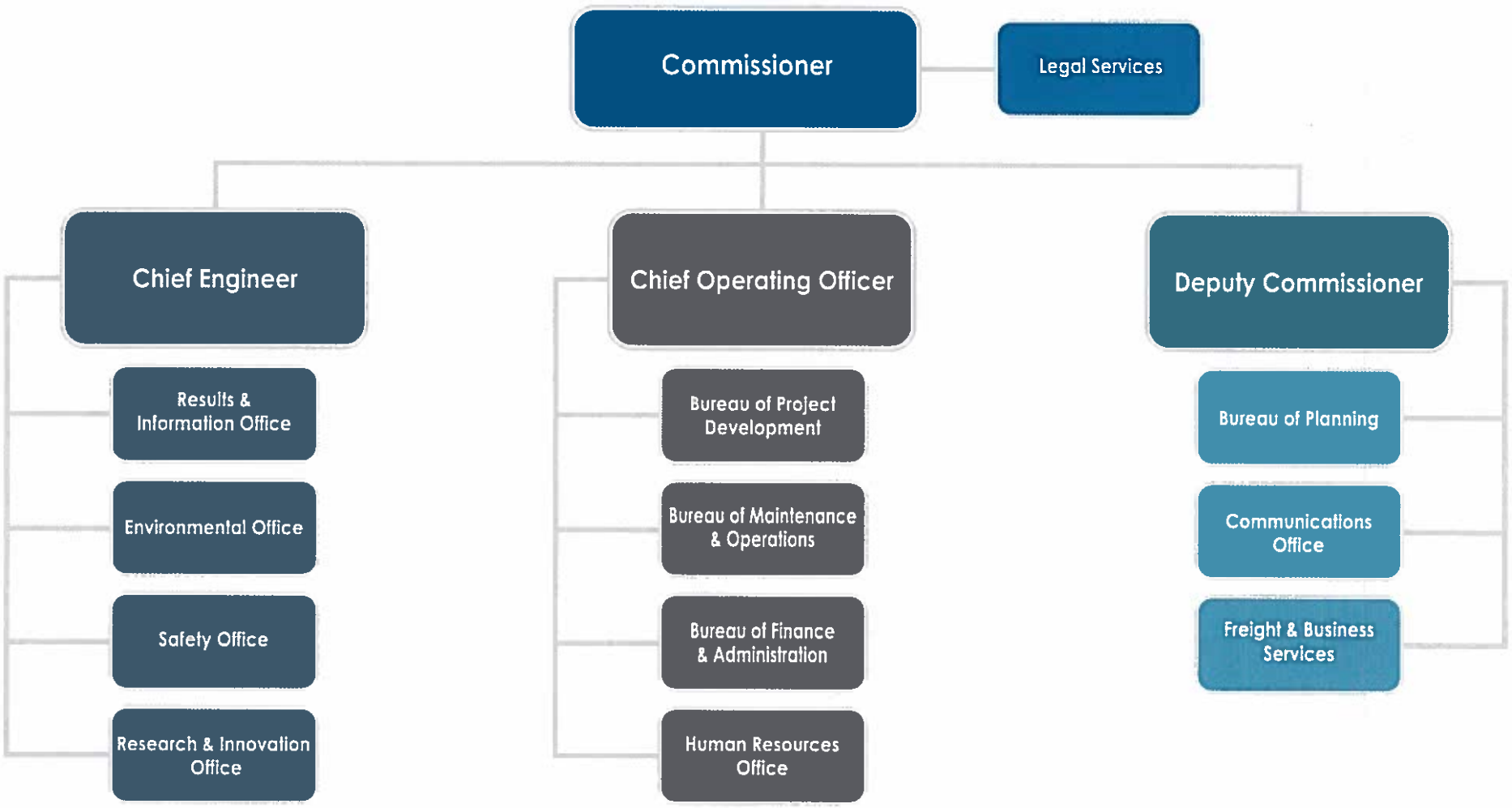
Appendix – A

Organizational Chart

MaineDOT Organizational Structure



September, 2018

MaineDOT

Appendix – B

Committee Charters

MaineDOT Bridge Committee

Purpose: The purpose of the Bridge Committee is to provide expertise in the management of MaineDOT's bridge network. The Committee provides recommendations to the Asset Management Council in the following areas as they pertain to bridges and further outlined in this charter:

- Risk identification
- Resource Allocation
- Asset Management Funding Strategies
- Project Candidates to the Work Plan
- Bridge Removals

Meetings: The Bridge Committee will meet monthly. Meeting minutes will be distributed to members and the chairs of peer committees along with the Asset Management Council and the Chief Engineer.

