

Appendix B - NBMD Tables

Table A2- 1 Alabama Bridge Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
B46	Vegetation Control	hour	Approach/Embankment	Clean	Vegetation / Trees
B47	Beaver Control	hour	Approach/Embankment	Coat	Chemical treatment
B43	Major Bearing Devices and Assemblies - Installation	hour	Bearing		
B44	Minor Bearing Devices and Assemblies - Maintenance	hour	Bearing		
B99	Bridge Maintenance Overhead	hour	Bridge		
B40	Construction Materials Testing	hour	Bridge		
B37	Bridge Inspection	hour	Bridge		
B24	Bridge Painting - Partial	square meter	Bridge	Coat	Paint
B25	Bridge Painting - Complete	square meter	Bridge	Coat	Paint
B23	Bridge Painting - Spot	square meter	Bridge	Coat	Spot Paint
B32	Vandalism Repair	hour	Bridge	Repair	
B31	Accident Repair	hour	Bridge	Repair	
B28	Light and Navigation-Light Repair	hour	Bridge	Reset	Consumable
B29	Drift Removal	hour	Channel	Clean	Debris / Drift
B30	Slope and Shore Protection Repair	hour	Channel	Repair	Re-attach / Re-anchor
B26	Bridge Culvert Cleaning	hour	Culvert	Clean	
B27	Bridge Culvert Repair	hour	Culvert	Repair	
B01	Deck Cleaning	hour	Deck	Clean	
B06	Minor Deck Repair - Concrete	square meter	Deck	Repair	
B05	Minor Deck Repair - Steel	square meter	Deck	Repair	
B09	Major Deck Repair - Concrete	square meter	Deck	Repair	
B41	Drain/Joint Cleaning	hour	Drain	Clean	
B41	Drain/Joint Cleaning	hour	Joint	Clean	
B03	Joint Repair - Open	foot	Joint	Repair	
B04	Joint Repair - Sealed	foot	Joint	Repair	
B45	Joint Sealing- Installation	foot	Joint	Repair	Re-attach / Re-anchor
B33	Moveable Span Maintenance	hour	MovableSpan		

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
B34	Moveable Span Operations	hour	MovableSpan		
B38	Other Structure Maintenance	hour	nonBridge		
B35	Tunnel Maintenance	hour	nonBridge		
B36	Tunnel Operations	hour	nonBridge		
B02	Curb/Rail/Fence Repair	foot	Rail/Walk	Repair	
B42	Bent Cap, Beams and Beam Seats	hour	Substructure	Clean	
B18	Minor Substructure Member Repair - Concrete	hour	Substructure	Repair	
B17	Minor Substructure Member Repair - Steel	hour	Substructure	Repair	
B22	Major Substructure Member Repair - Timber	hour	Substructure	Repair	
B20	Major Substructure Member Repair - Steel	hour	Substructure	Repair	
B21	Major Substructure Member Repair - Concrete	hour	Substructure	Repair	
B11	Minor Superstructure Member Repair - Steel	hour	Superstructure	Repair	
B15	Major Superstructure Member Repair - Concrete	hour	Superstructure	Repair	
B14	Major Superstructure Member Repair - Steel	hour	Superstructure	Repair	
B12	Minor Superstructure Member Repair - Concrete	hour	Superstructure	Repair	

Table A2- 2 California Bridge Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
H31080	BMS APPROACH SLAB - MUDJACK	none	Approach/Embankment	Reset	Mudjack
H41050	BMS BEARINGS - CLEAN	none	Bearing	Clean	
H41012	BMS BEARINGS - REHAB	none	Bearing	Modify	Rehab
H41001	INSPECTION - BEARINGS	each	Bearing	nonMaintenance	Inspection
H41002	COMPLAINT INVESTIG - BEARINGS	each	Bearing	nonMaintenance	
H41011	BMS BEARINGS - REPLACE	none	Bearing	Replace	
H41013	BMS BEARINGS - RESET	none	Bearing	Reset	
H10021	INSTALL GRAFITTI DETERENT	each	Bridge	Coat	Graffiti
H70060	RIGGING CONTAINMENT - PAINT	none	Bridge	Coat	Paint
H70062	SPOT REMOVAL and FULL PAINT	square foot	Bridge	Coat	Paint
H70063	FULL REMOVAL and FULL PAINT	square foot	Bridge	Coat	Paint
H70061	SPOT REMOVAL and SPOT PAINT	square foot	Bridge	Coat	Spot Paint
H70069	OTHER PAINT ACTIVITIES	none	Bridge	Coat	
H91040	BMS SEISMIC - RETROFIT	none	Bridge	Modify	Seismic retrofit
H10001	INSPECTION - H FAMILY	each	Bridge	nonMaintenance	Inspection
H10002	COMPLAINT INVESTIG. H FAMILY	each	Bridge	nonMaintenance	
H91010	BMS SEISMIC - MAINTENANCE	none	Bridge	Reset	Seismic
H10070	BIRD NETTING / EXCLUSION	each	Bridge		
H10050	CLEAR DEBRIS/CHANNEL CLEANING	each	Channel	Clean	
H30012	BMS DECK - REHAB	none	Deck	Modify	Rehab
H30001	INSPECTION - DECK	each	Deck	nonMaintenance	Inspection
H30001	INSPECTION - DECK	none	Deck	nonMaintenance	Inspection
H30002	COMPLAINT INVESTIGATION - DECK	each	Deck	nonMaintenance	
H30060	BMS DECK - PLACE OVERLAY	none	Deck	Repair	Overlay
H30020	BMS DECK - PATCH SPALLS	none	Deck	Repair	Patch
H30030	BMS DECK - REPAIR POTHOLES	none	Deck	Repair	Potholes
H30013	BMS DECK - RESURFACE	none	Deck	Repair	Resurface
H30011	BMS DECK - REPLACE	none	Deck	Replace	
H30090	BMS DECK - MISC.	none	Deck		
H60050	CLEAN PAN,GUTTER,DRAINAGE SYS	each	Drain	Clean	
H60001	INSPECTION - DRAINAGE	each	Drain	nonMaintenance	Inspection

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
H60002	COMPLAINT INVESTIG - DRAINAGE	each	Drain	nonMaintenance	
H40012	BMS JOINTS - REHAB	none	Joint	Modify	Rehab
H40001	INSPECTION - JOINTS	each	Joint	nonMaintenance	Inspection
H40002	COMPLAINT INVESTIG - JOINTS	each	Joint	nonMaintenance	
H40010	BMS JOINTS - REPAIR	none	Joint	Repair	
H40011	BMS JOINTS - REPLACE	none	Joint	Replace	
H80012	BMS MECH/ELECTRICAL REHAB	none	Mech/Elec	Modify	Rehab
H80001	INSPECTION - MECH/ELECTRICAL	each	Mech/Elec	nonMaintenance	Inspection
H80002	COMPLAINT INVESTIG - MECH/ELEC	each	Mech/Elec	nonMaintenance	
H80010	BMS MECH/ELECTRICAL REPAIR	each	Mech/Elec	Repair	
H80010	BMS MECH/ELECTRICAL REPAIR	none	Mech/Elec	Repair	
H80011	BMS MECH/ELECTRICAL REPLACE	none	Mech/Elec	Replace	
H80090	BMS MECH/ELECTRICAL MISC.	each	Mech/Elec		
H80090	BMS MECH/ELECTRICAL MISC.	none	Mech/Elec		
H92080	DRAWBRIDGE OPERATION and MAINT	none	Movable Span		
H50060	BMS RAILING - PAINT	none	Rail/Walk	Coat	Paint
H50012	BMS RAILING - REHAB	none	Rail/Walk	Modify	Rehab
H50001	INSPECTION - RAILING	each	Rail/Walk	nonMaintenance	Inspection
H50002	COMPLAINT INVESTIG - RAILING	each	Rail/Walk	nonMaintenance	
H50010	BMS RAILING - REPAIR	each	Rail/Walk	Repair	
H50010	BMS RAILING - REPAIR	none	Rail/Walk	Repair	
H50011	BMS RAILING - REPLACE	none	Rail/Walk	Replace	
H10060	BMS SUB - PAINT	none	Substructure	Coat	Paint
H10012	BMS SUB - REHAB	none	Substructure	Modify	Rehab
H10013	BMS SUB - EPOXY INJECT	none	Substructure	Repair	Epoxy inject
H10010	BMS SUB - PATCH SPALLS	none	Substructure	Repair	Patch
H10011	BMS SUB - REPLACE	none	Substructure	Replace	
H10040	BMS SUB - PROTECT	none	Substructure		
H10090	BMS SUB - MISC.	none	Substructure		
H20001	INSPECTION - SUPER	each	Superstructure	nonMaintenance	
H20002	COMPLAINT INVESTIGATION SUPER	each	Superstructure	nonMaintenance	
H20013	BMS SUPER - EPOXY INJECT	none	Superstructure	Repair	Epoxy inject
H20070	REPLACE GATES - SUPER	each	Superstructure	Repair	Gates
H20010	BMS SUPER - PATCH SPALLS	none	Superstructure	Repair	Patch
H20011	BMS SUPER - REPLACE	none	Superstructure	Replace	

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
H20090	BMS SUPER - MISC.	none	Superstructure		

Table A2- 3 Colorado Bridge Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
254.00	HAND MOWING	hour	Approach/Embankment	Clean	Vegetation / trees
252	VEG CTRL MACH MOW	mile	Approach/Embankment	Clean	Vegetation / trees
260.00	TREE PLANT+TRIM	each	Approach/Embankment	Clean	Vegetation / trees
253	VEG CLRL TURF MOW	acre	Approach/Embankment	Clean	Vegetation / trees
258	VEG CONTROL IRRIG	hour	Approach/Embankment	Coat	
256.00	HERB-PEST APPLICAT	acre	Approach/Embankment	Coat	Chemical treatment
164	BASE STAB & REPAIR	cubic yard	Approach/Embankment	Repair	
210.00	SLOPE REPAIR	cubic yard	Approach/Embankment	Repair	
360.08	APP SLAB/SLOPE RPR	each	Approach/Embankment	Repair	
360.00	Approach Slabs and Slope Protection Repair	each	Approach/Embankment	Repair	Patch
357.00	Bearings, Maintenance	each	Bearing		
303	MULTI POST SIGNS	each	Bridge		
302.00	SINGLE POST SIGNS	each	Bridge		
351.00	Bridge/Structural Visual Inspection/Monitoring	each	Bridge		
304.00	DEL POSTS MTNCE	each	Bridge		
352.00	Cleaning or Washing	each	Bridge	Clean	
207	SALT/SAND CLEANUP	ton	Bridge	Clean	Debris / Drift
218.00	LITTER TRASH CLEAN	cubic yard	Bridge	Clean	litter (debris)
222.00	SWEEPING HAND	hour	Bridge	Clean	Sweep
220.00	SWEEPING MACHINE	mile	Bridge	Clean	Sweep
355.00	BRIDGE PAINTING	gallon	Bridge	Coat	Paint
160.09	SEAL COAT PREV MTC	square yard	Bridge	Coat	Seal Surface
160	SEAL COAT	square yard	Bridge	Coat	Seal Surface
403.00	ICE CTR DRAIN-HAND	hour	Bridge	nonMaintenance	
402.00	SNOW REMOVAL+SAND	mile	Bridge	nonMaintenance	
152.3	ROTOMILLING RIGID PAVEMENTS	square yard	Bridge	Repair	Dredge/Grade
152.2	ROTOMILLING FLEXIBLE PAVEMENTS	square yard	Bridge	Repair	Dredge/Grade
152.08	PATCHING-MINOR REP	square yard	Bridge	Repair	Patch
152.00	PATCHING/MINOR REP	square yard	Bridge	Repair	Patch

