7	6.2	13.7	50.0	4.7	24.1	30.6	20.0	18.0
Connecticut	8.6	54.8	-8.0	9.0	53.3	-7.3	3.8	80.1	-17.1	13.8
Delaware	2.2	233.5	-11.5	1.5	300.5	-12.3	30.4	9.0	53.1	8.1
Washington, DC	9.7	94.3	-12.2	12.8	30.1	6.3	0.4	6429.0	-53.8	17.2
Florida	5.3	37.4	-4.9	5.4	44.3	-4.8	5.2	20.3	-5.2	8.6
Georgia	6.6	30.6	-11.9	6.3	33.5	-10.6	8.0	22.6	-24.3	10.6
Hawaii	8.1	44.4	-4.1	7.3	50.3	-5.4	19.2	10.7	30.8	11.9
Idaho	12.7	26.1	3.7	13.3	33.8	2.4	11.0	12.7	9.0	14.8
Illinois	9.0	29.5	2.1	7.9	32.6	0.9	16.5	19.2	14.1	11.2
Indiana	17.3	17.3	17.3	21.7	18.4	23.0	8.2	16.1	-1.9	17.3
Iowa	11.0	25.2	-10.8	9.5	30.0	-10.4	13.0	21.2	-12.0	14.2
Kansas	8.5	21.3	-1.0	10.5	31.0	1.9	4.3	12.6	-16.9	10.7
Kentucky	3.5	37.6	-10.6	4.2	47.8	-9.7	1.6	21.5	-14.6	7.6
Louisiana	2.2	22.4	-5.2	2.1	24.5	-7.5	2.4	17.5	-1.8	4.5
Maine	1.3	28.5	-17.1	1.5	27.5	-15.6	0.8	31.1	-21.9	5.7
Maryland	13.1	28.1	9.2	15.8	37.3	10.9	4.9	8.7	3.4	14.5
Massachussets	17.1	38.6	6.9	16.5	39.8	5.8	26.6	24.3	28.4	20.0
Michigan	3.4	34.2	-9.9	2.7	38.9	-11.5	7.8	12.2	4.5	7.2
Minnesota	5.1	29.4	-8.5	5.4	30.1	-7.1	4.2	27.2	-15.3	8.7
Mississippi	2.9	10.7	-7.0	2.5	14.5	-6.9	3.8	6.4	-8.1	4.6
Missouri	5.2	19.8	-12.0	5.4	23.3	-12.7	4.6	11.2	-8.6	8.1
Montana	6.4	19.6	0.1	5.5	37.9	-0.7	8.7	9.3	6.9	8.2
Nebraska	7.5	14.4	-5.6	13.0	27.0	1.6	2.8	8.5	-28.8	9.2
Nevada	35.2	6.7	43.0	39.2	8.1	45.8	17.7	3.8	26.7	32.6
New Hampshire	4.9	23.4	-11.5	6.3	26.5	-9.8	2.5	18.7	-15.0	8.3
New Jersey	4.4	17.2	-3.0	4.0	17.3	-3.9	10.8	14.6	9.0	6.3
New Mexico	16.0	23.4	13.0	16.4	23.0	14.0	14.9	24.6	8.2	16.9
New York	7.1	29.6	-3.5	7.0	29.8	-3.8	7.8	28.0	-1.3	10.0
North Carolina	2.4	18.6	-11.9	1.7	17.1	-9.7	3.8	20.7	-17.4	5.3
North Dakota	13.9	54.3	-17.4	11.4	162.3	-25.3	16.5	22.6	3.3	20.8
Ohio	16.6	43.3	8.9	17.4	57.4	9.0	14.7	25.3	8.5	19.2
Oklahoma	9.4	22.2	-4.7	10.2	25.6	-2.9	6.6	15.0	-18.1	12.0
Oregon	4.8	19.2	-10.7	5.1	19.0	-10.1	1.9	22.3	-16.5	7.6
Pennsylvania	3.8	26.7	-12.3	3.7	28.4	-13.5	3.9	18.7	-6.5	7.5
Rhode Island	0.8	25.8	-10.2	0.8	26.6	-10.4	0.6	8.8	-5.1	3.9
South Carolina	3.1	28.2	-15.8	2.6	30.2	-15.6	6.2	20.7	-18.5	7.3
South Dakota	7.5	14.6	0.2	7.8	10.0	6.4	6.9	18.5	-22.3	8.8
Tennessee	10.3	35.6	-5.0	11.1	39.3	-4.5	7.3	25.0	-6.8	14.1
Texas	16.0	61.6	6.4	17.0	72.2	6.5	12.8	35.8	5.9	19.5
Utah	15.8	47.7	5.7	14.3	55.6	3.5	26.2	24.9	27.4	19.1
Vermont	5.0	58.3	-32.4	6.1	59.6	-30.9	1.1	53.9	-38.3	13.7
Virginia	3.2	35.3	-11.2	1.9	37.8	-12.5	11.9	24.4	0.9	7.2
Washington	7.4	32.0	-6.4	7.5	32.5	-6.5	6.9	25.6	-6.1	11.0
West Virginia	12.3	23.9	3.3	14.7	26.0	6.0	4.7	17.4	-6.1	14.3
Wisconsin	6.5	26.6	-2.6	6.9	26.8	-0.8	4.1	26.1	-14.1	9.0
Wyoming	16.9	25.0	12.0	22.5	11.0	26.6	9.5	34.5	-17.9	18.1
Puerto Rico	21.3	36.9	13.2	24.5	39.9	17.4	8.1	28.1	-7.1	23.4