Resource Allocation Groups (RAG)

- Forever Bridges
- Interstate Bridges
- Bridge Preservation
- Bridge Rehabilitation
- Bridge Replacement

Asset Management Funding Strategies (AMFS)

- Keeping Our Bridges Safe
- Forever Bridges
- Interstate Bridges

Membership:

- Bridge Management Engineer (Rotating Chair)
- Bridge Maintenance Engineer
- Assistant Bridge Maintenance Engineer
- Bridge Program Manager
- Assistant Bridge Program Manager
- Superintendent (Rotation)
- Planning Bridge Closure Role
- Finance Expert

MaineDOT Highway Committee

Purpose: The purpose of the Highway Committee is to provide expertise in the management of MaineDOT's Highway network. The Committee provides recommendations to the Asset Management Council in the following areas as they pertain to highway infrastructure and further outlined in this charter:

- Risk identification
- Resource Allocation
- Asset Management Funding Strategies
- Project Candidates to the Work Plan
- Highway Corridor Priorities

Meetings: The Highway Committee will meet monthly. Meeting minutes will be distributed to members, the chairs of peer committees, Asset Management Council and Chief Engineer.

Resource Allocation Groups (RAG)

- Highway Preservation Interstate
- Highway Construction/Reconstruction
- Highway Rehabilitation & Pugmill
- Highway Preservation Heavy & Light Treatments
- Highway Preservation CPR
- Highway Preservation LCP
- Regional Asset Management Program (RAMP)
- Large Culvert
- MPI & BPI

Asset Management Funding Strategies (AMFS)

- Interstate Operating Plan
- Roads Report

Membership:

- Highway Management Engineer (Rotating Chair)
- Highway Maintenance Engineer
- Highway Program Manager
- Assistant Highway Program Manager
- Scoping Division Manager
- Materials Engineer
- Region Engineer
- Finance Expert

MaineDOT Asset Management Council

Purpose: The purpose of the Asset Management Council is to provide oversight for the Transportation Asset Management Processes at MaineDOT. The Council provides recommendations to the Core Management Team in the following areas:

- Risk Prioritization and Mitigation & Monitoring as it pertains to Asset Management
- Resource Allocation
- Asset Management Funding Strategies
- Project Candidates to the Work Plan
- Enhancements or Expansion to Asset Management
- Information needs to support Asset Management
- Implementation of the TAMP

Meetings: The Asset Management Council will meet monthly. Meeting minutes will be distributed to members and the chairs of supporting committees along with the Core Management Team.

Membership:

- Director of Results and Information Office – Chair
- Assistant Director Bureau of Project Development
- Multimodal Planning Manager
- Work Plan Development Manager
- Highway Maintenance Engineer
- Bridge Maintenance Engineer
- Director of Environmental Office
- Region Manager (Rotation)
- Finance Expert

Sub-Committees

- Bridge Committee
- Highway Committee
- Multimodal Committee
- Safety-Mobility Committee

MaineDOT Safety-Mobility Committee

Purpose: The purpose of the Safety-Mobility Committee is to provide expertise in the management of MaineDOT's Safety & Mobility assets and processes. The Committee provides recommendations to the Asset Management Council in the following areas as they pertain to Safety & Mobility and further outlined in this charter:

- Risk identification
- Resource Allocation
- Asset Management Funding Strategies
- Project Candidates to the Work Plan

Meetings: The Safety-Mobility Committee will meet monthly. Meeting minutes will be distributed to members, the chairs of peer committees, Asset Management Council and Chief Engineer.