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
154	PATCHING-MACHINE	ton	Bridge	Repair	Patch
152	FLEX PAVEMENT PATCH/MINOR REP	square yard	Bridge	Repair	Patch
152.1	RIGID PAVEMENT PATCH/MINOR REP	square yard	Bridge	Repair	Patch
154.08	PATCHING-MACHINE	ton	Bridge	Repair	Patch
152.00	PATCHING/MINOR REP	square yard	Bridge	Repair	Patch
320.00	ELECT WIRE REFURB	hour	Bridge	Reset	
316	ATTENUATOR MAINT	each	Bridge	Reset	
206.00	MTC/DITC/STREAMBED	foot	Channel	Clean	Debris / Drift
202.00	CLEAN DRAIN STRUCT	each	Culvert	Clean	
353.4	CRACK SEAL FLEX BRIDGE DECK	gallon	Deck	Coat	Seal cracks
156.00	CRACK-JOINT SEAL	gallon	Deck	Coat	Seal cracks
156.1	CRACK/JOINT SEAL RIGID PAVE-HA	gallon	Deck	Coat	Seal cracks
156.08	CRACK-JOINT SEAL	gallon	Deck	Coat	Seal cracks
156	CRACK SEAL FLEX PAVEMENT-HAND	gallon	Deck	Coat	Seal cracks
156.09	CRK SL FLEX PVT HND PREV MTC	gallon	Deck	Coat	Seal cracks
353.08	Pavement crack sealing.	square yard	Deck	Coat	Seal cracks
353.1	CRACK/JOINT SEAL RIG BRDG DECK	gallon	Deck	Coat	Seal cracks
310	PAVE MARKING HAND	square foot	Deck	Coat	Spot paint
353.00	Bridge Deck Repair, etc.	square yard	Deck	Repair	
353.09	BRIDGE DECK REPAIR	square yard	Deck	Repair	
353.2	ROTOMIL FLEX PAVE BRIDGE DECK	square yard	Deck	Repair	Dredge/Grade
364.00	Expansion Joints	foot	Joint		
364.09	EXPANSION JOINT	foot	Joint		
364.08	EXPANSION JOINT	foot	Joint		
458	Equipment Maintenance	hour	nonBridge		
506.1	TUNNEL TRAFF CONTL	hour	nonBridge		
512	TUNNEL STRUCTURAL	hour	nonBridge		
104.00	LEAVE	hour	nonBridge	nonMaintenance	
406.00	SN/REMOVAL/SP EQ.	hour	nonBridge	nonMaintenance	
460	BUILDING+GROUNDS	hour	nonBridge	nonMaintenance	
502	TUNNEL OPERATIONS	hour	nonBridge	nonMaintenance	
502.3	RESCUE TRAINING	hour	nonBridge	nonMaintenance	
102.00	PLAN + SCHEDULE	hour	nonBridge	nonMaintenance	
103	TRAINING/MEETINGS	hour	nonBridge	nonMaintenance	
356.08	BRIDGE RAIL REPAIR	foot	Rail/Walk	Repair	

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
356.00	BRIDGE RAIL REPAIR	foot	Rail/Walk	Repair	
306.00	GUARD RAIL REPAIR	foot	Rail/Walk	Repair	
307.00	CON GUARD RAIL MTN	foot	Rail/Walk	Reset	
358.00	Substructure Maintenance	each	Substructure		
354.00	Superstructure Maintenance	each	Superstructure		

Table A2- 4 Ohio Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
PGAC 6119	Bridge Inspection	each	Bridge	nonMaintenance	
PGAC 6120	Pavement Underseal/Fill Voids	cubic yard	Approach/Embankment	Repair	
PGAC 6121	Pothole Patching	ton	Bridge	Repair	patch
PGAC 6122	Surface Repairs	ton	Bridge	Repair	
PGAC 6123	Full Depth Repair	cubic yard	Bridge	Repair	
PGAC 6124	Filling and Sealing Joints and Cracks	pound	Bridge	Coat	
PGAC 6125	Surface Treatment	gallon	Bridge	Coat	
PGAC 6126	Pavement Jacking	pound	Approach/Embankment	Reset	jacking
PGAC 6128	Hauling & Handling Materials or Equipment	hour	nonBridge	nonMaintenance	
PGAC 6129	Surface Paving	ton	Bridge		
PGAC 6133	Repairing Slopes	square yard	Approach/Embankment	Repair	
PGAC 6136	Partial Depth Repair	ton	Bridge	Repair	
PGAC 6140	Culvert Inspection	each	Culvert	nonMaintenance	
PGAC 6142	Cleaning Channels	foot	Channel	Clean	
PGAC 6143	Cleaning Drainage Structures	each	Drain	Clean	
PGAC 6144	Repairing Drainage Structures	each	Drain	Repair	
PGAC 6151	Bridge Cleaning	each	Bridge	Clean	
PGAC 6152	Bridge Painting	square foot	Bridge	Coat	Paint
PGAC 6153	Bridge Deck Repair	square foot	Deck	Repair	
PGAC 6154	Bridge Joint Repair	foot	Joint	Repair	
PGAC 6155	Substructure Repair	hour	Substructure	Repair	
PGAC 6156	Superstructure Repair	hour	Superstructure	Repair	
PGAC 6157	Bridge Railing Repair	foot	Rail/Walk	Repair	
PGAC 6160	Add Channel Protection for Bridges	ton	Channel	Modify	Protection
PGAC 6161	Sealing Bridge Decks/Gutters/Curbs/Railing	square foot	Deck	Coat	Surface
PGAC 6162	Seal Bridge Abutments/Seats/Backwalls/Piers	square foot	Substructure	Coat	Surface
PGAC 6163	Removal of Loose Bridge Concrete Spalls	square foot	Bridge	Clear	Loose material
PGAC 6164	Cleaning Channels/Removing Debris	each	Channel	Clean	Debris
PGAC 6165	Extending Bridge Scuppers	each	Drain	Modify	
PGAC 6221	Mowing	mile	Approach/Embankment	Clean	mow
PGAC 6222	Vegetation Control - Chemical Spraying	gallon	Approach/Embankment	Coat	herbicide

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
PGAC 6225	Graffiti Removal	square foot	Bridge	Clean	Graffiti
PGAC 6230	Guardrail End Assembly	each	Rail/Walk		
PGAC 6233	Guardrail Repair	foot	Rail/Walk	Repair	
PGAC 6234	Fence Installation	foot	Rail/Walk	Replace	
PGAC 6235	Crash Attenuator Repair	each	Rail/Walk	Repair	
PGAC 6237	Concrete Median Barrier Repair	cubic yard	Rail/Walk	Repair	
PGAC 6333	Guardrail Betterment	foot	Rail/Walk	Modify	
PGAC 6343	Culvert Betterment	foot	Culvert	Modify	
PGAC 6344	Catch Basin Betterment	each	Drain	Modify	
PGAC 6351	Bridge Betterment	each	Bridge	Modify	
PGAC 6526	Single Lane Closure	hour	nonBridge	nonMaintenance	Traffic
PGAC 6542	Lighting Maintenance	each	Elec/Mech		

Table A2- 5 Oregon Bridge Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity	NBMD_Mode
346	Maintain Brush	hour	Approach/Embankment	Clean	Brush	
344	Repair/Replace Slope Paving	hour	Approach/Embankment	Repair	Slope Paving	
233	Approach Roadway Work	hour	Approach/Embankment			
622	Maintain Approach Roadway	hour	Approach/Embankment			
340	Repair/Replace Bearings and Seats	hour	Bearing	Repair		
624	Maintain Bearings and Seats	hour	Bearing			
168	Graffiti Removal	hour	Bridge	Coat	Graffiti	
149	Accident Cleanup and Repair	hour	Bridge	nonMaintenance		
229	Repair/Replace Bracing	hour	Bridge	Repair	Bracing	
146	Flasher/Beacon Maintenance	hour	Bridge	Reset	Flasher/Beacon	
161	Bridge Protective Screening	hour	Bridge			
169	Other Structure Maintenance	hour	Bridge			
239	Other Structure Repair	hour	Bridge			
347	Maintain Drift Removal	hour	Channel	Clean	Drift	
343	Repair/Replace Rip Rap or Bioremediation	hour	Channel	Repair	Rip Rap	
221	Repair/Replace Concrete Deck	hour	Deck	Repair	Concrete	
231	Repair/Replace Metal Decking	hour	Deck	Repair	Metal	
223	Repair/Replace Wood Deck	hour	Deck	Repair	Timber	
618	Maintain Concrete Deck	hour	Deck		Concrete	
342	Repair/Replace Catch Basins	hour	Drain	Repair	Basins	
345	Repair/Replace Other Drainage	hour	Drain	Repair		
625	Maintain Catch Basins	hour	Drain		Basins	
626	Maint Other Drainage	hour	Drain			
235	Deck Joint	hour	Joint			
623	Maintain Deck Joints	hour	Joint			
165	Draw Bridge Operations	hour	MovableSpan	nonMaintenance	Operation	
164	Transient Camp Cleanup	hour	nonBridge			
642	Paint Curbs, Rail, Felloe Guards	hour	Rail/Walk	Coat	Paint	
225	Repair/Replace Curbs, Rail, Felloe Guards	hour	Rail/Walk	Repair		
619	Maint Curbs, Rail, Felloe Guards	hour	Rail/Walk			
643	Paint Concrete Piling/Posts	hour	Substructure	Coat	Paint	Concrete
215	Repair/Replace Concrete Caps/Sills	hour	Substructure	Repair	Concrete	

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity	NBMD_Mode
227	Repair/Replace Concrete Piling/Posts	hour	Substructure	Repair	Concrete	
348	Repair Fender Systems	hour	Substructure	Repair	Fender	
214	Repair/Replace Steel Caps/Sills	hour	Substructure	Repair	Steel	
228	Repair/Replace Steel Piling/Posts	hour	Substructure	Repair	Steel	
213	Repair/Replace Timber Caps/Sills	hour	Substructure	Repair	Timber	
226	Repair/Replace Timber Piling/Posts	hour	Substructure	Repair	Timber	
615	Maint Concrete Caps or Sills	hour	Substructure		Concrete	
620	Maintain Concrete Piling or Posts	hour	Substructure		Concrete	
621	Maintain Steel Piling or Posts	hour	Substructure		Steel	
641	Paint Steel Superstructure Members	hour	Superstructure	Coat	Paint	Steel
216	Repair Concrete Superstructure Members	hour	Superstructure	Repair	Concrete	
217	Repair Steel Superstructure Members	hour	Superstructure	Repair	Steel	
218	Repair Timber Superstructure Members	hour	Superstructure	Repair	Timber	
616	Maint Conc Superstruct Members	hour	Superstructure		Concrete	
617	Maint Steel Superstruct Members	hour	Superstructure		Steel	