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES - 15 percent reduction in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM			NON FEDERAL AID SYSTEM			All Highways -
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	6.1	20.4	-1.2	6.2	22.5	-1.0	5.6	14.6	-2.4	8.1
MAXIMUM	24.2	90.3	29.0	29.7	68.0	31.3	30.4	6268.3	62.6	23.9
MINIMUM	0.4	6.7	-23.1	0.4	7.2	-21.6	0.2	0.0	-52.5	1.8
Alabama	4.7	23.8	-3.8	3.3	25.4	-3.6	8.7	21.7	-4.8	7.1
Alaska	13.3	19.7	5.4	18.5	34.2	6.5	0.2	1.2	-6.3	14.6
Arizona	24.2	19.2	25.2	29.7	18.7	31.3	5.7	18.0	1.1	23.9
Arkansas	4.4	24.5	-13.6	4.5	27.9	-13.9	3.9	13.3	-11.5	8.0
California	9.9	25.4	6.3	10.1	26.2	6.7	6.6	17.9	1.4	11.1
Colorado	9.5	35.3	2.0	8.2	40.5	0.2	18.2	17.0	18.9	11.9
Connecticut	8.1	42.7	-4.3	8.5	44.1	-4.5	2.7	19.6	-1.9	12.0
Delaware	1.6	32.6	-0.2	0.9	42.3	-1.0	30.4	0.0	62.6	2.4
Washington, DC	7.9	90.3	-13.5	10.3	27.7	3.9	0.4	6268.3	-52.5	15.2
Florida	3.2	32.2	-6.1	3.1	38.2	-6.1	3.5	17.4	-6.0	6.2
Georgia	3.8	21.1	-9.4	3.5	22.6	-8.3	5.3	16.8	-19.8	6.8
Hawaii	6.9	29.0	-0.5	7.2	33.2	-0.5	2.7	5.7	-1.3	9.2
Idaho	8.8	21.9	0.0	8.2	28.4	-2.5	10.3	10.5	10.2	10.9
Illinois	6.5	21.7	1.3	5.6	24.0	0.4	12.4	14.2	10.8	8.1
Indiana	13.6	12.6	14.1	17.2	12.9	18.9	6.0	12.3	-2.2	13.4
Iowa	7.1	19.4	-11.8	4.0	23.1	-14.5	11.1	16.2	-4.6	9.8
Kansas	5.4	16.7	-2.9	6.3	24.4	-1.3	3.6	9.7	-11.7	7.3
Kentucky	2.1	28.4	-8.9	2.4	35.6	-8.1	1.0	17.2	-12.3	5.3
Louisiana	1.3	15.2	-3.8	1.2	15.5	-4.9	1.5	14.3	-2.1	2.9
Maine	0.8	21.0	-13.0	0.8	19.1	-11.2	0.7	26.3	-18.4	4.0
Maryland	6.7	21.7	2.7	8.1	28.5	3.3	2.6	7.5	0.7	8.1
Massachussets	12.3	26.1	5.8	12.0	26.7	5.3	17.1	19.1	15.7	14.2
Michigan	2.6	7.6	0.5	2.1	7.2	0.1	6.4	9.2	4.5	3.2
Minnesota	3.7	21.7	-6.4	3.9	22.1	-5.2	2.8	20.6	-12.3	6.3
Mississippi	2.6	8.5	-4.8	2.3	11.7	-4.9	3.3	4.9	-3.9	3.9
Missouri	4.0	14.6	-8.6	4.2	17.4	-9.2	3.3	8.0	-5.8	6.1
Montana	5.1	9.7	3.0	5.2	15.2	3.2	5.1	6.6	0.8	5.7
Nebraska	5.8	11.4	-4.9	9.5	21.6	-0.3	2.6	6.6	-19.4	7.1
Nevada	24.2	6.7	29.0	25.7	8.1	29.4	17.7	3.8	26.7	22.6
New Hampshire	3.5	15.9	-7.5	4.3	18.1	-6.6	1.8	12.3	-9.5	5.7
New Jersey	2.7	11.6	-2.4	2.6	11.7	-2.7	4.6	11.0	1.5	4.1
New Mexico	11.3	12.4	10.9	11.1	9.2	11.8	12.2	20.3	6.7	11.5
New York	3.7	24.1	-5.9	3.6	24.7	-6.4	4.6	18.9	-1.9	6.4
North Carolina	1.8	13.5	-8.6	1.3	12.1	-6.6	2.6	15.7	-13.8	3.9
North Dakota	12.1	28.0	-0.2	7.9	68.0	-6.7	16.4	16.2	16.8	14.8
Ohio	12.6	34.3	6.3	13.5	48.8	6.1	10.2	15.8	6.9	14.7
Oklahoma	7.4	15.6	-1.6	8.2	17.8	0.0	4.8	10.9	-13.4	9.0
Oregon	4.2	13.1	-5.5	4.4	13.0	-5.1	1.9	13.8	-9.0	5.9
Pennsylvania	1.7	17.5	-9.3	1.5	18.3	-10.3	2.7	13.6	-5.0	4.3
Rhode Island	0.4	11.8	-4.7	0.4	12.0	-4.7	0.6	7.9	-4.5	1.8
South Carolina	2.6	15.2	-6.9	2.4	14.6	-5.7	4.2	17.4	-18.4	4.8
South Dakota	4.0	10.7	-2.8	4.2	7.6	2.1	3.7	13.3	-20.4	5.3
Tennessee	6.5	24.5	-4.3	7.1	28.0	-4.5	4.7	14.8	-3.4	9.2
Texas	12.9	42.9	6.6	13.6	50.8	6.5	10.7	23.8	6.8	15.2
Utah	10.8	36.9	2.5	9.8	41.8	1.5	17.6	22.6	13.1	13.5
Vermont	3.9	42.1	-23.1	4.6	42.5	-21.6	1.1	41.0	-28.6	10.1
Virginia	2.1	18.5	-5.2	1.4	19.1	-5.8	7.6	15.6	0.5	4.2
Washington	6.3	23.5	-3.4	6.4	23.6	-3.1	4.8	22.2	-7.3	8.8
West Virginia	7.9	18.4	-0.4	9.2	20.3	0.6	3.7	12.4	-3.8	9.7
Wisconsin	4.6	11.6	1.4	4.9	10.5	2.7	3.0	14.9	-6.8	5.5
Wyoming	12.0	22.6	5.6	14.3	11.0	15.5	8.9	30.4	-14.7	13.6
Puerto Rico	19.7	24.5	17.2	23.0	26.2	21.6	6.1	19.4	-4.0	20.3

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES - 10 percent reduction in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	3.8	12.4	-0.6	3.8	13.4	-0.5	3.9	9.3	-0.9	5.0
MAXIMUM	21.8	89.8	23.4	27.3	63.6	29.7	16.3	6268.3	18.9	21.2
MINIMUM	0.0	0.0	-14.3	0.0	0.0	-9.4	0.0	0.0	-52.5	0.0
Alabama	3.3	14.5	-1.7	1.7	13.9	-2.1	7.9	15.3	0.2	4.7
Alaska	12.8	16.3	8.4	17.9	28.4	9.8	0.0	1.0	-6.3	13.5
Arizona	21.8	13.5	23.4	27.3	10.8	29.7	3.4	16.0	-1.3	21.2
Arkansas	2.1	13.2	-7.8	2.0	14.7	-7.9	2.6	8.4	-7.0	4.1
California	4.8	20.4	1.3	4.8	21.4	1.3	4.9	10.9	2.1	6.1
Colorado	5.9	27.0	-0.2	4.4	31.2	-2.3	16.3	12.1	18.9	7.9
Connecticut	7.0	31.8	-1.9	7.4	32.7	-1.9	2.4	15.1	-1.1	9.8
Delaware	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington, DC	7.2	89.8	-14.3	9.4	27.2	2.8	0.4	6268.3	-52.5	14.5
Florida	2.0	20.0	-3.7	1.9	23.1	-3.6	2.6	12.5	-4.1	3.9
Georgia	2.8	14.7	-6.4	2.6	16.2	-5.9	3.7	10.6	-11.6	4.8
Hawaii	2.6	21.4	-3.6	2.6	24.4	-3.8	2.7	4.4	0.4	4.6
Idaho	5.4	18.4	-3.4	4.1	24.8	-6.8	8.7	7.3	10.5	7.4
Illinois	5.1	10.0	3.5	4.4	11.0	2.5	9.9	6.4	13.0	5.6
Indiana	8.5	8.0	8.8	10.8	8.9	11.5	3.7	7.1	-0.5	8.4
Iowa	5.3	12.5	-5.8	3.1	14.5	-7.9	8.1	10.9	-0.4	6.9
Kansas	3.5	11.2	-2.3	3.9	17.3	-1.7	2.6	5.8	-5.5	4.8
Kentucky	1.3	12.2	-3.2	1.6	14.7	-2.6	0.5	8.2	-5.7	2.6
Louisiana	0.7	7.4	-1.8	0.5	6.9	-2.2	1.0	8.6	-1.2	1.5
Maine	0.7	17.7	-10.9	0.7	15.9	-9.4	0.7	22.6	-15.6	3.4
Maryland	3.2	5.0	2.7	3.8	4.7	3.6	1.2	5.8	-0.6	3.4
Massachussets	7.9	15.9	4.1	7.7	16.4	3.7	10.8	9.7	11.7	9.0
Michigan	1.1	3.5	0.0	0.7	3.4	-0.4	3.8	4.2	3.5	1.4
Minnesota	1.6	17.9	-7.6	1.7	19.3	-7.1	0.8	13.6	-10.0	3.9
Mississippi	2.0	5.0	-1.8	1.8	6.8	-2.1	2.6	3.0	0.8	2.7
Missouri	1.6	8.9	-7.0	1.5	10.4	-7.5	2.1	5.3	-4.2	3.1
Montana	3.8	7.3	2.1	4.1	12.1	2.6	2.9	4.6	-1.8	4.2
Nebraska	5.1	6.6	2.2	8.7	11.3	6.7	1.9	4.4	-12.1	5.4
Nevada	17.6	0.6	22.3	20.1	0.0	24.4	6.7	1.7	9.9	16.1
New Hampshire	1.7	10.1	-5.7	2.0	12.3	-6.2	1.2	6.7	-4.6	3.3
New Jersey	1.1	5.1	-1.2	1.1	5.1	-1.3	1.5	4.5	0.0	1.7
New Mexico	5.4	8.2	4.3	5.8	5.8	5.8	3.9	14.1	-3.0	5.8
New York	2.5	11.9	-2.0	2.4	12.1	-2.2	2.7	10.0	-0.6	3.7
North Carolina	1.1	8.5	-5.4	0.7	7.6	-4.5	2.0	9.9	-7.9	2.5
North Dakota	7.2	22.7	-4.9	5.7	63.6	-8.4	8.6	10.6	4.3	9.8
Ohio	7.9	15.8	5.6	8.5	21.3	5.8	6.4	8.8	4.9	8.7
Oklahoma	5.1	9.7	0.0	5.4	10.7	0.8	4.1	7.5	-6.1	6.0
Oregon	3.2	8.6	-2.5	3.4	8.9	-2.7	1.5	4.6	-1.3	4.3
Pennsylvania	0.9	11.2	-6.3	0.7	12.1	-7.3	1.8	7.1	-1.9	2.6
Rhode Island	0.3	11.4	-4.5	0.3	11.9	-4.7	0.6	1.4	0.0	1.7
South Carolina	1.6	11.7	-6.0	1.4	10.9	-4.9	3.2	14.8	-16.6	3.3
South Dakota	2.5	6.3	-1.4	2.7	4.1	1.8	2.2	8.2	-12.8	3.2
Tennessee	4.8	12.1	0.5	5.4	13.0	1.3	2.7	9.5	-2.7	5.9
Texas	8.8	26.5	5.0	8.9	30.9	4.7	8.3	16.0	6.0	10.1
Utah	9.2	32.1	1.9	8.7	38.3	1.0	12.6	14.2	11.1	11.6
Vermont	3.4	17.4	-6.5	4.0	15.4	-4.0	1.1	24.4	-16.2	5.6
Virginia	1.5	13.3	-3.8	1.0	14.0	-4.3	5.4	10.3	1.1	3.0
Washington	3.1	15.2	-3.7	3.1	15.3	-3.6	3.1	14.5	-4.8	4.9
West Virginia	1.9	7.6	-2.7	1.8	7.5	-2.6	2.3	8.2	-2.8	2.9
Wisconsin	2.7	6.4	1.0	2.8	5.1	1.9	2.3	10.8	-4.7	3.2
Wyoming	6.8	10.6	4.5	8.7	7.2	9.2	4.2	12.9	-5.2	7.4
Puerto Rico	9.0	12.9	7.0	10.1	13.6	8.5	4.5	10.9	-0.3	9.5

