Amendment to "Rolling the Dice" email

Larry Adams 9/20/2013 1:34 PM

To: Brewer City Council; Mayor Jerry W. Goss; Councilor Kevin O'Connell; Brewer City Manager; Eddington Board of Selectman and Town Manager; Carol Woodcock / U.S. Senator Susan Collins; Elizabeth Montgomery Schneider MacTaggart / U.S. Senator Angus King; Representative Arthur Verow - District#21; Representative David Johnson - District#20; Rosemary Winslow / U.S. Congressman Mike Michaud; Senator Edward Youngblood - District#31;

Cc: Personal addresses redacted.

Good afternoon to all.

I wondered how long it would take to make the necessary repairs to our failing bridges at the projected rate of repair in the MaineDOT (13-15) Current Work Plan.

The Core Highway and Bridge Programs chart, presented in testimony to the JSC on Appropriations and Finance by MaineDOT Deputy Commissioner Van Note on 6.12.2013, indicates the Average Annual # of Bridge Improvement Projects from 13-15 Work Plan = 40 (OR 75 projects/year to meet the Basic Statutory Goals).

Core Highway and Bridge Programs
Current Work Plan vs Need
(Millions of Dollars)

Work Group	Average Annual $ from 13-15 Work Plan*	Annual $ Needed to Meet Basic Statutory Goals	Average Annual $ Shortfall*	Dollar % Shortfall*
Bridge Projects	$86	$105	-$19	-18%
Highway Reconstruction/Rehab	$66	$100	-$34	-34%
Pavement Preservation	$63	$120	-$57	-48%
Light Capital Paving	$25	$28	-$3	-10%
Total - Core Programs	**$240**	**$353**	**-$113**	**-32%**

Core Highway and Bridge Programs
Current Work Plan vs Need
(Units of Work)

Work Group	Average Annual Units of Work from 13-15 Work Plan* (Miles**)	Annual Production Needed to Meet Basic Statutory Goals (Miles**)	Production Shortfall* (Miles**)	Production % Shortfall*
Bridge Projects**	40	75	-35	-47%
Highway Reconstruction/Rehab	64	100	-36	-36%
Pavement Preservation	213	400	-187	-47%
Light Capital Paving	540	600	-60	-10%

* This assumes availability of bond funds from the 2011 bond and LD 1095.
**Units of work are centerline miles, except for Bridges, which is # of bridge improvement projects.

- Why is there a difference in the average annual # of bridge improvement projects (or miles of pavement) versus annual production needed to meet basic statutory goals?
- **What good are laws that govern policy if we choose not to abide by them?**

14.8% of our bridges are considered structurally deficient. (356 out of 2,408) It would take 8.9 years @40 projects/year to repair or replace these 356 bridges OR it would take 4.75 years @ 75 projects/year to meet the Basic Statutory Goals.

18.1% of our bridges are considered functionally obsolete. (436 of 2,408) It would take 10.9 years @40 projects/year to repair or replace these 436 bridges OR it would take 5.81 years @ 75 projects/year to meet the Basic Statutory Goals.

32.9 % of our bridges are considered deficient. (792 of 2,408) Definition of deficient Bridges: the total of both structurally deficient and functionally obsolete bridges.

What does structurally deficient mean? Highway **bridges have three primary components**: 1) the **deck**, which is the top surface of the bridge that cars, trucks and people cross; 2) the **superstructure**, which supports the deck; and 3) the **substructure**, which uses the ground to support the superstructure. Each of these bridge features is given a **rating between 0 and 9 when inspected, with 9 signifying the best condition**. **Federal guidelines classify bridges as structurally deficient if one of the three key components is rated at 4 or less (poor or worse), meaning engineers have identified a major defect in its support structure or deck.** (There is a handful of other criteria that can result in a deficient grade, but for the majority of deficient bridges, one of these three primary components rates a 4 or below.) Federal law requires states to inspect all bridges 20 feet or longer at least every two years, though states typically inspect structurally deficient bridges far more often.

Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

The November 2007 document, Keeping Our Bridges Safe, indicated that 83.1+% of our bridges were in fair or poor condition. (2,000+ out of 2,408) It would take 50 years @40 projects/year to repair or replace these 2,000 bridges OR it would take 26.7 years @75 projects/year to meet the Basic Statutory Goals. Remember that these are 2007 numbers and do not include bridge repairs since then nor does it include any bridges that may have fallen into the fair or poor category.

Keeping Our Bridges Safe Executive Summary excerpt:

In summary, there are only two ways to protect public safety over the long term: Repair or replace *poor* bridges and preserve *fair* bridges before they become *poor*, OR continue to close bridges when their condition warrants. With over 2,000 bridges in *fair* or *poor* condition, Maine's economy cannot afford to have the highway network become unconnected, nor can we allow unsafe bridges to stay open. Without a balanced, sustainable bridge work plan, load postings and closures will be the only "safety net" left.