Resource Allocation Groups (RAG)

- Highway Safety Rail Crossings
- Highway Safety Improvement Program
- Systemic Safety Programs
- Highway Safety Striping
- Intelligent Transportation Systems (ITS)
- Traffic/Mobility Improvements
- ADA Improvements
- Transportation Alternatives (Bike/Ped)

Asset Management Funding Strategies (AMFS)

- Systemic Safety Programs
- Traffic & Mobility Report
- Highway Safety Improvement Program
- ITS Implementation Plan
- ADA Transition Plan

Membership:

- State Traffic Engineer (Co-Chair)
- Safety Office Director (Co-Chair)
- Highway Safety Engineer
- Transportation Analysis Engineer
- ADA Coordinator
- ITS Coordinator
- Region Traffic Engineer (Rotate)
- Bicycle and Pedestrian Coordinator
- Finance Expert

MaineDOT Multimodal Committee

Purpose: The purpose of the Multimodal Committee is to provide expertise in the management of MaineDOT's non-highway and bridge assets. The Committee provides recommendations to the Asset Management Council in the following areas as they pertain to non-highway infrastructure and further outlined in this charter:

- Risk identification
- Resource Allocation
- Asset Management Funding Strategies
- Project Candidates to the Work Plan

Meetings: The Multimodal Committee will meet monthly. Meeting minutes will be distributed to members, the chairs of peer committees, Asset Management Council and Deputy Commissioner.

Resource Allocation Groups (RAG)

- Ferry Service Capital & Operations
- State Multimodal
- Transit (Including FHWA & FTA Transfers)
- Passenger Rail
- Rail Bridges
- Freight Rail Capital (including IRAP) & Operations
- Ports/Marine (Including BIG/SHIP)
- Aviation

Asset Management Funding Strategies (AMFS)

- Port Strategy
- Ferry Service Capital Plan
- (?)

Membership:

- Multimodal Program Manager
- Multimodal Planning Director
- Multimodal Maintenance Engineer
- Office of FBS Director
- Assistant Director BPD
- Multimodal RIO
- Finance Expert