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES - 5 percent reduction in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	1.4	5.0	-0.4	1.3	5.1	-0.4	2.0	4.8	-0.5	1.9
MAXIMUM	7.5	62.0	9.1	8.8	56.9	10.4	10.0	3489.8	11.6	7.1
MINIMUM	0.0	0.0	-16.1	0.0	0.0	-13.2	0.0	0.0	-29.5	0.0
Alabama	2.0	8.8	-1.0	0.7	7.9	-1.6	6.0	10.0	1.8	2.9
Alaska	0.9	11.7	-12.6	1.3	20.2	-13.2	0.0	0.9	-5.5	3.1
Arizona	3.6	4.0	3.6	4.3	1.5	4.7	1.5	6.2	-0.2	3.7
Arkansas	1.3	7.8	-4.6	1.2	8.6	-4.6	1.4	5.1	-4.8	2.5
California	2.3	3.8	2.0	2.4	3.7	2.1	1.3	4.8	-0.3	2.4
Colorado	3.3	5.5	2.7	2.8	5.5	2.1	7.1	5.8	7.9	3.5
Connecticut	0.3	11.2	-3.7	0.1	11.2	-4.0	2.0	10.0	-0.1	1.5
Delaware	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Washington, DC	0.0	62.0	-16.1	0.0	27.2	-10.1	0.0	3489.8	-29.5	5.5
Florida	0.5	5.6	-1.1	0.6	4.0	-0.3	0.4	9.8	-6.0	1.1
Georgia	1.2	5.9	-2.4	1.2	6.7	-2.2	1.2	3.6	-4.2	2.0
Hawaii	1.5	11.2	-1.7	1.5	12.6	-1.8	2.7	3.6	1.5	2.6
Idaho	2.7	12.6	-3.9	2.6	18.6	-5.9	3.0	2.1	4.3	4.3
Illinois	1.3	3.4	0.6	1.0	3.7	0.2	3.6	2.5	4.6	1.5
Indiana	6.4	3.6	8.0	8.8	4.7	10.4	1.4	2.5	-0.1	6.0
Iowa	3.1	6.7	-2.5	1.6	8.5	-4.9	5.0	5.3	4.1	3.9
Kansas	1.0	5.2	-2.1	1.0	7.6	-1.8	1.1	3.0	-3.9	1.7
Kentucky	1.1	5.5	-0.6	1.5	6.0	0.0	0.2	4.6	-3.5	1.7
Louisiana	0.2	3.2	-1.0	0.0	2.6	-1.1	0.4	4.6	-0.8	0.5
Maine	0.3	7.1	-4.4	0.2	5.3	-3.1	0.4	11.8	-8.2	1.4
Maryland	1.1	1.8	0.9	1.4	2.0	1.2	0.3	1.5	-0.1	1.2
Massachussets	2.1	4.5	1.0	1.7	4.4	0.4	8.7	4.8	11.6	2.4
Michigan	0.4	2.4	-0.4	0.1	2.4	-0.8	2.6	2.4	2.8	0.7
Minnesota	0.7	12.7	-6.0	0.8	14.5	-6.0	0.2	7.2	-5.7	2.5
Mississippi	1.3	2.0	0.3	1.0	2.5	-0.2	1.9	1.5	4.1	1.4
Missouri	0.6	4.3	-3.8	0.6	5.1	-4.0	0.6	2.6	-3.2	1.3
Montana	1.4	3.3	0.5	1.7	5.9	0.9	0.6	1.8	-2.5	1.6
Nebraska	1.2	2.8	-1.8	1.4	4.2	-0.8	1.1	2.1	-4.7	1.6
Nevada	2.0	0.6	2.4	1.6	0.0	2.0	3.7	1.7	4.9	1.9
New Hampshire	0.6	7.0	-4.9	0.5	8.8	-6.1	0.9	4.1	-2.6	1.8
New Jersey	0.2	1.4	-0.5	0.1	1.2	-0.5	0.5	3.2	-0.8	0.3
New Mexico	1.4	4.4	0.2	1.3	0.7	1.6	1.7	13.5	-6.5	1.8
New York	0.9	3.5	-0.2	1.0	3.4	-0.2	0.9	4.4	-0.7	1.3
North Carolina	0.5	4.6	-3.1	0.2	3.5	-2.3	1.2	6.2	-4.9	1.3
North Dakota	4.5	18.3	-6.2	3.8	56.9	-9.1	5.2	6.9	1.3	6.8
Ohio	2.7	7.6	1.3	2.2	10.5	0.5	3.9	4.0	3.9	3.2
Oklahoma	1.0	4.6	-3.0	0.8	5.0	-2.8	1.8	3.8	-4.0	1.7
Oregon	0.2	3.9	-3.7	0.2	4.1	-4.0	0.1	1.5	-1.1	0.9
Pennsylvania	0.4	3.6	-1.8	0.3	3.8	-2.1	0.9	2.9	-0.6	1.0
Rhode Island	0.2	9.9	-4.0	0.2	10.4	-4.2	0.3	0.0	0.5	1.4
South Carolina	0.7	7.4	-4.4	0.6	6.4	-3.2	1.1	11.1	-16.0	1.8
South Dakota	0.8	2.2	-0.7	0.8	0.8	0.8	0.7	3.4	-6.2	1.0
Tennessee	1.3	5.4	-1.2	1.3	6.1	-1.4	1.2	3.3	-0.5	1.9
Texas	3.3	9.2	2.1	3.0	9.6	1.7	4.6	8.1	3.6	3.8
Utah	1.8	24.8	-5.5	0.6	30.6	-7.2	10.0	8.3	11.5	4.2
Vermont	1.0	7.3	-3.5	1.1	7.4	-3.2	0.5	7.2	-4.4	2.0
Virginia	0.6	2.9	-0.4	0.4	2.3	-0.3	2.2	5.6	-0.8	0.9
Washington	1.6	5.5	-0.6	1.7	5.1	-0.3	1.0	10.3	-5.4	2.2
West Virginia	1.2	4.1	-1.1	1.3	4.5	-1.2	0.9	2.8	-0.6	1.7
Wisconsin	1.0	2.5	0.3	1.0	1.5	0.8	1.2	5.7	-2.6	1.2
Wyoming	2.3	5.2	0.5	2.5	6.3	1.2	2.0	4.4	-0.8	2.7
Puerto Rico	7.5	4.5	9.1	8.6	5.0	10.2	3.2	3.1	3.3	7.1