Table A2- 6 Pennsylvania Bridge Maintenance Actions

DOT_ Action_ID	DOT_Action _Description	DOT _Unit	NBMD _Component	NBMD _Operation	NBMD _Activity	NBMD _Mode
RDBRUSH	CUT BRUSH CLEAR SIGN	each	Approach /Embankment	Clean	Brush	
RDDRAIN	IMPR.OFF BR.DRAINAGE	each	Approach /Embankment	Modify	Drainage	
RDPAVMT	PATCH/RAISE PAVEMENT	square yard	Approach /Embankment	Repair	Patch	
RDRLFJT	RPR/RPL PAVRELIEF JT	square yard	Approach /Embankment	Repair	Relief Joint	
RDSHLDR	RPR/RECONST SHOULDER	square yard	Approach /Embankment	Repair	Shoulder	
A744201	Approach slab replace	square yard	Approach /Embankment	Replace		
RDCLSGN	RPL.CLEARANCE SIGN	each	Approach /Embankment	Replace	Sign	
RDLDSGN	RPL.LOAD LIMIT SIGN	each	Approach/Emb ankment	Replace	Sign	
RDGDERL	CONNECT GDERAIL TO BR	each	Approach /Embankment	Reset	Guardrail	
C743102	CLEAN BRG/SEAT	each bridge	Bearing	Clean		
A744501	Steel bearings, repair/rehabilitate	each	Bearing	Repair		Steel
C744502	RESET EXP.BEARING	each	Bearing	Reset		
A743501	LUBRICATE BEARING	each	Bearing	Reset	Lubricate	
B744601	RPR/RPL.TMBR.MBR	each	Bridge			Timber
D743102	CLN.STL.HOR.SURFACES	each bridge	Bridge	Clean		Steel
C745401	CONST.TEMP.BRIDGE	each bridge	Bridge	Emergency	Temporary	
C744603	RPR/RPLCONC.MEMBER	each	Bridge	Repair		Concrete
A742501	Replace Bridge	each bridge	Bridge	Replace		
ECREMVG	REMOVE VEG/DEBRIS	cubic yard	Channel	Clean	Debris	
ECREMDP	REMOVE DEPOSITS	cubic yard	Channel	Clean	Deposition	
B745301	CONST.ROCK PROTECT	cubic yard	Channel	Repair	Rock protection	
C745301	BKFL.SCOUR HOLE	cubic yard	Channel	Repair	Scour hole	

DOT_ Action_ID	DOT_Action _Description	DOT _Unit	NBMD _Component	NBMD _Operation	NBMD _Activity	NBMD _Mode
A745301	STREAMBED PAVING (REPAIR/CONSTRUCT)	cubic yard	Channel	Repair	Stream bed paving	
C745203	RPR.CULV.BARREL	square yard	Culvert	Repair	Barrel	
A745201	CULVERT HEADWALL/WINGS (REPAIR/REPLACE)	square yard	Culvert	Repair	Headwall	
B742501	Replace Culvert	each culvert	Culvert	Replace		
A743101	Clean/Flush Deck	each bridge	Deck	Clean		
A743401	Apply protective coating deck/parapets/sidewalks	square yard	Deck	Coat	Protective	
B744301	RPR/RPL.TMBR.DK.	square yard	Deck	Repair		Timber
C744302	RPR/RPLOPNSTLDK	square yard	Deck	Repair		Open Steel
D744303	RPR.CONC.DECK	square yard	Deck	Repair		Concrete
BITWRGS	RPR/RPL.BIT.W.S.	square yard	Deck	Repair	Resurface	Bitumen
B743101	FLUSH SCUP/DNSPTG	each bridge	Drain	Clean		
C744402	RPR/RPL.DWNSPTG	each	Drain	Repair	Downspout	
DRNGRAT	RPL.DRAIN GRATE	each	Drain	Replace	Grate	
B744401	INSTAL.DK.DRAIN	each	Drain	Replace	Scupper	
A744101	Repair / reseal deck joint	foot	Joint	Repair		
C744102	RPR.MODULAR DAM	foot	Joint	Repair		
D744102	RPR.STL.EXP.DAM	foot	Joint	Repair		
E744102	RPR.OTH.EXP.JTS	foot	Joint	Repair		
B744102	RPR/RPLCOMPR.SEAL	foot	Joint	Replace	Compression seal	
A743301	Reseal deck joint - liquid only	foot	Joint	Reset		
RTWALLR	RETAINING WALL(REP/REPL	foot	nonBridge	Repair		
SSATTAC	SIGN ATTACH(REPL/REPL)	each	nonBridge	Repair		
SSCONNT	STRUCT CONNECTION(REPL)	each	nonBridge	Repair		
SSLIGHT	LIGHTING SYS(REP/REPL)	each	nonBridge	Repair		
E744303	RPRCONCSIDEWALK	square yard	Rail/Walk	Repair		Concrete
F744303	RPRCONCURB/PARAPET	square yard	Rail/Walk	Repair		Concrete
RLGBRPR	RPR/RPL.BR/PARA.RLG	foot	Rail/Walk	Repair		
RLGSTRM	RPR/RPL.STR.MTD.G.R.	foot	Rail/Walk	Repair		
RLGMEDB	RPR/RPL.MED.BARRIER	foot	Rail/Walk	Repair	Median	
RLGPEDN	RPR/RPL.PED.RLG	foot	Rail/Walk	Repair	Pedestrian	
B743201	SPOT PAINT SUBSTR	each bridge	Substructure	Coat	Spot paint	
A745401	CONSTRUCT TEMPORARY SUPPORT BENT	square yard	Substructure	Emergency	Temporary	
B745102	CONST.SLOPEWALL	cubic yard	Substructure	Modify	Slopewall	

DOT_ Action_ID	DOT_Action _Description	DOT _Unit	NBMD _Component	NBMD _Operation	NBMD _Activity	NBMD _Mode
E744803	UNDRPIN FOOTING	cubic yard	Substructure	Modify	Underpin	
B744802	REPAIR ABUTMENT	cubic yard	Substructure	Repair	Abutment	
A744801	ABUTMENT BACKWALLS (REPAIR/REPLACE)	cubic yard	Substructure	Repair	Backwall	
D744802	RPR. PIER	cubic yard	Substructure	Repair	Pier	
A745101	ABUTMENT SLOPEWALL (REPAIR/REPLACE)	square yard	Substructure	Repair	Slopewall	
C744802	RPR/RPL WINGWALL	cubic yard	Substructure	Repair	Wing	
D744503	RPL.BRGPED/SEAT	each	Substructure	Replace	Bearing seat	
F744804	REPOINT MASONRY	foot	Substructure	Reset	Repoint	Masonry
C743201	PAINT SUPERSTRUCTURE	each bridge	Superstructure	Coat	Paint	
A743201	Spot/Zone paint superstructure	each bridge	Superstructure	Coat	Spot paint	
B744701	MOD.TRUSSPORTAL	each	Superstructure	Modify	Portal	
A744701	STEEL TRUSS MEMBER (STRENGTHEN/REPAIR/REPLACE)	each	Superstructure	Repair		
D744602	RPR/RPLSTLDIAPHRAM	each	Superstructure	Repair	Bracing	Steel
B744603	RPR/RPLCONC DIAPHRAM	each	Superstructure	Repair	Diaphragm	Concrete
B744602	RPR/RPL.STL.FLBM	each	Superstructure	Repair	Floorbeam	Steel
C744602	RPR.STEELGIRDER	each	Superstructure	Repair	Girder	Steel
A744601	Repair/replace timber stringer	each	Superstructure	Repair	Stringer	Timber
A744602	Repair/replace steel stringer	each	Superstructure	Repair	Stringer	Steel
A744603	Repair/replace reinforced/prestressed concrete stringer	each	Superstructure	Repair	Stringer	Concrete

Table A2- 7 Tennessee Bridge Maintenance Actions

DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity
438	MANUAL BRUSH CONTROL	Each	Bridge	Clean	Brush
447	MANUAL SWEEPING	Each	Bridge	Clean	Sweep
446	MECHANICAL SWEEPING	Each	Bridge	Clean	Sweep
450	STRUCTURE CLEANING	Each	Bridge	Clean	
477	TRAFFIC CONTROL	Each	Bridge	nonMaintenance	
461	DE-ICING (SALT)	Each	Bridge	nonMaintenance	
463	ANTI-ICING (SALT BRINE)	Each	Bridge	nonMaintenance	
402	CRACK REPAIR	Each	Bridge	Repair	Crack
442	EROSION CONTROL	Each	Bridge	Repair	Erosion
454	MAJ STRUCTURE REPAIR	Each	Bridge	Repair	Major
451	MINOR STRUCTURE REPAIR	Each	Bridge	Repair	Minor
401	MANUAL SPOT PATCHING	Each	Bridge	Repair	Patch
405	MILLING	Each	Bridge	Repair	
400	SPECIAL PROJECTS	Each	Bridge		
433	REPAIR DRAIN STRCT - EACH	Each	Drain	Repair	
412	JOINT REPAIR	Each	Joint	Repair	
475	GUARDRAIL + BARRIER WALL	Each	Rail/Walk	Repair	

Table A2- 8 California Bridge Elements

DOT_ Elemtreey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
321	Reinforced Conc Approach Slab w/ or w/o AC Ovly	each	4	Approach /Embankment	Concrete	Slab		
320	P/S Concrete Approach Slab w/ or w-o/AC Ovly	each	4	Approach /Embankment	PS Concrete	Slab		
256	Slope Protection	each	3	Approach /Embankment		Slope Protection		
310	Elastomeric Bearing	each	3	Bearing	Elastomeric			
312	Enclosed/Concealed Bearing	each	3	Bearing		Enclosed		
313	Fixed Bearing	each	3	Bearing		Fixed		
311	Moveable Bearing (roller, sliding, etc.)	each	3	Bearing		Movable		
315	Disk Bearing	each	3	Bearing			Disk	
314	Pot Bearing	each	3	Bearing			Pot	
356	Steel Fatigue	each	3	Bridge	Steel	Flag	Fatigue	
357	Pack Rust	each	4	Bridge	Steel	Flag	Pack Rust	
362	Traffic Impact	each	3	Bridge		Flag	Impact	
363	Section Loss	each	4	Bridge		Flag	Section loss	
360	Settlement	each	3	Bridge		Flag	Settlement	
361	Scour	each	3	Channel		Flag	Scour	
241	Reinforced Concrete Culvert	meter	4	Culvert	Concrete			
240	Unpainted Steel Culvert	meter	4	Culvert	Steel			
242	Timber Culvert	meter	4	Culvert	Timber			
243	Other Culvert	meter	4	Culvert				
39	Concrete Slab - Unprotected w/ AC Overlay	square meter	5	Deck	Concrete	Slab		AC Overlay
40	Concrete Slab - Protected w/ AC Overlay	square meter	5	Deck	Concrete	Slab		AC Overlay - Protected
53	Concrete Slab - Protected w/ Cathodic System	square meter	5	Deck	Concrete	Slab		Cathodic
52	Concrete Slab - Protected w/ Coated Bars	square meter	5	Deck	Concrete	Slab		Coated Bars
48	Concrete Slab - Protected w/ Rigid Overlay	square meter	5	Deck	Concrete	Slab		Rigid Overlay
44	Concrete Slab - Protected w/ Thin Overlay	square meter	5	Deck	Concrete	Slab		Thin Overlay