Appendix – C

STIP Process

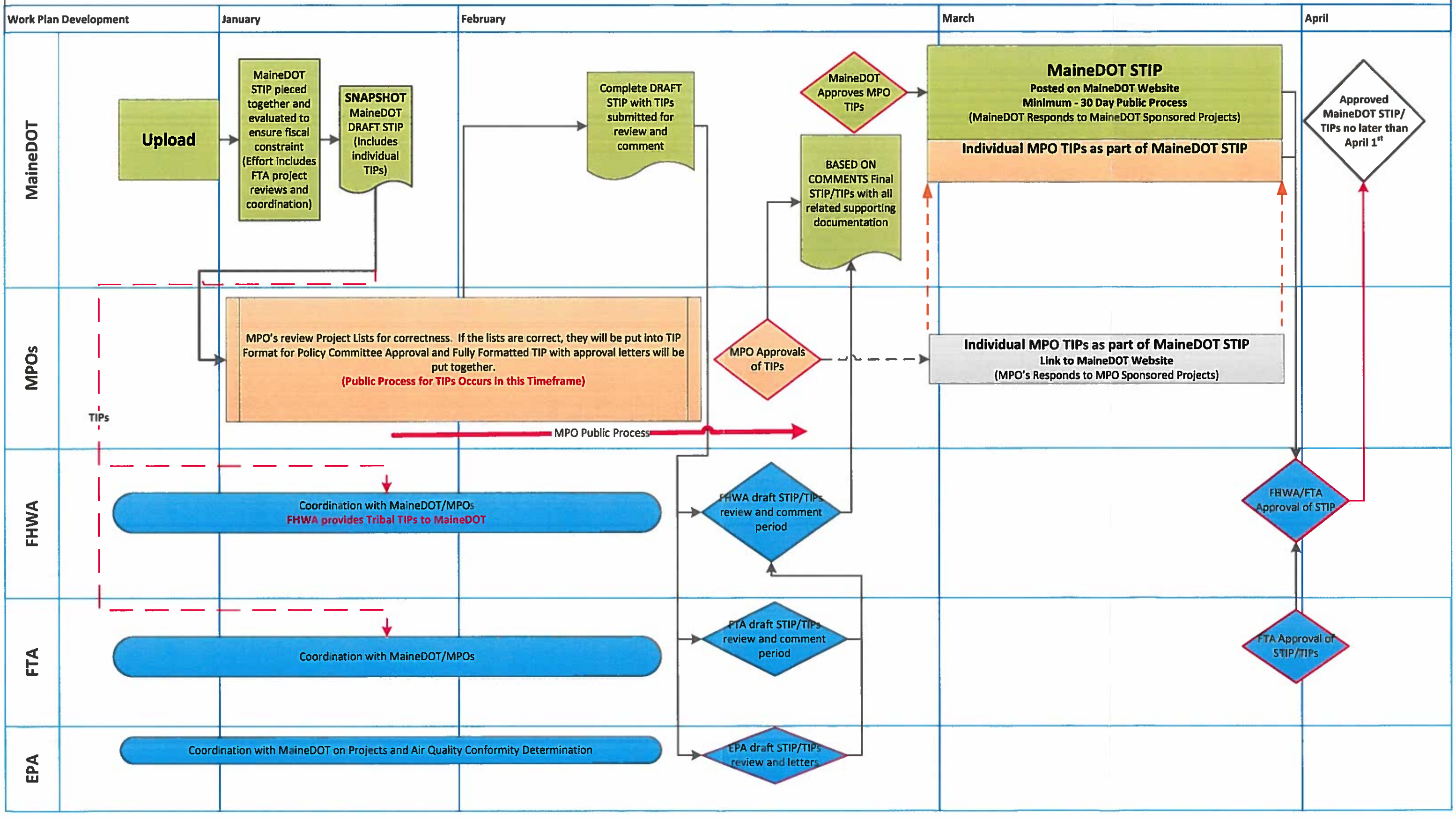
Annual Work Plan Development

7/14/17

	On-Going	June through August	September	October	November	December	January
Executive/ CORE	Weekly Commissioner's Work Plan Meetings running from the end of August through the end of December	Key Policy Decisions LCP Goals Mileage Targets for Paving Innovative Funding Goals MPO Policy Decisions Multimodal Decisions Operating WINs Evaluation Agency Transfers Major Projects Final Resource Allocation based on Mgmt. Systems Analysis		Executive Review of recommended Candidate Lists	Approval of Work Plan w/Narrative	Work Plan Ready for Print/Web by Dec. 15th	
Program Development Division	Identify active projects for the Work Plan. Evaluate existing candidates and enter in new Viable Candidates based on requests and data output. Viable Candidates will be submitted to the appropriate Committee for review and approval.	Begin evaluation of Operating WIN Expenditures Update/Finalize Operations WINs Policy Analyses and Impacts Assessment of Preliminary Resource Projections Resource Projections and Policy Decisions Resource Allocation with Widgets	Resource Allocations distributed	Recommended Candidate List compiled. Operation WINs and associated funding lists finalized. **Provide draft review lists to MPOs and Tribes**	1st Draft Work Plan 2nd Draft Work Plan Final Draft Work Plan Draft Narrative Approved Work Plan	Work Plan Division Final Review	1st Week of January PUBLISH WORK PLAN STIP started to activate Fed. $
F & A		Preliminary Resource Projections (with RIO)		GARVEE and Bond Interest Amounts			
RIO		Widget Analysis			Widgets		
Env.		Environmental Office Review/Comment Period of Candidate Lists	Geographic Analysis of all Work **Synergy and Conflict** Adjustments to Compiled Portfolios This represents 5 meetings, by region. These meetings are hosted by the Bureau of Planning and have representation from the Env. Office, Highway Management, Bridge Management, Regional Managers and Engineer, PMs, representation from the Highway, Bridge and Multimodal Committees, M&O and Safety Office.				
Bridge Committee	Review and approve Bridge Candidates and Rank by Priority	Vetting of prioritized candidate lists through field reviews and Bridge Committee discussions. Candidates moving forward for Work Plan are finalized (completely filled out and verified) in Projex. Supplemental Needs itemized/ justified by Committee and sent to Work Plan Management for consent. Prioritized Lists		Bridge Committee Final Prioritized List			
Highway Committee	Review and approve Highway, HEP, Mobility, Traffic Engineering, Environmental, and Safety Candidates and Rank by Priority	Vetting of prioritized candidate lists through field reviews and Highway Committee discussions. Candidates moving forward for Work Plan are finalized (completely filled out and verified) in Projex. Supplemental Needs itemized/ justified by Committee and sent to Work Plan Management for consent. Prioritized Lists		Highway Committee Final Prioritized List			
Multimodal Committee	Review and approve BIG, SHIP, Air Transportation, Bike/Ped, Marine, Freight, Rail (IRAP), Transit, and Motor Carrier Candidates and Rank by Priority	Vetting of prioritized candidate lists through field reviews, when applicable scoring procedures, signed agreements and Multimodal Committee discussions. Candidates moving forward for Work Plan are finalized (completely filled out and verified) in Projex. Supplemental Needs itemized/justified by Committee and sent to Work Plan Management for consent. Prioritized Lists		Multimodal Committee Final Prioritized List			
M & O	M&O defines Regional goals and priorities. Candidate projects are discussed and evaluated through the summer with a semi-final list documented and ready for the September Synergy and Conflict Regional meetings.			M&O Final List			
Project Development	Balance future Construction work (existing PE) location, dates and funding estimates so Resource Allocation can properly fund selected projects. Work with the Program Development Division to identify Contingency Value for the First Year of the next Work Plan based on Construction Value and Program Expectations.			Projects Moving Forward Identified. LOCKDOWN October 31	**Lead Committee and Upper Management Documented Reviews/ Comments of Draft Work Plan**		
Print & Web					Provide Draft/Final printing of Work Plan and Develop Website/Post Cards		Extra Copies