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES + 20 percent increase in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	-2.7	-14.4	3.3	-2.2	-14.7	3.3	-4.7	-13.5	3.2	-4.3
MAXIMUM	0.0	-0.6	17.0	0.0	0.0	18.0	0.0	-3.0	36.7	-0.1
MINIMUM	-10.0	-41.0	-3.7	-8.8	-43.8	-4.6	-12.3	-56.4	-7.3	-12.0
Alabama	-3.0	-18.3	3.8	-1.8	-20.6	4.1	-6.5	-15.2	2.5	-4.9
Alaska	0.0	-3.6	4.3	0.0	-2.0	1.5	-0.1	-5.6	33.7	-0.8
Arizona	-1.7	-33.8	4.5	-1.4	-27.2	2.5	-2.8	-44.4	12.7	-3.9
Arkansas	-1.8	-22.8	17.0	-1.1	-25.6	18.0	-4.9	-13.7	9.5	-5.6
California	-2.5	-14.7	0.3	-2.5	-15.2	0.2	-2.2	-11.5	2.0	-3.5
Colorado	-4.4	-19.9	0.1	-3.9	-19.0	-0.1	-8.0	-22.9	1.6	-5.9
Connecticut	-0.9	-4.9	0.6	-0.7	-4.9	0.8	-3.5	-5.9	-2.8	-1.3
Delaware	0.0	-11.5	0.7	0.0	-14.1	0.6	0.0	-3.0	3.2	-0.3
Washington, DC	-0.1	-0.6	0.0	-0.1	0.0	-0.2	0.0	-56.4	0.5	-0.1
Florida	-1.2	-13.0	2.6	-1.0	-15.1	2.7	-1.8	-7.7	2.2	-2.4
Georgia	-2.6	-23.9	13.7	-2.5	-27.7	13.2	-2.9	-12.9	18.9	-6.2
Hawaii	-2.4	-41.0	10.4	-2.2	-43.8	10.0	-5.3	-24.9	21.4	-6.5
Idaho	-6.2	-12.1	-2.2	-5.5	-11.0	-2.6	-7.9	-13.9	-0.7	-7.1
Illinois	-1.3	-11.7	2.3	-0.8	-11.7	2.4	-4.8	-11.7	1.4	-2.4
Indiana	-2.0	-11.3	3.6	-1.9	-11.1	1.7	-2.1	-11.4	9.9	-3.4
Iowa	-6.5	-17.2	10.1	-3.1	-19.3	12.6	-10.8	-15.4	3.4	-8.8
Kansas	-8.5	-20.6	0.6	-6.8	-27.3	1.8	-12.3	-14.6	-6.4	-10.5
Kentucky	-0.5	-9.8	3.3	-0.1	-8.7	2.6	-1.7	-11.6	6.3	-1.6
Louisiana	-1.3	-9.6	1.8	-0.3	-8.3	3.1	-2.8	-12.6	-0.1	-2.2
Maine	-2.3	-27.0	14.5	-2.2	-28.3	15.0	-2.8	-23.5	12.8	-6.3
Maryland	-2.0	-6.9	-0.6	-2.3	-6.3	-1.3	-1.1	-8.1	1.6	-2.4
Massachussets	-4.9	-12.4	-1.3	-4.7	-12.5	-1.1	-7.8	-11.3	-5.2	-5.9
Michigan	-0.9	-3.7	0.3	-0.3	-3.3	0.8	-4.5	-5.3	-4.0	-1.2
Minnesota	-1.4	-20.9	9.5	-0.7	-22.8	10.4	-4.4	-15.2	4.8	-4.2
Mississippi	-1.7	-14.0	13.9	-1.1	-20.8	14.3	-3.2	-6.3	10.9	-4.3
Missouri	-7.4	-19.2	6.6	-5.9	-20.3	8.5	-11.9	-16.6	-2.7	-9.8
Montana	-2.8	-15.1	3.1	-0.6	-12.8	1.8	-8.3	-16.4	13.9	-4.4
Nebraska	-10.0	-18.2	5.8	-8.8	-27.7	6.5	-11.1	-13.8	3.4	-12.0
Nevada	-2.2	-5.4	-1.3	-2.6	-2.8	-2.6	0.0	-10.3	6.7	-2.5
New Hampshire	-1.0	-13.1	9.7	-0.9	-13.1	8.9	-1.3	-13.1	11.4	-3.2
New Jersey	-2.2	-6.5	0.3	-2.1	-6.3	0.4	-3.5	-9.2	-0.6	-2.8
New Mexico	-0.9	-8.2	2.2	-0.9	-3.9	0.1	-0.7	-19.1	12.0	-1.8
New York	-2.4	-8.7	0.6	-2.3	-8.3	0.6	-3.1	-11.5	0.7	-3.2
North Carolina	-1.3	-13.0	9.0	-0.4	-10.6	7.1	-3.1	-16.6	13.9	-3.4
North Dakota	-7.3	-13.4	-2.6	-3.7	-15.4	-0.9	-11.1	-12.8	-7.3	-8.4
Ohio	-5.3	-10.9	-3.7	-5.1	-7.9	-4.6	-5.9	-14.7	-0.8	-5.9
Oklahoma	-1.9	-11.8	9.1	-1.1	-12.2	8.5	-4.7	-10.9	14.0	-3.9
Oregon	-2.6	-12.4	7.9	-2.6	-12.5	8.2	-2.2	-10.9	5.7	-4.5
Pennsylvania	-2.6	-14.7	5.8	-2.9	-15.8	6.2	-1.6	-9.9	4.2	-4.6
Rhode Island	-0.2	-1.8	0.6	-0.1	-0.5	0.1	-1.2	-26.5	16.1	-0.4
South Carolina	-2.7	-20.4	10.8	-2.6	-18.9	8.1	-3.1	-26.3	36.7	-5.7
South Dakota	-2.5	-14.1	9.3	-0.9	-8.9	3.9	-5.2	-18.6	28.6	-4.8
Tennessee	-1.9	-17.6	7.5	-1.7	-17.6	7.1	-2.7	-17.7	9.2	-4.3
Texas	-2.0	-24.6	2.8	-1.5	-28.4	3.5	-3.8	-15.4	-0.3	-3.8
Utah	-0.4	-13.7	3.8	-0.2	-12.0	2.9	-2.2	-18.5	12.5	-1.8
Vermont	-3.4	-17.8	6.7	-3.8	-17.1	5.3	-1.8	-20.3	12.1	-5.7
Virginia	-1.2	-13.0	4.1	-0.9	-12.6	3.8	-3.3	-15.1	7.0	-2.7
Washington	-2.9	-17.6	5.5	-2.6	-18.0	6.0	-7.2	-13.0	-3.2	-5.0
West Virginia	-1.9	-9.9	4.3	-2.2	-9.4	3.3	-1.1	-11.4	7.7	-3.3
Wisconsin	-1.9	-13.3	3.2	-0.9	-12.0	3.4	-7.2	-17.6	1.4	-3.4
Wyoming	-4.3	-10.2	-0.7	-4.2	-4.8	-4.0	-4.4	-13.9	6.2	-5.2
Puerto Rico	-4.1	-16.0	2.0	-4.8	-16.6	0.7	-1.2	-14.1	8.6	-5.7