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
38	Concrete Slab - Bare	square meter	5	Deck	Concrete	Slab		
13	Concrete Deck - Unprotected w/ AC Overlay	square meter	5	Deck	Concrete			AC Overlay
14	Concrete Deck - Protected w/ AC Overlay	square meter	5	Deck	Concrete			AC Overlay - Protected
27	Concrete Deck - Protected w/ Cathodic System	square meter	5	Deck	Concrete			Cathodic
26	Concrete Deck - Protected w/ Coated Bars	square meter	5	Deck	Concrete			Coated Bars
22	Concrete Deck - Protected w/ Rigid Overlay	square meter	5	Deck	Concrete			Rigid Overlay
18	Concrete Deck - Protected w/ Thin Overlay	square meter	5	Deck	Concrete			Thin Overlay
12	Concrete Deck - Bare	square meter	5	Deck	Concrete			
61	PS Conc Slab - Unprotected w/ AC Overlay	square meter	5	Deck	PS Concrete	Slab		AC Overlay
60	Prestressed Concrete Slab- Bare	square meter	5	Deck	PS Concrete	Slab		
30	Steel Deck - Corrugated/Orthotropic/Etc.	square meter	5	Deck	Steel		Corrugated	
29	Steel Deck - Concrete Filled Grid	square meter	5	Deck	Steel	Grid	Concrete-filled	
28	Steel Deck - Open Grid	square meter	5	Deck	Steel	Grid		
55	Timber Slab - w/ AC Overlay	square meter	4	Deck	Timber	Slab		AC Overlay
54	Timber Slab	square meter	4	Deck	Timber	Slab		
32	Timber Deck - w/ AC Overlay	square meter	4	Deck	Timber			AC Overlay
31	Timber Deck - Bare	square meter	4	Deck	Timber			
358	Deck Cracking	each	4	Deck		Flag	Deck Crack	
359	Soffit of Concrete Deck or Slab	each	5	Deck		Flag	Soffit	
309	Asphaltic Plug Joint Seal	meter	3	Joint	Asphalt	Plug		
350	Steel Fingers	meter	3	Joint	Steel	Finger		
349	Sliding Steel Plates	meter	3	Joint	Steel	Plate		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
303	Assembly Joint Seal - Modular Type	meter	3	Joint		Assembly	Modular	
308	Assembly Joint Seal - Non Modular Type (m)	meter	3	Joint		Assembly		
302	Compression Joint Seal	meter	3	Joint		Compression		
304	Open Expansion Joint	meter	3	Joint		Expansion	Open	
300	Strip Seal Expansion Joint	meter	3	Joint		Expansion	Strip seal	
301	Pourable Joint Seal	meter	3	Joint		Pourable		
250	Tunnel	meter	3	nonBridge				
331	Reinforced Conc Bridge Railing	meter	4	Rail/Walk	Concrete	Railing		
339	Concrete Railing (aesthetic/masonry)	meter	4	Rail/Walk	Concrete	Railing		
330	Metal Bridge Railing - coated or uncoated	meter	4	Rail/Walk	Metal	Railing		
336	Metal Railing (pipe or picket)	meter	4	Rail/Walk	Metal	Railing		
337	Metal Railing (W6X25 Posts)	meter	4	Rail/Walk	Metal	Railing		
338	Metal Railing (W8X31 Posts)	meter	4	Rail/Walk	Metal	Railing		
332	Timber Bridge Railing	meter	3	Rail/Walk	Timber	Railing		
333	Other Bridge Railing	meter	3	Rail/Walk		Railing		
335	Other Bridge Railing	meter	3	Rail/Walk		Railing		
334	Misc. Railing with 0.33 m sidewalk	meter	3	Rail/Walk		Railing w/Sidewalk		
215	Reinforced Conc Abutment	meter	4	Substructure	Concrete	Abutment		
234	Reinforced Conc Cap	meter	4	Substructure	Concrete	Cap		
205	Reinforced Conc Column or Pile Extension	each	4	Substructure	Concrete	Column		
210	Reinforced Conc Pier Wall	meter	4	Substructure	Concrete	Pier	Wall	
252	Cast-In-Drilled Hole Concrete Pile	each	4	Substructure	Concrete	Pile	Drilled	
220	Reinforced Conc Submerged Pile Cap/Footing	each	4	Substructure	Concrete	Pile		
227	Reinforced Conc Submerged Pile	each	4	Substructure	Concrete	Pile		
233	P/S Conc Cap	meter	4	Substructure	PS Concrete	Cap		
204	P/S Conc Column or Pile Extension	each	4	Substructure	PS Concrete	Column		
226	P/S Conc Submerged Pile	each	4	Substructure	PS Concrete	Pile		
231	Painted Steel Cap	meter	5	Substructure	Steel	Cap		Painted
230	Unpainted Steel Cap	meter	4	Substructure	Steel	Cap		
254	Steel Seismic Column Shell (Full Height)	each	5	Substructure	Steel	Column	Shell	
255	Steel Seismic Column Shell (Partial Height)	each	5	Substructure	Steel	Column	Shell	
202	Painted Steel Column or Pile Extension	each	5	Substructure	Steel	Column		Painted
201	Unpainted Steel Column or Pile Extension	each	4	Substructure	Steel	Column		
251	Steel Shell Foundation Pile Filled w/conc	each	4	Substructure	Steel	Pile	Concrete-filled	
225	Unpainted Steel Submerged Pile	each	4	Substructure	Steel	Pile		
216	Timber Abutment	meter	4	Substructure	Timber	Abutment		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
235	Timber Cap	meter	4	Substructure	Timber	Cap		
206	Timber Column or Pile Extension	each	4	Substructure	Timber	Column		
228	Timber Submerged Pile	each	4	Substructure	Timber	Pile		
217	Other Material Abutment	meter	4	Substructure		Abutment		
211	Other Material Pier Wall	meter	4	Substructure		Pier	Wall	
253	Other Pile	each	4	Substructure		Pile		
144	Reinforced Conc Arch	meter	4	Superstructure	Concrete	Arch		
105	Reinforced Concrete Closed Webs/Box Girder	meter	4	Superstructure	Concrete	Beam	Box	
110	Reinforced Conc Open Girder/Beam	meter	4	Superstructure	Concrete	Beam		
155	Reinforced Conc Floor Beam	meter	4	Superstructure	Concrete	Beam		
116	Reinforced Conc Stringer	meter	4	Superstructure	Concrete	Stringer		
143	P/S Conc Arch	meter	4	Superstructure	PS Concrete	Arch		
104	P/S Conc Closed Web/Box Girder	meter	4	Superstructure	PS Concrete	Beam	Box	
109	P/S Conc Open Girder/Beam	meter	4	Superstructure	PS Concrete	Beam		
154	P/S Conc Floor Beam	meter	4	Superstructure	PS Concrete	Beam		
115	P/S Conc Stringer	meter	4	Superstructure	PS Concrete	Stringer		
141	Painted Steel Arch	meter	5	Superstructure	Steel	Arch		Painted
140	Unpainted Steel Arch	meter	4	Superstructure	Steel	Arch		
102	Painted Steel Closed Web/Box Girder	meter	5	Superstructure	Steel	Beam	Box	Painted
101	Unpainted Steel Closed Web/Box Girder	meter	4	Superstructure	Steel	Beam	Box	
107	Painted Steel Open Girder/Beam	meter	5	Superstructure	Steel	Beam		Painted
152	Painted Steel Floor Beam	meter	5	Superstructure	Steel	Beam		Painted
106	Unpainted Steel Open Girder/Beam	meter	4	Superstructure	Steel	Beam		
151	Unpainted Steel Floor Beam	meter	4	Superstructure	Steel	Beam		
147	Cable - Coated (not embedded in concrete)	each	5	Superstructure	Steel	Cable		Coated
146	Cable - Uncoated (not embedded in concrete)	each	4	Superstructure	Steel	Cable		
180	Type II EQ Restrainer Cable	each	4	Superstructure	Steel	Cable		
181	Type C-1 EQ Restrainer Cable	each	4	Superstructure	Steel	Cable		
182	Other Type EQ Restrainer Cable	each	4	Superstructure	Steel	Cable		
131	Painted Steel Deck Truss	meter	5	Superstructure	Steel	Deck Truss		Painted
130	Unpainted Steel Deck Truss	meter	4	Superstructure	Steel	Deck Truss		
170	Railroad Car Frame	each	5	Superstructure	Steel	Frame		
161	Painted Steel Pin and/or Pin and Hanger Assembly	each	5	Superstructure	Steel	Pin/Hanger		Painted
160	Unpainted Steel Pin and/or Pin and Hanger Assembly	each	4	Superstructure	Steel	Pin/Hanger		
113	Painted Steel Stringer	meter	5	Superstructure	Steel	Stringer		Painted
112	Unpainted Steel Stringer	meter	4	Superstructure	Steel	Stringer		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
121	Painted Steel Bottom Chord Thru Truss	meter	5	Superstructure	Steel	Thru Truss	Bottom Chord	Painted
120	Unpainted Steel Bottom Chord Thru Truss	meter	4	Superstructure	Steel	Thru Truss	Bottom Chord	
126	Painted Steel Thru Truss (excl. bottom chord)	meter	5	Superstructure	Steel	Thru Truss		Painted
125	Unpainted Steel Thru Truss (excl. bottom chord)	meter	4	Superstructure	Steel	Thru Truss		
171	Miscellaneous Steel Superstructure	each	5	Superstructure	Steel			
135	Timber Truss/Arch	meter	4	Superstructure	Timber	Arch		
111	Timber Open Girder/Beam	meter	4	Superstructure	Timber	Beam		
156	Timber Floor Beam	meter	4	Superstructure	Timber	Beam		
117	Timber Stringer	meter	4	Superstructure	Timber	Stringer		
145	Other Arch	meter	4	Superstructure		Arch		