Really? Over 2,000 bridges in *fair* or *poor* condition? That is the same as saying only 408 or less of our bridges are rated in satisfactory or better condition! Remember that these are 2007 numbers and does not include bridge repairs since then nor does it include any bridges that may have fallen into the fair or poor category.

What does fair to poor mean?

FHWA Deck, Superstructure and Substructure Inspection Rating:

Appendix A – National Bridge Inventory General Condition Rating Guidance

Code	Description	Commonly Employed Feasible Actions
9	EXCELLENT CONDITION	Preventive Maintenance
8	VERY GOOD CONDITION No problems noted.	
7	GOOD CONDITION Some minor problems.	
6	SATISFACTORY CONDITION Structural elements show some minor deterioration.	Preventive Maintenance; and/or Repairs
5	FAIR CONDITION All primary structural elements are sound but may have some minor section loss, cracking, spalling or scour.	
4	POOR CONDITION Advanced section loss, deterioration, spalling or scour.	Rehabilitation or Replacement
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 may be present.	
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 the bridge may have to be closed 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 corrective action.	

The **numeric value of deficient bridges** that the many independent transportation entities quote comes directly from **official FHWA data**:
[FHWA Bridge Data per State/County]

12/31/2012; Includes Federal Bridges								
MAINE					Area in Sq Meters			
	Count	# Str Def	# Func Obs	Total Def	Area	Stru Def Area	Func Obs Area	Total Def Area
ANDROSCOGGIN (001)	127	16	32	48	69,915.98	8,741.44	20,832.78	29,574.22
AROOSTOOK (003)	219	25	19	44	89,907.47	6,464.38	9,907.22	16,371.60
CUMBERLAND (005)	321	38	80	118	254,469.32	31,338.59	59,096.67	90,435.26
FRANKLIN (007)	126	21	23	44	29,078.52	3,378.62	4,749.54	8,128.16
HANCOCK (009)	68	14	11	25	23,417.76	1,547.08	6,703.24	8,250.32
KENNEBEC (011)	186	18	57	75	128,630.42	8,576.57	28,259.16	36,835.73
KNOX (013)	47	10	12	22	9,452.19	1,578.31	3,210.64	4,788.95
LINCOLN (015)	60	8	20	28	34,149.10	3,221.33	7,308.54	10,529.87
OXFORD (017)	243	50	38	88	52,718.10	9,701.72	10,551.18	20,252.90
PENOBSCOT (019)	282	40	34	74	164,655.26	21,938.95	18,382.64	40,321.59
PISCATAQUIS (021)	75	18	14	32	18,149.98	4,147.17	3,790.02	7,937.19
SAGADAHOC (023)	65	7	18	25	53,668.77	4,612.62	6,797.19	11,409.81
SOMERSET (025)	164	24	19	43	52,738.08	7,326.88	8,269.85	15,596.73
WALDO (027)	93	17	15	32	34,750.64	6,967.21	13,633.21	20,600.42
WASHINGTON (029)	102	22	6	28	34,603.01	5,232.99	8,949.34	14,182.33
YORK (031)	230	28	38	66	155,527.48	16,573.85	57,304.22	73,878.07
TOTALS	2,408	356	436	792	1,205,832.08	141,347.71	267,745.44	409,093.15

What is the percentage of deficient bridges (functionally obsolete + structurally deficient) within your county based on official FHWA data?

County	# of Bridges in County (FHWA Data 12.31.2012)	# of Deficient Bridges (FHWA Data 12.31.2012)	% of County Bridges Rated Deficient
Androscoggin	127	48	37.8%
Arrostook	219	44	20.1%
Cumberland	321	118	36.8%
Franklin	126	44	34.9%
Hancock	68	25	36.8%
Kennebec	186	75	40.3%
Knox	47	22	46.8%
Lincoln	60	28	46.7%
Oxford	243	88	36.2%
Penobscot	282	74	26.2%
Piscataquis	75	32	42.7%
Sagadahoc	65	25	38.5%
Somerset	164	43	26.2%
Waldo	93	32	34.4%
Washington	102	28	27.5%
York	230	66	28.7%
Totals:	2408	792	32.9%

I am not an engineer and until lately I had not realized the sad shape of our existing infrastructure; I am just like most people, depending on the government to maintain our way of live at a safe and acceptable level. The more I research, the more it has become apparent that blind faith in the government certainly did not work when it came to roads and bridges. Our infrastructure did not just start to fail last week, it has been failing all along, but funding roads and bridges is not as popular as funding other more visible projects and here we are today placing band aids on our infrastructure hoping that it does not fail any further. While it is great that the MaineDOT can fix 40 bridges a year, those bridges rated in fair to poor condition continue to age and with the increased age, unless properly maintained, they will only drop in condition rating.

It is all about the money. Where is the funding? Can we wait that long? **Why is the MaineDOT considering new projects when we cannot afford to fix what we already have? The $61 million in state and federal funds that would be saved by cancelling the I-395/Route 9 Connector would be better spent on the <u>unmet transportation needs of our state</u>.**

Thank you for your time, your support and consideration of my views, Larry