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES
+ 15 percent increase in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	-2.0	-11.3	2.8	-1.7	-11.9	2.8	-2.9	-9.7	3.2	-3.2
MAXIMUM	0.0	-0.6	14.6	0.0	0.0	16.1	0.0	-2.9	27.2	-0.1
MINIMUM	-5.8	-35.1	-3.2	-5.5	-40.5	-4.2	-7.9	-56.4	-4.5	-7.3
Alabama	-1.8	-14.4	3.8	-0.9	-17.2	4.2	-4.3	-10.6	2.3	-3.4
Alaska	0.0	-2.2	2.6	0.0	-1.6	1.2	-0.1	-2.9	17.3	-0.5
Arizona	-1.2	-30.7	4.5	-1.2	-25.1	2.3	-1.1	-39.5	13.3	-3.3
Arkansas	-1.0	-16.9	13.1	-0.6	-19.0	13.8	-3.1	-9.9	8.1	-3.9
California	-1.8	-12.5	0.6	-1.8	-13.0	0.5	-1.7	-9.3	1.8	-2.7
Colorado	-3.5	-16.0	0.0	-3.1	-15.8	0.1	-6.8	-16.5	-0.5	-4.7
Connecticut	-0.8	-4.9	0.7	-0.6	-4.9	1.0	-3.5	-5.9	-2.8	-1.2
Delaware	0.0	-11.5	0.7	0.0	-14.1	0.6	0.0	-3.0	3.2	-0.3
Washington, DC	-0.1	-0.6	0.0	-0.1	0.0	-0.2	0.0	-56.4	0.5	-0.1
Florida	-1.1	-12.6	2.6	-1.0	-14.9	2.7	-1.5	-6.8	2.1	-2.2
Georgia	-2.3	-17.3	9.2	-2.3	-20.4	8.9	-1.9	-8.4	12.3	-4.8
Hawaii	-2.0	-35.1	9.0	-1.9	-40.5	9.4	-3.6	-4.9	-1.7	-5.5
Idaho	-5.6	-11.1	-1.9	-5.5	-11.0	-2.6	-5.9	-11.3	0.6	-6.5
Illinois	-1.0	-7.6	1.2	-0.6	-7.1	1.3	-3.9	-9.4	1.0	-1.7
Indiana	-1.3	-8.6	3.0	-1.3	-9.0	1.7	-1.3	-8.0	7.3	-2.4
Iowa	-4.8	-12.8	7.6	-2.5	-14.9	9.5	-7.7	-11.0	2.6	-6.5
Kansas	-5.2	-16.1	2.9	-5.1	-24.0	2.8	-5.3	-8.9	3.8	-7.0
Kentucky	-0.3	-7.6	2.7	-0.1	-6.9	2.1	-0.9	-8.8	5.5	-1.2
Louisiana	-0.6	-8.1	2.2	-0.2	-7.8	3.0	-1.2	-9.0	0.9	-1.4
Maine	-1.3	-24.7	14.6	-1.0	-26.9	16.1	-2.4	-18.8	9.9	-5.1
Maryland	-1.8	-5.3	-0.8	-2.3	-4.8	-1.7	-0.3	-6.5	2.1	-2.1
Massachussets	-3.8	-11.3	-0.1	-3.7	-11.6	0.0	-5.0	-8.7	-2.2	-4.8
Michigan	-0.8	-3.3	0.3	-0.2	-3.1	0.9	-4.4	-4.3	-4.5	-1.1
Minnesota	-1.3	-19.2	8.8	-0.7	-21.4	9.8	-3.8	-12.4	3.5	-3.9
Mississippi	-0.8	-9.0	9.6	-0.6	-13.6	9.5	-1.2	-3.8	10.7	-2.5
Missouri	-5.4	-14.8	5.7	-4.6	-16.2	7.0	-7.9	-11.6	-0.7	-7.3
Montana	-1.9	-11.3	2.7	-0.6	-12.4	1.7	-5.1	-10.7	10.2	-3.1
Nebraska	-5.8	-10.3	2.9	-5.5	-13.5	0.9	-6.1	-8.8	9.2	-6.9
Nevada	-2.2	-5.4	-1.3	-2.6	-2.8	-2.6	0.0	-10.3	6.7	-2.5
New Hampshire	-0.7	-9.8	7.3	-0.9	-10.5	6.8	-0.4	-8.7	8.5	-2.3
New Jersey	-2.1	-5.3	-0.3	-2.1	-5.3	-0.2	-3.0	-6.5	-1.3	-2.6
New Mexico	-0.6	-7.6	2.3	-0.7	-3.9	0.4	-0.2	-16.7	11.1	-1.5
New York	-2.0	-7.1	0.3	-2.0	-6.9	0.3	-2.5	-9.0	0.4	-2.7
North Carolina	-0.4	-9.3	7.5	-0.3	-7.9	5.2	-0.4	-11.3	13.4	-2.0
North Dakota	-3.2	-8.1	0.7	-1.4	-6.5	-0.1	-5.0	-8.6	2.9	-4.0
Ohio	-4.4	-8.5	-3.2	-4.5	-6.4	-4.2	-4.1	-11.2	0.0	-4.8
Oklahoma	-1.0	-8.6	7.3	-0.6	-9.1	6.7	-2.5	-7.4	12.1	-2.5
Oregon	-1.6	-9.6	7.0	-1.6	-9.8	7.3	-1.2	-7.2	4.3	-3.2
Pennsylvania	-2.1	-12.5	5.2	-2.4	-13.7	5.5	-0.8	-7.3	3.7	-3.8
Rhode Island	-0.2	-1.6	0.5	-0.1	-0.5	0.1	-1.2	-23.9	14.3	-0.3
South Carolina	-1.5	-15.2	8.8	-1.3	-13.8	6.9	-2.7	-20.2	27.2	-3.8
South Dakota	-1.9	-11.1	7.5	-0.8	-6.3	2.6	-3.8	-15.3	25.2	-3.7
Tennessee	-1.6	-15.1	6.5	-1.6	-15.6	6.2	-1.7	-13.7	7.9	-3.6
Texas	-1.5	-20.1	2.5	-1.2	-23.7	3.1	-2.6	-11.5	0.1	-2.9
Utah	-0.2	-11.8	3.5	-0.2	-12.0	2.9	-0.6	-11.2	9.1	-1.4
Vermont	-2.6	-11.6	3.8	-3.0	-10.6	2.3	-1.0	-14.9	9.5	-4.0
Virginia	-0.8	-8.3	2.6	-0.7	-8.0	2.3	-1.6	-9.5	5.4	-1.7
Washington	-2.2	-14.7	4.8	-2.2	-15.1	5.0	-2.7	-9.4	1.9	-4.1
West Virginia	-1.6	-7.9	3.3	-2.0	-7.5	2.3	-0.5	-9.2	7.0	-2.7
Wisconsin	-1.6	-10.7	2.5	-0.7	-9.3	2.7	-6.1	-15.2	1.5	-2.7
Wyoming	-2.8	-6.4	-0.6	-2.4	-4.8	-1.5	-3.3	-7.5	1.3	-3.3
Puerto Rico	-3.5	-11.6	0.6	-4.4	-12.9	-0.4	0.0	-7.6	5.8	-4.6