Table A2- 9 Michigan DOT NBMD Bridge Elements

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
320	Reinforced Concrete Approach Slab	each	4	Approach /Embankment	Concrete	Slab		
321	Prestressed Concrete Approach Slab	each	4	Approach /Embankment	PS Concrete	Slab		
310	Elastomeric Bearing	each	3	Bearing	Elastomeric			
311	Enclosed or Concealed Bearing	each	3	Bearing		Enclosed		
312	Fixed Bearing	each	3	Bearing		Fixed		
313	Movable Bearing (roller, sliding, etc.)	each	3	Bearing		Movable		
357	Concrete Anchors Smart Flag	each	4	Bridge	Concrete	Flag	Anchors	
356	Concrete Surface Coating Smart Flag	each	3	Bridge	Concrete	Flag	Coating	
360	Lead Base Paint System Smart Flag	each	3	Bridge	Paint	Flag	Lead	Painted
362	Steel Fatigue	each	3	Bridge	Steel	Flag	Fatigue	
363	Pack Rust	each	4	Bridge	Steel	Flag	Pack Rust	
380	Section Loss Smart Flag	each	3	Bridge		Flag	Section loss	
367	Settlement Smart Flag	each	3	Bridge		Flag	Settlement	
361	Scour Smart Flag	each	3	Channel		Flag	Scour	
218	Rip-rap	feet	4	Channel		Rip rap		
241	Metal Culvert	feet	4	Culvert	Metal			
13	Deck Spalling Protected Surface Smart Flag	square feet	5	Deck	Concrete	Flag	Spalling	Protected
12	Deck Spalling Bare Concrete/Rigid Ov Smart Flag	square feet	5	Deck	Concrete	Flag	Spalling	
14	Concrete Deck- Black Bars	square feet	5	Deck	Concrete			Black bars
28	Concrete Deck With Coated Bars	square feet	5	Deck	Concrete			Coated Bars
18	Concrete Deck With HMA Overlay- No Membrane	square feet	5	Deck	Concrete			HMA Overlay
22	Concrete Deck With HMA Overlay and Membrane	square feet	5	Deck	Concrete			HMA Overlay w/membrane
26	Concrete Deck With Stainless Steel Bars	square feet	5	Deck	Concrete			stainless steel bars
30	Ballasted Steel Deck	square	5	Deck	Steel	Ballasted		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
		feet						
358	Steel Deck With Concrete Filled Grid	square feet	4	Deck	Steel	Grid	Concrete- filled	
359	Timber Deck - Bare	square feet	5	Deck	Timber			
366	False Decking Smart Flag	each	4	Deck		Flag	False deck	
378	Deck Fascia Smart Flag	each	4	Deck		Flag	Fascia	
379	Slag Deck Aggregate Smart Flag	each	3	Deck		Flag	Slag aggregate	
365	Deck Bottom Surface Smart Flag	each	3	Deck		Flag	Soffit	
411	Polymer Blockout Expansion Joint	feet	3	Joint	Polymer	Blockout		
404	Steel Armor Expansion Joint (Open)	feet	3	Joint	Steel	Expansio n	Armor	
400	Block Out Expansion Joint	feet	3	Joint		Blockout		
401	Strip Seal Expansion Joint	feet	3	Joint		Expansio n		
405	Miscellaneous Expansion Joint	feet	3	Joint		Expansio n		
410	Assembly Joint/Seal (modular)	feet	3	Joint		Seal	Assembly	
403	Compression Joint Seal	feet	3	Joint		Seal	Compression	
402	Pourable Joint Seal	feet	3	Joint		Seal	Pourable	
330	Reinforced Concrete Bridge Railing	feet	4	Rail/Walk	Concrete	Railing		
331	Uncoated Metal Bridge Railing	feet	4	Rail/Walk	Metal	Railing		
333	Timber Bridge Railing	feet	3	Rail/Walk	Timber	Railing		
334	Miscellaneous Bridge Railing	feet	5	Rail/Walk		Railing		
72	Sidewalk	square feet	4	Rail/Walk		Sidewalk		
202	Reinforced Concrete Column or Pile Extension	each	5	Substructure	Concrete	Column		
204	Reinforced Concrete Pier Wall	feet	4	Substructure	Concrete	Pier	Wall	
205	Reinforced Concrete Pier Cap	feet	4	Substructure	Concrete	Pier cap		
210	Reinforced Conc Submerged Pile	each	4	Substructure	Concrete	Pile		
215	Prestressed Concrete Column or Pile Extension	each	4	Substructure	PS Concrete	Column		
217	P/S Conc Submerged Pile	each	4	Substructure	PS Concrete	Pile		
220	Unpainted Steel Column or Pile Extension	each	4	Substructure	Steel	Column		
231	Painted Steel Pier Cap	feet	5	Substructure	Steel	Pier cap		Painted
234	Unpainted Steel Submerged Pile	each	4	Substructure	Steel	Pile		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
104	Reinforced Concrete Arch	feet	4	Superstructure	Concrete	Arch		
105	Reinforced Concrete Box Beam	feet	4	Superstructure	Concrete	Beam	Box	
107	Reinforced Concrete Floor Beam	feet	5	Superstructure	Concrete	Beam		
106	Reinforced Concrete Girder or Beam	feet	4	Superstructure	Concrete	Beam		
109	Reinforced Concrete Stringer	feet	4	Superstructure	Concrete	Stringer		
110	P/S Conc Arch	feet	4	Superstructure	PS Concrete	Arch		
113	Post Tensioned Concrete Box Girder	feet	5	Superstructure	PS Concrete	Beam	Box	
115	P/S Conc Floor Beam	feet	4	Superstructure	PS Concrete	Beam		
116	Prestressed Concrete Stringer	feet	4	Superstructure	PS Concrete	Stringer		
143	Unpainted Steel Box Girder	feet	4	Superstructure	Steel	Beam	Box	
152	Tack Welded Pins Smart Flag	each	5	Superstructure	Steel	Flag	Tack weld pin	
161	Unpainted Pin and Hanger Assembly	each	5	Superstructure	Steel	Pin/Hanger		
160	Timber Floor Beam	feet	4	Superstructure	Timber	Beam		
364	Timber Truss or Arch	feet	3	Superstructure	Timber	Truss/Arch		
381	Other Material Arch	feet	3	Superstructure		Arch		

Table A2- 10 Oregon NBMD Bridge Elements

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
374	Incident Approach Embankment Smart Flag	each	3	Approach /Embankment		Flag	Damage Incident	
321	Reinforced Concrete Approach Slab	each	4	Approach /Embankment	Concrete	Slab		
320	Prestressed Conc. Approach Slab	each	4	Approach /Embankment	PS Concrete	Slab		
314	Pot or Disk Bearings	each	3	Bearing			Pot	
312	Enclosed / Concealed Bearings	feet	3	Bearing		Enclosed		
313	Fixed Bearings	each	3	Bearing		Fixed		
311	Movable Bearings (roller, slider, etc.)	each	3	Bearing		Movable		
310	Elastomeric Bearings	each	3	Bearing	Elastomeric			
990	Miscellaneous Elements	each	0	Bridge				
995	Cathodic Protection System	each	3	Bridge				Cathodic
900	Abandoned Structure	each	3	Bridge		Abandoned		
362	Traffic Impact Smart Flag	each	3	Bridge		Flag	Impact	
325	Roadway Impact Assessment	each	3	Bridge		Flag	Roadway	
363	Section Loss Smart Flag	each	4	Bridge		Flag	Section loss	
360	Settlement Smart Flag	each	3	Bridge		Flag	Settlement	
390	Paint System - Alkyds (incl. red lead)	square feet	5	Bridge	Alkyds	Paint		
392	Paint System - Epoxies w/Polyurethanes	square feet	5	Bridge	Epoxies w/Polyurethanes	Paint		
394	Paint System - Inorganic Zinc	square feet	5	Bridge	Inorganic Zinc	Paint		
393	Paint System - Polyurethanes	square feet	5	Bridge	Polyurethanes	Paint		
356	Steel Fatigue Smart Flag	each	3	Bridge	Steel	Flag	Fatigue	
357	Pack Rust Smart Flag	each	4	Bridge	Steel	Flag	Pack Rust	
391	Paint System - Vinyl	square feet	5	Bridge	Vinyl	Paint		
361	Scour Smart Flag	each	3	Channel		Flag	Scour	
243	Other Culverts (Aluminum, Plastic)	feet	4	Culvert				
241	Concrete Culverts	feet	4	Culvert	Concrete			
240	Steel Culvert	feet	4	Culvert	Steel			

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
242	Timber Culverts	feet	4	Culvert	Timber			
33	Deck, Other	square feet	4	Deck				
371	Incident Deck Smart Flag	each	3	Deck		Flag	Damage Incident	
358	Deck Cracking Smart Flag	each	4	Deck		Flag	Deck Crack	
359	Soffit Cracking Smart Flag	each	5	Deck		Flag	Soffit	
326	Deck Wearing Surface Condition Assessment	each	3	Deck		Flag	Wearing Surface	
12	Concrete Deck - Bare	square feet	5	Deck	Concrete			
13	Conc. Deck - Unprotected w/ AC Overlay	square feet	5	Deck	Concrete			AC Overlay
14	Conc. Deck - Protected w/ AC Overlay	square feet	5	Deck	Concrete			AC Overlay - Pro
27	Concrete Deck - w/ Cathodic System	square feet	5	Deck	Concrete			Cathodic
26	Concrete Deck - w/ Coated Bars	square feet	5	Deck	Concrete			Coated Bars
22	Concrete Deck - Protected w/ Rigid Overlay	square feet	5	Deck	Concrete			Rigid Overlay
18	Concrete Deck - Protected w/ Thin Overlay	square feet	5	Deck	Concrete			Thin Overlay
38	Concrete Slab - Bare	square feet	5	Deck	Concrete	Slab		
39	Conc. Slab - Unprotected w/ AC Overlay	square feet	5	Deck	Concrete	Slab		AC Overlay
40	Conc. Slab - Protected w/ AC Overlay	square feet	5	Deck	Concrete	Slab		AC Overlay - Pro
53	Concrete Slab - w/ Cathodic System	square feet	5	Deck	Concrete	Slab		Cathodic
52	Concrete Slab - w/ Coated Bars	square feet	5	Deck	Concrete	Slab		Coated Bars
48	Concrete Slab - Protected w/ Rigid Overlay	square feet	5	Deck	Concrete	Slab		Rigid Overlay
44	Concrete Slab - Protected w/ Thin Overlay	square feet	5	Deck	Concrete	Slab		Thin Overlay
30	Steel Decks (Corrugated / Orthotropic / Etc.)	square feet	5	Deck	Steel	Corrugated		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
29	Steel Closed Concrete Filled Grid Decks	square feet	5	Deck	Steel	Grid	Concrete-filled	
28	Steel Open Grid Decks	square feet	5	Deck	Steel	Grid	Open	
31	Timber Deck - Bare	square feet	4	Deck	Timber			
32	Timber Deck - w/ AC Overlay	square feet	4	Deck	Timber			AC Overlay
54	Timber Slab - Bare	square feet	4	Deck	Timber	Slab		
55	Timber Slab - w / AC Overlay	square feet	4	Deck	Timber	Slab		AC Overlay
303	Modular Joint Assembly / Seals	feet	3	Joint		Assembly	Modular	
304	Open Expansion Joints	feet	3	Joint		Expansion	Open	
300	Strip Seal Expansion Joints	feet	3	Joint		Expansion	Strip seal	
309	Other Expansion Joint Seals	feet	3	Joint		Seal		
306	Asphaltic Plug Joint Seals	feet	3	Joint	Asphalt	Seal		
305	Polychloroprene Compression Joint Seals	feet	3	Joint	Polychloroprene	Seal	Compression	
302	Polyfoam Compression Joint Seals	feet	3	Joint	Polyfoam	Seal	Compression	
301	Silicone Joint Seals	feet	3	Joint	Silicone	Seal		
960	Drawbridge Elect. / Mech.	each	3	MovableSpan		Elec/Mech Sys		
950	Flume Structure	each	3	nonBridge		Flume		
930	Ped/Bike Structure	each	3	nonBridge		Ped/Bike		
940	Private Structure	each	3	nonBridge		Private		
910	Railroad Structure	each	3	nonBridge		Railroad		
920	Sign Structure	each	3	nonBridge		Sign		
253	Other Tunnel	feet	4	nonBridge		Tunnel		
252	Tunnel	feet	4	nonBridge		Tunnel		
251	Reinforced Concrete Tunnel	feet	4	nonBridge	Concrete	Tunnel		
255	Reinforced Concrete Tunnel Portal Conc	each	5	nonBridge	Concrete	Tunnel	Portal	
250	Painted Steel Tunnel	feet	3	nonBridge	Steel	Tunnel		Painted
370	Incident Rail Smart Flag	each	3	Rail/Walk		Flag	Damage Incident	
333	Other Bridge Railings	feet	3	Rail/Walk		Railing		
331	Reinforced Concrete Bridge Railing	feet	4	Rail/Walk	Concrete	Railing		
330	Uncoated Metal Bridge Railing	feet	4	Rail/Walk	Metal	Railing		
334	Coated Metal Bridge Railings	feet	3	Rail/Walk	Metal	Railing		Coated