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES + 10 percent increase in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	-1.4	-8.2	2.0	-1.2	-8.6	2.1	-2.3	-7.0	1.7	-2.4
MAXIMUM	0.0	-0.5	13.5	0.0	0.0	14.3	0.0	-0.6	18.8	-0.1
MINIMUM	-5.4	-34.5	-4.5	-4.9	-39.8	-5.4	-7.4	-56.4	-4.8	-5.8
Alabama	-1.2	-11.6	3.4	-0.7	-14.6	3.7	-3.0	-7.5	1.7	-2.6
Alaska	0.0	-0.5	0.5	0.0	-0.4	0.3	-0.1	-0.6	2.9	-0.1
Arizona	-1.1	-22.5	3.0	-1.1	-23.0	2.1	-1.1	-21.8	6.7	-2.6
Arkansas	-0.6	-10.1	7.8	-0.4	-10.9	7.8	-1.6	-7.4	7.9	-2.3
California	-1.4	-11.4	0.9	-1.4	-12.1	0.9	-1.3	-6.8	1.3	-2.2
Colorado	-2.6	-13.2	0.4	-2.3	-14.5	0.7	-4.8	-8.6	-2.5	-3.6
Connecticut	-0.2	-4.8	1.4	-0.1	-4.9	1.6	-1.7	-4.2	-1.1	-0.7
Delaware	0.0	-11.5	0.7	0.0	-14.1	0.6	0.0	-3.0	3.2	-0.3
Washington, DC	-0.1	-0.6	0.0	-0.1	0.0	-0.2	0.0	-56.4	0.5	-0.1
Florida	-0.8	-10.2	2.2	-0.7	-12.2	2.3	-1.2	-5.2	1.5	-1.7
Georgia	-2.0	-11.9	5.6	-2.1	-14.3	5.6	-1.6	-4.8	5.5	-3.6
Hawaii	-1.2	-34.5	10.0	-1.2	-39.8	10.2	-1.3	-4.9	3.5	-4.7
Idaho	-4.5	-4.4	-4.5	-3.9	-1.2	-5.4	-5.9	-10.0	-1.0	-4.5
Illinois	-0.8	-5.2	0.7	-0.5	-4.8	0.7	-2.6	-6.4	0.8	-1.2
Indiana	-1.0	-6.9	2.5	-1.0	-7.6	1.6	-0.9	-6.2	5.8	-1.9
Iowa	-4.2	-9.8	4.3	-2.2	-12.1	7.4	-6.8	-7.8	-3.8	-5.5
Kansas	-3.3	-11.5	2.7	-2.6	-16.1	3.0	-4.9	-7.4	1.4	-4.7
Kentucky	-0.2	-4.8	1.7	0.0	-4.1	1.3	-0.8	-6.0	3.4	-0.8
Louisiana	-0.4	-5.6	1.5	-0.1	-5.1	2.1	-0.9	-6.7	0.7	-1.0
Maine	-0.5	-21.0	13.5	-0.6	-23.1	14.3	-0.2	-15.4	11.2	-3.7
Maryland	-1.2	-3.8	-0.5	-1.5	-3.6	-1.0	-0.3	-4.2	1.2	-1.4
Massachussets	-3.3	-10.0	-0.1	-3.2	-10.3	0.1	-4.6	-7.0	-2.9	-4.2
Michigan	-0.7	-1.5	-0.3	-0.2	-1.2	0.2	-3.8	-2.5	-4.8	-0.8
Minnesota	-0.8	-17.3	8.5	-0.3	-20.2	9.8	-2.9	-8.4	1.8	-3.1
Mississippi	-0.7	-6.1	6.3	-0.5	-9.0	6.1	-1.0	-2.8	7.3	-1.8
Missouri	-3.8	-11.9	5.8	-2.6	-12.8	7.7	-7.4	-9.7	-2.9	-5.4
Montana	-1.6	-7.5	1.3	-0.3	-7.2	1.0	-4.7	-7.7	3.5	-2.4
Nebraska	-5.4	-7.3	-1.6	-4.9	-7.1	-3.1	-5.8	-7.4	3.5	-5.8
Nevada	-1.3	-5.4	-0.1	-1.6	-2.8	-1.3	0.0	-10.3	6.7	-1.6
New Hampshire	-0.6	-8.2	6.1	-0.9	-8.5	5.2	-0.3	-7.8	7.8	-2.0
New Jersey	-1.0	-1.5	-0.8	-0.9	-1.2	-0.7	-2.8	-5.6	-1.4	-1.1
New Mexico	-0.5	-4.5	1.2	-0.6	-3.6	0.5	-0.1	-6.7	4.5	-1.0
New York	-1.8	-5.0	-0.3	-1.8	-4.9	-0.3	-1.9	-6.2	0.1	-2.2
North Carolina	-0.2	-6.0	4.8	-0.2	-5.1	3.3	-0.3	-7.3	8.6	-1.3
North Dakota	-3.0	-6.8	0.0	-1.4	-6.0	-0.3	-4.6	-7.0	0.8	-3.6
Ohio	-3.8	-5.8	-3.2	-4.0	-5.0	-3.8	-3.3	-6.9	-1.1	-4.0
Oklahoma	-0.9	-6.2	4.9	-0.5	-6.8	4.9	-2.4	-5.0	5.4	-2.0
Oregon	-1.0	-7.1	5.6	-1.0	-7.2	5.8	-1.0	-5.3	2.9	-2.2
Pennsylvania	-0.5	-7.4	4.3	-0.5	-7.8	4.6	-0.5	-5.9	3.3	-1.6
Rhode Island	-0.2	-1.5	0.4	-0.1	-0.3	0.0	-1.2	-23.9	14.3	-0.3
South Carolina	-0.9	-9.6	5.6	-0.8	-9.0	4.6	-1.7	-11.8	15.5	-2.4
South Dakota	-1.6	-7.5	4.5	-0.6	-2.5	0.5	-3.1	-11.7	18.8	-2.7
Tennessee	-1.4	-10.2	3.9	-1.3	-10.7	3.8	-1.5	-8.8	4.3	-2.7
Texas	-1.1	-15.8	2.0	-0.8	-18.6	2.5	-2.1	-9.1	0.0	-2.2
Utah	-0.2	-9.6	2.8	-0.2	-10.1	2.4	-0.6	-8.2	6.3	-1.2
Vermont	-1.8	-8.0	2.6	-2.1	-7.4	1.5	-0.5	-9.8	6.5	-2.8
Virginia	-0.5	-6.8	2.4	-0.3	-6.9	2.3	-1.5	-6.4	2.8	-1.3
Washington	-1.9	-10.4	2.9	-1.8	-10.8	3.2	-2.6	-4.9	-1.0	-3.1
West Virginia	-1.6	-6.4	2.3	-2.0	-6.5	1.5	-0.2	-6.4	5.1	-2.4
Wisconsin	-0.9	-7.3	2.0	-0.4	-6.6	2.0	-3.4	-9.7	1.8	-1.7
Wyoming	-1.5	-6.3	1.4	-0.7	-4.8	0.8	-2.6	-7.4	2.7	-2.2
Puerto Rico	-3.0	-9.3	0.2	-3.8	-10.2	-0.8	0.0	-6.7	5.1	-3.9

PERCENT CHANGE IN DECK AREAS OF DEFICIENT BRIDGES + 5 percent increase in Item 66