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
332	Timber Bridge Railing	feet	3	Rail/Walk	Timber	Railing		
217u	Other Abutment	feet	4	Substructure		Abutment		
217	Other Abutment	each	4	Substructure		Abutment		
207	Other Column	each	4	Substructure		Column		
373	Incident Substructure Smart Flag	each	3	Substructure		Flag	Damage Incident	
211u	Other Pier Wall	feet	4	Substructure		Pier	Wall	
211	Other Pier Wall	each	4	Substructure		Pier	Wall	
215	Reinforced Concrete Abutment	each	4	Substructure	Concrete	Abutment		
234	Reinforced Concrete Cap	each	4	Substructure	Concrete	Cap		
205	Reinforced Concrete Column or Pile Extension	each	4	Substructure	Concrete	Column		
993	Fender System, Concrete	each	3	Substructure	Concrete	Fender		
221	Reinforced Concrete Submerged Concrete Spread Footing	each	4	Substructure	Concrete	Footing		
223	Reinforced Concrete Submerged Concrete Footing Seal	each	4	Substructure	Concrete	Footing seal		
210u	Reinforced Concrete Pier Wall	feet	4	Substructure	Concrete	Pier	Wall	
210	Reinforced Concrete Pier Wall	each	4	Substructure	Concrete	Pier	Wall	
227	Reinforced Concrete Continuously Submerged Pile	each	4	Substructure	Concrete	Pile		
220	Reinforced Concrete Submerged Pile Cap / Footing	each	4	Substructure	Concrete	Pile Cap		
233u	Prestressed / Post-Tension Cap	feet	4	Substructure	PS Concrete	Cap		
233	Prestressed / Post-Tension Cap	each	4	Substructure	PS Concrete	Cap		
204	Prestressed / Post-Tension Column or Pile Extension	each	4	Substructure	PS Concrete	Column		
226	Prestressed / Post-Tension Submerged Pile	each	4	Substructure	PS Concrete	Pile		
219	Unpainted Steel Abutment	each	4	Substructure	Steel	Abutment		
218	Painted Steel Abutment	each	5	Substructure	Steel	Abutment		Painted
230	Unpainted Steel Cap	each	4	Substructure	Steel	Cap		
231	Painted Steel Cap	each	5	Substructure	Steel	Cap		Painted
201	Unpainted Steel Column or Pile Extension	each	4	Substructure	Steel	Column		
202	Painted Steel Column or Pile Extension	each	5	Substructure	Steel	Column		Painted
992	Fender System, Unpainted Steel	each	3	Substructure	Steel	Fender		
991	Fender System, Painted Steel	each	3	Substructure	Steel	Fender		Painted
225	Unpainted Steel Submerged Pile	each	4	Substructure	Steel	Pile		
216u	Timber Abutment	feet	4	Substructure	Timber	Abutment		
216	Timber Abutment	each	4	Substructure	Timber	Abutment		
235u	Timber Cap	feet	4	Substructure	Timber	Cap		
235	Timber Cap	each	4	Substructure	Timber	Cap		
206	Timber Column or Pile Extension	each	4	Substructure	Timber	Column		
994	Fender System, Timber	each	3	Substructure	Timber	Fender		

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
228	Timber Continuously Submerged Pile	each	4	Substructure	Timber	Pile		
145	Other Arch	feet	4	Superstructure		Arch		
372	Incident Superstructure Smart Flag	each	3	Superstructure		Flag	Damage Incident	
144	Reinforced Concrete Arch (includes arch and bottom chord)	feet	4	Superstructure	Concrete	Arch		
155	Reinforced Concrete Floorbeam	feet	4	Superstructure	Concrete	Beam		
110	Reinforced Concrete Open Girder/Beam	feet	4	Superstructure	Concrete	Beam		
105	Reinforced Concrete Closed Web/Box Girder	feet	4	Superstructure	Concrete	Beam	Box	
116	Reinforced Concrete Stringer (stringer/floorbeam system)	feet	4	Superstructure	Concrete	Stringer		
143	Prestressed / Post-Tension Arch	feet	4	Superstructure	PS Concrete	Arch		
154	Prestressed / Post-Tension Floorbeam	feet	4	Superstructure	PS Concrete	Beam		
109	Prestressed / Post-Tension Open Girder/Beam	feet	4	Superstructure	PS Concrete	Beam		
104	Prestressed / Post-Tension Closed Web/Box Girder (incl voided slabs)	feet	4	Superstructure	PS Concrete	Beam	Box	
115	Prestressed / Post-Tension Stringer (stringer/floorbeam system)	feet	4	Superstructure	PS Concrete	Stringer		
140	Unpainted Steel Arch (LF) (incl ribs and spandrel columns)	feet	4	Superstructure	Steel	Arch		
141	Painted Steel Arch (incl. arch ribs and spandrel columns)	feet	5	Superstructure	Steel	Arch		Painted
151	Unpainted Steel Floor Beam	feet	4	Superstructure	Steel	Beam		
106	Unpainted Steel Open Girder/Beam	feet	4	Superstructure	Steel	Beam		
152	Painted Steel Floorbeam	feet	5	Superstructure	Steel	Beam		Painted
107	Painted Steel Open Girder/Beam	feet	5	Superstructure	Steel	Beam		Painted
101	Unpainted Steel Closed Web/Box Girder	feet	4	Superstructure	Steel	Beam	Box	
102	Painted Steel Closed Web/Box Girder	feet	5	Superstructure	Steel	Beam	Box	Painted
147	Cable (not embedded in concrete)	each	5	Superstructure	Steel	Cable		
130	Unpainted Steel Deck Truss (includes bottom chord)	feet	4	Superstructure	Steel	Deck Truss		
131	Painted Steel Deck Truss (incl. arch and bottom chord)	feet	5	Superstructure	Steel	Deck Truss		Painted
160	Unpainted Steel Pin and Hanger and Girder Pin Assemblies	each	4	Superstructure	Steel	Pin/Hanger		
161	Painted Steel Pin and Hanger and Girder Pin Assemblies	each	5	Superstructure	Steel	Pin/Hanger		Painted
112	Unpainted Steel Stringer (stringer/floorbeam system)	feet	4	Superstructure	Steel	Stringer		
113	Painted Steel Stringer (stringer/floorbeam system)	feet	5	Superstructure	Steel	Stringer		Painted
125	Unpainted Steel Thru Truss (excl. bottom chord)	feet	4	Superstructure	Steel	Thru Truss		
126	Painted Steel Thru Truss (excl. bottom chord)	feet	5	Superstructure	Steel	Thru Truss		Painted
120	Unpainted Steel Thru Truss (bottom chord)	feet	4	Superstructure	Steel	Thru Truss	Bottom Chord	

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
121	Painted Steel Thru Truss (bottom chord)	feet	5	Superstructure	Steel	Thru Truss	Bottom Chord	Painted
135	Timber Truss / Arch	feet	4	Superstructure	Timber	Arch		
156	Timber Floorbeam	feet	4	Superstructure	Timber	Beam		
111	Timber Open Girder/Beam	feet	4	Superstructure	Timber	Beam		
117	Timber Stringer (stringer/floorbeam system)	feet	4	Superstructure	Timber	Stringer		

Table A2- 11 Pennsylvania DOT NBMD Bridge Elements

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
321	Reinforced Conc Approach Slab w/ or w/o AC Ovly	each	4	Approach /Embankment	Concrete	Slab		
320	P/S Concrete Approach Slab w/ or w-o/AC Ovly	each	4	Approach /Embankment	PS Concrete	Slab		
310	Elastomeric Bearings	each	3	Bearing	Elastomeric			
312	Enclosed / Concealed Bearings	each	3	Bearing		Enclosed		
313	Fixed Bearings	each	3	Bearing		Fixed		
311	Movable Bearings (roller, slider, etc.)	each	3	Bearing		Movable		
315	Disk Bearing	each	3	Bearing			Disk	
314	Pot Bearing	each	3	Bearing			Pot	
589	Critical Cracking Smart Flag	each	3	Bridge	Concrete	Flag	Cracking	
356	Steel Fatigue Smart Flag	each	3	Bridge	Steel	Flag	Fatigue	
357	Pack Rust Smart Flag	each	4	Bridge	Steel	Flag	Pack Rust	
585	Alert Smart Flag	each	3	Bridge		Flag	Alert	
362	Traffic Impact Smart Flag	each	3	Bridge		Flag	Impact	
363	Section Loss Smart Flag	each	4	Bridge		Flag	Section loss	
360	Settlement Smart Flag	each	3	Bridge		Flag	Settlement	
588	Temporary Support Smart Flag	each	3	Bridge		Flag	Temp support	
361	Scour Smart Flag	each	3	Channel		Flag	Scour	
241	Reinforced Concrete Culvert	feet	4	Culvert	Concrete			
569	Masonry Culvert	feet	4	Culvert	Masonry			
240	Unpainted Steel Culvert	feet	4	Culvert	Steel			
579	Other Headwall	feet	4	Culvert		Headwall		
243	Other Culvert	feet	4	Culvert				
581	Conc Deck/Slab Soffit with Stay-In-Place Forms	each	5	Deck	Concrete	Flag	Stay-in-place form	
38	Concrete Slab - Bare	square feet	5	Deck	Concrete	Slab		
39	Conc. Slab - Unprotected w/ AC Overlay	square feet	5	Deck	Concrete	Slab		AC Overlay
40	Conc. Slab - Protected w/ AC Overlay	square feet	5	Deck	Concrete	Slab		AC Overlay - Pro
44	Concrete Slab - Protected w/ Thin Overlay	square	5	Deck	Concrete	Slab		Thin Overlay

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
		feet						
48	Concrete Slab - Protected w/ Rigid Overlay	square feet	5	Deck	Concrete	Slab		Rigid Overlay
52	Concrete Slab - w/ Coated Bars	square feet	5	Deck	Concrete	Slab		Coated Bars
410	Concrete with Bituminous Overlay and Coated Bars	square feet	5	Deck	Concrete	Slab		Bituminous overlay and coated bars
411	Concrete Slab with Mem Bit Overlay and Coated Bars	square feet	5	Deck	Concrete	Slab		Membrane, bituminous overlay and coated bars
412	Concrete Slab with Rigid Overlay and Coated Bars	square feet	5	Deck	Concrete	Slab		Rigid overlay and coated bars
12	Concrete Deck - Bare	square feet	5	Deck	Concrete			
13	Conc. Deck - Unprotected w/ AC Overlay	square feet	5	Deck	Concrete			AC Overlay
14	Conc. Deck - Protected w/ AC Overlay	square feet	5	Deck	Concrete			AC Overlay - Pro
18	Concrete Deck - Protected w/ Thin Overlay	square feet	5	Deck	Concrete			Thin Overlay
22	Concrete Deck - Protected w/ Rigid Overlay	square feet	5	Deck	Concrete			Rigid Overlay
26	Concrete Deck - w/ Coated Bars	square feet	5	Deck	Concrete			Coated Bars
27	Concrete Deck - w/ Cathodic System	square feet	5	Deck	Concrete			Cathodic
400	Concrete with Bituminous Overlay and Coated Bars	square feet	5	Deck	Concrete			Bituminous overlay and coated bars
401	Concrete Deck with Mem Bit Overlay and Coated Bars	square feet	5	Deck	Concrete			Membrane, bituminous overlay and coated bars
402	Concrete Deck with Rigid Overlay and Coated Bars	square feet	5	Deck	Concrete			Rigid overlay and coated bars
403	Concrete Deck with Reinforced Rigid Overlay	square feet	5	Deck	Concrete			Reinforced rigid overlay
500	Concrete Structural Deck	square feet	5	Deck	Concrete			
30	Steel Decks (Corrugated / Orthotropic / Etc.)	square feet	5	Deck	Steel	Corrugated		
29	Steel Closed Concrete Filled Grid Decks	square feet	5	Deck	Steel	Grid	Concrete-filled	

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
501	Steel - Concrete Filled Grid w/ Bituminous Overlay	square feet	5	Deck	Steel	Grid	Concrete-filled	Bituminous overlay
28	Steel Open Grid Decks	square feet	5	Deck	Steel	Grid	Open	
31	Timber Deck - Bare	square feet	4	Deck	Timber			
32	Timber Deck - w/ AC Overlay	square feet	4	Deck	Timber			AC Overlay
580	Deck Joint Smart Flag	each	3	Deck		Flag	Construction joint	
358	Deck Cracking Smart Flag	each	4	Deck		Flag	Deck Crack	
359	Soffit Cracking Smart Flag	each	5	Deck		Flag	Soffit	
504	Deck - Other	square feet	4	Deck				
520	Asphaltic Plug Expansion Device	feet	3	Joint	Asphalt		Plug	
420	Silicone Joint Seal	feet	3	Joint	Silicone	Seal		
421	Open Joint - Steel Sliding Plate	feet	3	Joint	Steel		Sliding plate	
422	Open Joint - Steel Tooth Dam (Not Sealed)	feet	3	Joint	Steel		Tooth dam	
303	Assembly Joint/Seal (modular)	feet	3	Joint		Assembly	Modular	
304	Open Expansion Joints	feet	3	Joint		Expansion	Open	
300	Strip Seal Expansion Joints	feet	3	Joint		Expansion	Strip seal	
302	Compression Joint Seal	feet	3	Joint		Seal	Compression	
301	Pourable Joint Seal	feet	3	Joint		Seal	Pourable	
529	Joint Trough	feet	3	Joint		Trough		
521	Other Expansion Joint	feet	3	Joint				
331	Reinforced Concrete Bridge Railing	feet	4	Rail/Walk	Concrete	Railing		
330	Metal Bridge Railing - Uncoated	feet	4	Rail/Walk	Metal	Railing		
334	Metal Bridge Railing - Coated	feet	3	Rail/Walk	Metal	Railing		Coated
332	Timber Bridge Railing	feet	3	Rail/Walk	Timber	Railing		
333	Other Bridge Railings	feet	3	Rail/Walk		Railing		
582	Bridge Railing Traffic Impact Smart Flag	each	3	Rails/Walk		Flag	Traffic impact	
519	Independent Sidewalk	feet	3	Rails/Walk		Sidewalk		

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
215	Reinforced Concrete Abutment	feet	4	Substructure	Concrete	Abutment		
234	Reinforced Concrete Cap	feet	4	Substructure	Concrete	Cap		
565	Reinforced Concrete Pilecap/Footing	feet	4	Substructure	Concrete	Cap/Footing		
205	Reinforced Concrete Column or Pile Extension	each	4	Substructure	Concrete	Column		
210	Reinforced Concrete Pier Wall	feet	4	Substructure	Concrete	Pier	Wall	
220	Reinforced Concrete Submerged Pile Cap / Footing	each	4	Substructure	Concrete	Pile Cap		
557	Reinforced Concrete Retaining Wall/Wingwall	feet	4	Substructure	Concrete	Wall		
561	Reinforced Concrete Prefab Wall	feet	4	Substructure	Concrete	Wall		
552	MSE Abutment	feet	4	Substructure	Earth	Abutment		
553	MSE Retaining Wall/Wingwall	feet	4	Substructure	Earth	Wall		
551	Masonry Abutment	feet	4	Substructure	Masonry	Abutment		
550	Masonry Pier Wall	feet	4	Substructure	Masonry	Pier	Wall	
233	P/S Conc Cap	feet	4	Substructure	PS Concrete	Cap		
204	P/S Conc Column or Pile Extension	each	4	Substructure	PS Concrete	Column		
231	Painted Steel Cap	feet	5	Substructure	Steel	Cap		Painted
201	Unpainted Steel Column or Pile Extension	each	4	Substructure	Steel	Column		
202	Painted Steel Column or Pile Extension	each	5	Substructure	Steel	Column		Painted
225	Unpainted Steel Submerged Pile	each	4	Substructure	Steel	Pile		
216	Timber Abutment	feet	4	Substructure	Timber	Abutment		
217	Other Abutment	feet	4	Substructure		Abutment		
211	Other Material Pier Wall	feet	4	Substructure		Pier	Wall	
560	Other Retaining Wall/Wingwall	feet	4	Substructure		Wall		
144	Reinforced Conc Arch	feet	4	Superstructure	Concrete	Arch		
105	Reinforced Concrete Closed Web/Box Girder	feet	4	Superstructure	Concrete	Beam	Box	
440	Reinforced Concrete Open Transverse Girder	feet	4	Superstructure	Concrete	Beam		
110	Reinforced Concrete Open Girder/Beam	feet	4	Superstructure	Concrete	Beam		
155	Reinforced Concrete Floorbeam	feet	4	Superstructure	Concrete	Beam		

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
116	Reinforced Concrete Stringer (stringer/floorbeam system)	feet	4	Superstructure	Concrete	Stringer		
143	P/S Conc Arch	feet	4	Superstructure	PS Concrete	Arch		
104	P/S Conc Closed Web/Box Girder	feet	4	Superstructure	PS Concrete	Beam	Box	
109	P/S Conc Open Girder/Beam	feet	4	Superstructure	PS Concrete	Beam		
115	Prestressed / Post-Tension Stringer (stringer/floorbeam system)	feet	4	Superstructure	PS Concrete	Stringer		
140	Unpainted Steel Arch	feet	4	Superstructure	Steel	Arch		
141	Painted Steel Arch	feet	5	Superstructure	Steel	Arch		Painted
431	Steel Unpainted Closed Web/Box Transverse Girder	feet	4	Superstructure	Steel	Beam	Box	
432	Steel Painted Closed Web/Box Transverse Girder	feet	5	Superstructure	Steel	Beam	Box	Painted
102	Painted Steel Closed Web/Box Girder	feet	5	Superstructure	Steel	Beam	Box	Painted
437	Painted Steel Open Transverse Girder	feet	5	Superstructure	Steel	Beam		Painted
530	Galvanized steel open girder/beam	feet	5	Superstructure	Steel	Beam		Galvanized
531	Open Girder/Beam - Concrete Encased	feet	4	Superstructure	Steel	Beam		Concrete-encased
106	Unpainted Steel Open Girder/Beam	feet	4	Superstructure	Steel	Beam		
107	Painted Steel Open Girder/Beam	feet	5	Superstructure	Steel	Beam		Painted
151	Unpainted Steel Floor Beam	feet	4	Superstructure	Steel	Beam		
152	Painted Steel Floorbeam	feet	5	Superstructure	Steel	Beam		Painted
146	Cable - Uncoated (not embedded in concrete)	each	5	Superstructure	Steel	Cable		
147	Cable - Coated (not embedded in concrete)	each	5	Superstructure	Steel	Cable		Painted
131	Painted Steel Deck Truss	feet	5	Superstructure	Steel	Deck Truss		Painted
586	Deterioration of Pin/Hanger Assembly Smart Flag	each	3	Superstructure	Steel	Flag	Pin/Hanger	
587	Pin/Hanger Retrofit Smart Flag	each	4	Superstructure	Steel	Flag	Pin/Hanger retrofit	
161	Painted Steel Pin and/or Pin and Hanger Assembly	each	5	Superstructure	Steel	Pin/Hanger		Painted
112	Unpainted Steel Stringer (stringer/floorbeam system)	feet	4	Superstructure	Steel	Stringer		
113	Painted Steel Stringer (stringer/floorbeam system)	feet	5	Superstructure	Steel	Stringer		Painted
121	Painted Steel Bottom Chord Thru Truss	feet	5	Superstructure	Steel	Thru Truss	Bottom Chord	Painted

DOT_ Elemkey	elemlong	DOT_ Unit	State cnt	Component	Material	Part	Form	Protection
126	Painted Steel Thru Truss (excl. bottom chord)	feet	5	Superstructure	Steel	Thru Truss		Painted
111	Timber Open Girder/Beam	feet	4	Superstructure	Timber	Beam		
117	Timber Stringer (stringer/floorbeam system)	feet	4	Superstructure	Timber	Stringer		
135	Timber Truss/Arch	feet	4	Superstructure	Timber	Truss/Arch		
1	Spandrel Wall (Closed Spandrel Arch Wall)	each	3	Superstructure		Arch	Spandrel Wall	
145	Other Arch	feet	4	Superstructure		Arch		
583	Beam End Section Loss Smart Flag	each	5	Superstructure		Flag	Beam End	
584	Fascia Beam Deterioration Smart Flag	each	4	Superstructure		Flag	Fascia beam	