	ALL HIGHWAYS			FEDERAL AID SYSTEM HIGHWAYS			NON FEDERAL AID SYSTEM HIGHWAYS			All Highways - Factored area
State	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<=80	SR<50	SR>=50 AND SR<=80	SR<50 + (.68 (SR>=50 & SR <=80))
AVERAGES	-0.7	-4.4	1.1	-0.7	-4.8	1.0	-0.7	-3.3	1.5	-1.2
MAXIMUM	0.0	-0.2	9.4	0.0	0.0	10.2	0.0	-0.5	14.6	0.0
MINIMUM	-3.0	-30.2	-3.1	-3.4	-34.9	-3.8	-3.0	-56.4	-4.5	-3.7
Alabama	-0.3	-6.7	2.6	-0.2	-9.7	2.8	-0.6	-2.7	1.6	-1.1
Alaska	0.0	-0.2	0.3	0.0	0.0	0.0	0.0	-0.5	2.9	0.0
Arizona	-0.9	-14.4	1.7	-1.1	-10.2	0.2	-0.1	-21.3	7.8	-1.8
Arkansas	0.0	-6.1	5.4	0.0	-7.3	5.7	0.0	-2.4	3.9	-1.1
California	-1.1	-6.8	0.2	-1.2	-7.4	0.1	-0.4	-3.1	0.8	-1.6
Colorado	-1.3	-5.7	0.0	-1.3	-6.8	0.0	-0.8	-1.8	-0.1	-1.7
Connecticut	-0.2	-4.5	1.4	-0.1	-4.7	1.6	-1.3	-2.0	-1.1	-0.6
Delaware	0.0	-10.6	0.6	0.0	-12.9	0.6	0.0	-3.0	3.2	-0.3
Washington, DC	0.0	-0.6	0.1	0.0	0.0	0.0	0.0	-56.4	0.5	-0.1
Florida	-0.7	-6.4	1.1	-0.7	-7.7	1.2	-0.7	-3.3	1.1	-1.3
Georgia	-0.2	-5.4	3.8	-0.2	-6.7	3.8	0.0	-1.5	3.3	-1.1
Hawaii	-0.6	-30.2	9.4	-0.6	-34.9	9.5	0.0	-3.8	5.2	-3.7
Idaho	-1.8	-1.2	-2.3	-1.9	-0.4	-2.7	-1.8	-2.6	-0.8	-1.7
Illinois	-0.5	-1.8	-0.1	-0.4	-1.1	-0.2	-1.2	-4.0	1.3	-0.6
Indiana	-0.6	-2.3	0.4	-0.7	-1.1	-0.6	-0.3	-3.5	3.9	-0.8
Iowa	-1.6	-4.2	2.5	-1.2	-5.7	3.2	-2.1	-2.9	0.6	-2.2
Kansas	-0.8	-3.9	1.6	-0.9	-4.4	0.6	-0.6	-3.5	6.6	-1.3
Kentucky	-0.1	-1.7	0.6	0.0	-1.2	0.4	-0.3	-2.6	1.6	-0.3
Louisiana	-0.1	-3.7	1.3	0.0	-4.4	1.8	-0.1	-2.1	0.4	-0.5
Maine	-0.1	-14.1	9.4	-0.1	-15.8	10.2	-0.2	-9.5	6.8	-2.4
Maryland	-1.0	-2.1	-0.7	-1.3	-2.2	-1.1	-0.2	-2.0	0.4	-1.1
Massachussets	-2.2	-7.9	0.5	-2.3	-8.1	0.5	-1.7	-5.5	1.0	-3.0
Michigan	-0.5	-0.8	-0.4	-0.1	-0.7	0.1	-3.0	-1.0	-4.5	-0.5
Minnesota	-0.5	-15.3	7.8	-0.2	-18.7	9.1	-1.6	-4.9	1.2	-2.6
Mississippi	-0.2	-3.4	3.8	-0.2	-4.8	3.3	-0.2	-1.8	7.4	-0.9
Missouri	-1.2	-5.7	4.1	-1.2	-6.6	4.4	-1.3	-3.4	2.9	-2.1
Montana	-0.1	-3.5	1.5	0.0	-5.3	1.0	-0.3	-2.5	5.7	-0.5
Nebraska	-0.4	-2.4	3.6	-0.6	-3.1	1.3	-0.2	-2.1	10.8	-0.9
Nevada	-1.3	-3.5	-0.6	-1.6	0.0	-1.9	0.0	-10.3	6.7	-1.5
New Hampshire	-0.3	-4.6	3.4	-0.5	-4.9	3.0	0.0	-4.1	4.4	-1.1
New Jersey	-0.8	-0.9	-0.7	-0.7	-0.8	-0.7	-1.8	-3.2	-1.1	-0.8
New Mexico	0.0	-2.9	1.2	0.0	-2.3	0.8	0.0	-4.5	3.1	-0.4
New York	-1.5	-3.0	-0.9	-1.6	-2.9	-0.9	-1.5	-4.1	-0.3	-1.7
North Carolina	-0.1	-2.7	2.3	0.1	-2.1	1.3	0.0	-3.7	4.6	-0.6
North Dakota	0.0	-3.2	2.4	0.0	-2.6	0.6	-0.1	-3.3	7.0	-0.6
Ohio	-3.0	-2.6	-3.1	-3.4	-1.8	-3.8	-1.8	-3.6	-0.7	-2.9
Oklahoma	-0.2	-3.0	2.9	-0.2	-3.3	2.6	-0.3	-2.2	5.2	-0.7
Oregon	-0.3	-3.5	3.1	-0.3	-3.5	3.2	-0.2	-3.3	2.6	-0.9
Pennsylvania	-0.3	-3.2	1.7	-0.4	-3.3	1.7	-0.2	-2.8	1.5	-0.8
Rhode Island	-0.1	-0.2	-0.1	-0.1	0.0	-0.2	0.0	-3.6	2.5	-0.1
South Carolina	-0.2	-4.6	3.1	-0.2	-3.9	2.3	-0.4	-7.1	10.9	-1.0
South Dakota	-0.8	-4.6	3.2	-0.3	-0.8	0.0	-1.5	-7.9	14.6	-1.5
Tennessee	-0.2	-3.7	1.8	-0.2	-3.2	1.5	-0.5	-5.2	3.4	-0.8
Texas	-0.5	-10.3	1.6	-0.4	-12.8	2.0	-0.8	-4.0	0.1	-1.2
Utah	-0.1	-6.3	1.9	0.0	-7.7	2.0	-0.6	-2.2	0.9	-0.7
Vermont	-1.3	-4.2	0.8	-1.5	-3.7	0.0	-0.4	-6.0	3.8	-1.8
Virginia	-0.2	-3.4	1.2	-0.2	-3.5	1.2	-0.7	-3.1	1.3	-0.6
Washington	-1.1	-7.2	2.2	-1.2	-7.5	2.3	-0.9	-3.1	0.7	-2.0
West Virginia	-0.5	-2.0	0.7	-0.7	-1.5	0.0	0.0	-3.6	3.0	-0.8
Wisconsin	-0.2	-5.1	2.0	0.0	-4.6	1.7	-1.0	-6.8	3.7	-0.8
Wyoming	-0.4	-1.6	0.4	-0.4	-2.3	0.2	-0.2	-1.1	0.7	-0.5
Puerto Rico	-0.5	-5.6	2.1	-0.6	-5.7	1.7	0.0	-5.2	3.9	-1.2

ATTACHMENT 4

Deficient Bridge area and potential for deck area change based on variations of value for NBI Item 67

Data Base data 12/31/2004	Total Number Bridges	Total Bridge Area for all the Bridges	No. Bridges Deficent SR<=80	Deck area of Deficent and SR<=80	No. Deficent & SR greater than 80	Deck area of Deficent and SR greater than 80	Bridges that are deficent do to item 67 only: Area that could be lost. % area eligible do to 67only < 4			Bridges not deficent with Item 67 = 4. Area that could become eligible. % deck area with item 67=4		
							Count	Area	vs total eleg.	Count	Area	vs total eleg.
ALABAMA	15,648	8,354,026	4,099	1,616,457	244	165,801	720	83,838	5.19%	2,214	205,411	12.71%
ALASKA	1,187	622,198	299	133,220	47	28,074	17	2,205	1.66%	12	3,192	2.40%
ARIZONA	7,125	4,244,440	468	314,998	242	261,230	24	6,467	2.05%	72	19,310	6.13%
ARKANSAS	12,459	5,728,266	2,883	933,481	120	174,740	393	53,801	5.76%	1,981	326,472	34.97%
CALIFORNIA	23,960	26,363,821	4,098	4,843,333	2377	3,556,088	113	48,184	0.99%	464	149,408	3.08%
COLORADO	8,183	3,883,856	1,117	541,170	236	199,482	110	28,983	5.36%	276	66,787	12.34%
CONNECTICUT	4,167	3,200,242	824	684,120	504	538,867	8	3,525	0.52%	13	3,989	0.58%
DELAWARE	850	928,814	80	182,233	35	39,581	2	234	0.13%	10	1,970	1.08%
DIST. OF COL.	251	566,691	112	249,566	33	84,836	0	0	0.00%	1	246	0.10%
FLORIDA	11,470	13,935,170	1,560	1,194,645	452	849,482	95	74,999	6.28%	241	87,839	7.35%
GEORGIA	14,461	8,209,447	2,767	1,238,830	70	79,705	240	103,179	8.33%	614	513,813	41.48%
HAWAII	1,100	1,128,496	441	167,889	29	38,495	34	14,554	8.67%	49	38,053	22.67%
IDAHO	4,047	1,521,054	535	204,276	175	71,442	37	5,342	2.61%	71	13,333	6.53%
ILLINOIS	25,727	12,033,865	3,407	1,794,691	628	730,453	135	14,561	0.81%	186	76,724	4.28%
INDIANA	18,171	6,877,130	3,316	827,638	604	424,261	120	13,854	1.67%	199	40,565	4.90%
IOWA	24,902	7,441,950	6,435	1,427,389	216	136,982	853	160,048	11.21%	2,017	412,433	28.89%
KANSAS	25,531	7,688,783	5,236	1,235,217	384	296,082	1,415	195,599	15.84%	2,480	449,770	36.41%
KENTUCKY	13,518	5,114,747	3,586	961,012	333	150,408	100	9,688	1.01%	954	51,317	5.34%
LOUISIANA	13,362	14,775,039	3,692	3,361,822	385	709,834	250	33,508	1.00%	501	77,390	2.30%
MAINE	2,371	1,159,229	719	274,338	59	49,970	9	2,064	0.75%	70	32,423	11.82%
MARYLAND	5,066	4,532,784	1,128	955,404	284	373,740	30	5,032	0.53%	69	20,725	2.17%
MASSACHUSETTS	4,955	3,520,511	1,594	1,162,766	747	610,888	54	46,404	3.99%	104	46,947	4.04%
MICHIGAN	10,818	6,033,450	2,577	1,613,278	428	365,605	105	51,196	3.17%	234	76,890	4.77%
MINNESOTA	13,026	5,779,573	1,440	549,411	157	140,547	32	4,995	0.91%	138	37,325	6.79%
MISSISSIPPI	16,840	7,695,073	4,440	1,289,855	85	86,930	582	77,864	6.04%	724	193,154	14.97%
MISSOURI	23,791	9,493,281	7,546	2,194,736	600	410,985	1,834	277,098	12.63%	3,458	532,621	24.27%
MONTANA	5,045	1,892,138	849	266,076	197	101,328	141	15,957	6.00%	171	34,999	13.15%
NEBRASKA	15,455	3,690,580	3,798	546,086	112	53,482	1,079	119,794	21.94%	1,088	166,460	30.48%
NEVADA	1,611	1,151,183	91	64,299	99	67,276	2	779	1.21%	10	1,083	1.68%
NEW HAMPSHIRE	2,357	1,023,788	655	155,094	93	47,077	75	10,371	6.69%	105	20,838	13.44%
NEW JERSEY	6,484	6,247,234	1,718	1,347,364	489	485,142	40	24,429	1.81%	88	59,521	4.42%
NEW MEXICO	3,839	1,534,309	595	267,033	112	85,727	2	595	0.22%	21	4,234	1.59%
NEW YORK	17,301	12,814,527	4,899	4,618,916	1344	1,533,082	120	34,827	0.75%	260	97,082	2.10%
NORTH CAROLINA	17,340	7,373,820	4,669	1,578,801	237	193,005	366	73,712	4.67%	730	125,345	7.94%
NORTH DAKOTA	4,507	1,141,371	999	156,839	37	9,524	270	29,435	18.77%	280	46,897	29.90%
OHIO	27,908	12,307,507	5,612	2,247,206	1256	1,148,726	295	56,023	2.49%	658	161,241	7.18%
OKLAHOMA	23,316	7,625,386	8,120	1,904,962	254	267,563	1,063	103,888	5.45%	1,228	203,417	10.68%
OREGON	7,261	4,574,631	1,557	1,237,902	228	270,382	107	56,859	4.59%	226	111,041	8.97%
PENNSYLVANIA	22,253	11,977,705	8,297	4,207,536	733	461,018	115	162,136	3.85%	249	116,324	2.76%
RHODE ISLAND	749	733,725	304	375,933	73	48,662	2	50	0.01%	6	8,731	2.32%
SOUTH CAROLINA	9,201	5,797,235	1,886	1,013,928	156	164,240	61	20,688	2.04%	574	145,969	14.40%
SOUTH DAKOTA	5,961	1,680,073	1,306	247,920	116	57,999	245	22,801	9.20%	263	36,625	14.77%
TENNESSEE	19,688	8,549,303	3,842	1,296,952	507	286,409	62	8,509	0.66%	102	30,397	2.34%
TEXAS	48,952	35,361,564	7,795	4,551,998	1924	2,328,911	399	38,014	0.84%	1,568	300,910	6.61%
UTAH	2,805	1,635,021	355	164,824	128	81,147	17	3,513	2.13%	56	10,909	6.62%
VERMONT	2,690	801,691	885	243,230	47	13,381	2	152	0.06%	5	1,218	0.50%
VIRGINIA	13,161	8,199,200	2,974	1,228,005	333	253,546	43	11,269	0.92%	194	78,336	6.38%
WASHINGTON	7,563	6,431,198	1,642	1,814,549	340	379,780	70	74,589	4.11%	245	220,744	12.17%
WEST VIRGINIA	6,887	3,164,721	2,164	584,633	341	153,219	23	8,401	1.44%	130	37,742	6.46%
WISCONSIN	13,611	5,836,304	1,847	722,912	253	218,102	120	15,180	2.10%	250	52,611	7.28%
WYOMING	3,035	1,213,818	388	113,472	220	129,694	23	2,074	1.83%	73	9,405	8.29%
PUERTO RICO	2,135	1,881,242	890	318,505	125	201,363	15	13,083	4.11%	65	25,527	8.01%
TOTALS	594,101	325,471,211	132,536	61,226,750	19228	19,614,291	12,069	2,224,346	3.63%	25,797	5,585,714	9.12%

Item 67 - Structural Evaluation (cont'd)

Table 1. Rating by Comparison of ADT - Item 29 and Inventory Rating - Item 66

Structural Evaluation Rating Code	Inventory Rating		
	Average Daily Traffic (ADT)		
	0-500	501-5000	>5000
9	>32.4 (MS18)*	>32.4 (MS18)	>32.4 (MS18)
8	32.4 (MS18)	32.4 (MS18)	32.4 (MS18)
7	27.9 (MS15.5)	27.9 (MS15.5)	27.9 (MS15.5)
6	20.7 (MS11.5)	22.5 (MS12.5)	24.3 (MS13.5)
5	16.2 (MS9)	18.0 (MS10)	19.8 (MS11)
4	10.8 (MS6)	12.6 (MS7)	16.2 (MS9)
3	Inventory rating less than value in rating code of 4 and requiring corrective action.		
2	Inventory rating less than value in rating code of 4 and requiring replacement.		
0	Bridge closed due to structural condition.		

*MS Designation (typical)

Item 67 - Structural Evaluation (cont'd) (Revised for Rating Factor)

Table 1. Rating by Comparison of ADT - Item 29 and Inventory Rating - Item 66

Structural Evaluation Rating Code	Inventory Rating		
	Average Daily Traffic (ADT)		
	0-500	501-5000	>5000
9	>1.00	>1.00	>1.00
8	1.00	1.00	1.00
7	0.86	0.86	0.86
6	0.64	0.69	0.75
5	0.50	0.56	0.61
4	0.33	0.39	0.50
3	Inventory rating less than value in rating code of 4 and requiring corrective action.		
2	Inventory rating less than value in rating code of 4 and requiring replacement.		
0	Bridge closed due to structural condition.		