Table A2- 12 Tennessee NBMD Bridge Elements

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
321	Reinforced Concrete Approach Slab	each	4	Approach /Embankment	Concrete	Slab		
320	Prestressed Conc. Approach Slab	each	4	Approach /Embankment	PS Concrete	Slab		
310	Elastomeric Bearings	each	3	Bearing	Elastomeric			
312	Enclosed / Concealed Bearings	feet	3	Bearing		Enclosed		
313	Fixed Bearings	each	3	Bearing		Fixed		
311	Movable Bearings (roller, slider, etc.)	each	3	Bearing		Movable		
315	Disk Bearing	each	3	Bearing			Disk	
314	Pot or Disk Bearings	each	3	Bearing			Pot	
356	Steel Fatigue Smart Flag	each	3	Bridge	Steel	Flag	Fatigue	
357	Pack Rust Smart Flag	each	4	Bridge	Steel	Flag	Pack Rust	
362	Traffic Impact Smart Flag	each	3	Bridge		Flag	Impact	
363	Section Loss Smart Flag	each	4	Bridge		Flag	Section loss	
360	Settlement Smart Flag	each	3	Bridge		Flag	Settlement	
361	Scour Smart Flag	each	3	Channel		Flag	Scour	
241	Concrete Culverts	meter	4	Culvert	Concrete			
240	Steel Culvert	meter	4	Culvert	Steel			
242	Timber Culverts	meter	4	Culvert	Timber			
243	Other Culverts (Aluminum, Plastic)	meter	4	Culvert				
39	Conc. Slab - Unprotected w/ AC Overlay	square meter	5	Deck	Concrete	Slab		AC Overlay
40	Conc. Slab - Protected w/ AC Overlay	square meter	5	Deck	Concrete	Slab		AC Overlay - Pro
52	Concrete Slab - w/ Coated Bars	square meter	5	Deck	Concrete	Slab		Coated Bars
44	Concrete Slab - Protected w/ Thin Overlay	square meter	5	Deck	Concrete	Slab		Thin Overlay
38	Concrete Slab - Bare	square meter	5	Deck	Concrete	Slab		
13	Conc. Deck - Unprotected w/ AC Overlay	square meter	5	Deck	Concrete			AC Overlay
14	Conc. Deck - Protected w/ AC Overlay	square meter	5	Deck	Concrete			AC Overlay - Pro

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
27	Concrete Deck - w/ Cathodic System	square meter	5	Deck	Concrete			Cathodic
26	Concrete Deck - w/ Coated Bars	square meter	5	Deck	Concrete			Coated Bars
22	Concrete Deck - Protected w/ Rigid Overlay	square meter	5	Deck	Concrete			Rigid Overlay
18	Concrete Deck - Protected w/ Thin Overlay	square meter	5	Deck	Concrete			Thin Overlay
12	Concrete Deck - Bare	square meter	5	Deck	Concrete			
30	Steel Decks (Corrugated / Orthotropic / Etc.)	square meter	5	Deck	Steel		Corrugated	
29	Steel Closed Concrete Filled Grid Decks	square meter	5	Deck	Steel	Grid	Concrete-filled	
28	Steel Open Grid Decks	square meter	5	Deck	Steel	Grid	Open	
55	Timber Slab - w / AC Overlay	square meter	4	Deck	Timber	Slab		AC Overlay
32	Timber Deck - w/ AC Overlay	square meter	4	Deck	Timber			AC Overlay
31	Timber Deck - Bare	square meter	4	Deck	Timber			
358	Deck Cracking Smart Flag	each	4	Deck		Flag	Deck Crack	
359	Soffit Cracking Smart Flag	each	5	Deck		Flag	Soffit	
302	Polyfoam Compression Joint Seals	meter	3	Joint	Polyfoam	Seal	Compression	
301	Silicone Joint Seals	meter	3	Joint	Silicone	Seal		
303	Modular Joint Assembly / Seals	meter	3	Joint		Assembly	Modular	
304	Open Expansion Joints	meter	3	Joint		Expansion	Open	
300	Strip Seal Expansion Joints	meter	3	Joint		Expansion	Strip seal	
331	Reinforced Concrete Bridge Railing	meter	4	Rail/Walk	Concrete	Railing		
334	Coated Metal Bridge Railings	meter	3	Rail/Walk	Metal	Railing		Coated
330	Uncoated Metal Bridge Railing	meter	4	Rail/Walk	Metal	Railing		
332	Timber Bridge Railing	meter	3	Rail/Walk	Timber	Railing		
333	Other Bridge Railings	meter	3	Rail/Walk		Railing		
215	Reinforced Concrete Abutment	each	4	Substructure	Concrete	Abutment		
234	Reinforced Concrete Cap	each	4	Substructure	Concrete	Cap		
205	Reinforced Concrete Column or Pile Extension	each	4	Substructure	Concrete	Column		
210	Reinforced Concrete Pier Wall	each	4	Substructure	Concrete	Pier	Wall	

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
227	Reinforced Concrete Continuously Submerged Pile	each	4	Substructure	Concrete	Pile		
220	Reinforced Concrete Submerged Pile Cap / Footing	each	4	Substructure	Concrete	Pile Cap		
233	Prestressed / Post-Tension Cap	each	4	Substructure	PS Concrete	Cap		
204	Prestressed / Post-Tension Column or Pile Extension	each	4	Substructure	PS Concrete	Column		
226	Prestressed / Post-Tension Submerged Pile	each	4	Substructure	PS Concrete	Pile		
231	Painted Steel Cap	each	5	Substructure	Steel	Cap		Painted
230	Unpainted Steel Cap	each	4	Substructure	Steel	Cap		
202	Painted Steel Column or Pile Extension	each	5	Substructure	Steel	Column		Painted
201	Unpainted Steel Column or Pile Extension	each	4	Substructure	Steel	Column		
225	Unpainted Steel Submerged Pile	each	4	Substructure	Steel	Pile		
216	Timber Abutment	each	4	Substructure	Timber	Abutment		
235	Timber Cap	each	4	Substructure	Timber	Cap		
206	Timber Column or Pile Extension	each	4	Substructure	Timber	Column		
228	Timber Continuously Submerged Pile	each	4	Substructure	Timber	Pile		
217	Other Abutment	each	4	Substructure		Abutment		
211	Other Pier Wall	each	4	Substructure		Pier	Wall	
144	Reinforced Concrete Arch (includes arch and bottom chord)	meter	4	Superstructure	Concrete	Arch		
105	Reinforced Concrete Closed Web/Box Girder	meter	4	Superstructure	Concrete	Beam	Box	
110	Reinforced Concrete Open Girder/Beam	meter	4	Superstructure	Concrete	Beam		
155	Reinforced Concrete Floorbeam	meter	4	Superstructure	Concrete	Beam		
116	Reinforced Concrete Stringer (stringer/floorbeam system)	meter	4	Superstructure	Concrete	Stringer		
143	Prestressed / Post-Tension Arch	meter	4	Superstructure	PS Concrete	Arch		
104	Prestressed / Post-Tension Closed Web/Box Girder (incl voided slabs)	meter	4	Superstructure	PS Concrete	Beam	Box	
109	Prestressed / Post-Tension Open Girder/Beam	meter	4	Superstructure	PS Concrete	Beam		
154	Prestressed / Post-Tension Floorbeam	meter	4	Superstructure	PS Concrete	Beam		
115	Prestressed / Post-Tension Stringer (stringer/floorbeam system)	meter	4	Superstructure	PS Concrete	Stringer		
141	Painted Steel Arch (incl. arch ribs and spandrel columns)	meter	5	Superstructure	Steel	Arch		Painted

DOT_ Elemkey	elemlong	DOT_ Unit	Statecnt	Component	Material	Part	Form	Protection
102	Painted Steel Closed Web/Box Girder	meter	5	Superstructure	Steel	Beam	Box	Painted
101	Unpainted Steel Closed Web/Box Girder	meter	4	Superstructure	Steel	Beam	Box	
107	Painted Steel Open Girder/Beam	meter	5	Superstructure	Steel	Beam		Painted
152	Painted Steel Floorbeam	meter	5	Superstructure	Steel	Beam		Painted
106	Unpainted Steel Open Girder/Beam	meter	4	Superstructure	Steel	Beam		
151	Unpainted Steel Floor Beam	meter	4	Superstructure	Steel	Beam		
146	Cable (not embedded in concrete)	each	5	Superstructure	Steel	Cable		
131	Painted Steel Deck Truss (incl. arch and bottom chord)	meter	5	Superstructure	Steel	Deck Truss		Painted
161	Painted Steel Pin and Hanger and Girder Pin Assemblies	each	5	Superstructure	Steel	Pin/Hanger		Painted
160	Unpainted Steel Pin and Hanger and Girder Pin Assemblies	each	4	Superstructure	Steel	Pin/Hanger		
113	Painted Steel Stringer (stringer/floorbeam system)	meter	5	Superstructure	Steel	Stringer		Painted
112	Unpainted Steel Stringer (stringer/floorbeam system)	meter	4	Superstructure	Steel	Stringer		
121	Painted Steel Thru Truss (bottom chord)	meter	5	Superstructure	Steel	Thru Truss	Bottom Chord	Painted
126	Painted Steel Thru Truss (excl. bottom chord)	meter	5	Superstructure	Steel	Thru Truss		Painted
111	Timber Open Girder/Beam	meter	4	Superstructure	Timber	Beam		
156	Timber Floorbeam	meter	4	Superstructure	Timber	Beam		
117	Timber Stringer (stringer/floorbeam system)	meter	4	Superstructure	Timber	Stringer		
145	Other Arch	meter	4	Superstructure		Arch		

Table A2- 13 PaDOT Activity_Definition (sample)

Dataset	Action_ID	DOT_Action_ID	DOT_Action_Description	DOT_Unit	NBMD_Component	NBMD_Operation	NBMD_Activity	NBMD_Mode	NBMD_Unit	NBMD_CoamString
PaDOT{2008}	PaDOT{2008}{Act{A744201	A744201	Approach slab replace	Sq Yd	Approach/ Embankment	Replace				ApEm{Rpl
PaDOT{2008}	PaDOT{2008}{Act{A744501	A744501	Steel bearings, repair/rehabilitate	Each	Bearing	Repair		Steel		Brg{Rpr
PaDOT{2008}	PaDOT{2008}{Act{A744601	A744601	Repair/replace timber stringer	Each	Superstructure	Repair	Stringer	Timber		Sup{Rpr
PaDOT{2008}	PaDOT{2008}{Act{A744801	A744801	Abutment backwalls (repair/replace)	Cu Yd	Substructure	Repair	Backwall			Sub{Rpr
PaDOT{2008}	PaDOT{2008}{Act{A745101	A745101	Abutment sloped wall (repair/replace)	Sq Yd	Substructure	Repair	Sloped wall			Sub{Rpr
PaDOT{2008}	PaDOT{2008}{Act{A745201	A745201	Culvert headwall/wings (repair/replace)	Sq Yd	Culvert	Repair	Headwall			Cul{Rpr