Revised STIP Process (Starting with the 2017-2018-2019-2020 STIP/TIPs)

August 2017



Appendix – D

Bridge and Highway Treatment Matrices

Trigger Filter *Triggers are checked in this order*	TRIGGERS	TREATMENT	Budget Category	Treatment Type	Interval Years	Subsequent Treatments Allowed	Cost Expression See equations & Lookup table
str_abfTRG_CRP	(str_nAAV_ElemCul_3 + str_nAAV_ElemCul_4) > 30.0	Bridge Culvert Replacement (CRP)	Replacement	Major	10		Str_Lookup_Treatment_Costs
str_abfTRG_CRH	(NOT str_abfTRG_CRP) AND (str_nAAV_ElemCul_3 + str_nAAV_ElemCul_4) > 25.0 AND Structures->ENV_Impact <>'Red'	Bridge Culvert Rehabilitation (CRH)	Rehabilitation	Major	5		
str_abfTRG_BRP	((str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) > 35.0 AND (str_nAAV_ElemSub_3 + str_nAAV_ElemSub_4) > 40.0 AND (Structures->NBI_029_ADT *Structures->NBI_019_Bypass_Detour_Length) > 2000.0) OR ((str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) > 33.0 AND Structures->NBI_092A_Fracture_Critical_Details ='Y') OR ((str_nAAV_ElemDks_3 + str_nAAV_ElemDks_4) >45.0 AND (str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) > 35.0 AND (str_nAAV_ElemSub_3 + str_nAAV_ElemSub_4) > 40.0) OR ((str_nAAV_ElemDks_3 + str_nAAV_ElemDks_4) >50.0 AND (str_nAAV_ElemSub_3 + str_nAAV_ElemSub_4) > 40.0 AND str_nAAV_Age > 75.0)	Bridge Replacement (BRP)	Replacement	Major	15		
str_abfTRG_BSR	(NOT str_abfTRG_BRP) AND (((str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) > 35.0 AND (str_nAAV_ElemSub_1 + str_nAAV_ElemSub_2) > 75.0 AND (str_nAAV_ElemDks_3 + str_nAAV_ElemDks_4) > 45.0) OR ((str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) > 35.0 AND str_cDAV_CSL_Service ='F'))	Bridge Superstructure Replacement (BSRP)	Replacement	Major	10		
str_abfTRG_DRP	(NOT str_abfTRG_BRP) AND (NOT (Structures->NBI_043B_Structure_Type_Main_Design_Construction = '21')) AND (((str_nAAV_ElemDks_3 + str_nAAV_ElemDks_4) > 45.0 AND (str_nAAV_ElemSpr_1 + str_nAAV_ElemSpr_2) >= 85.0 AND (str_nAAV_ElemSub_1 + str_nAAV_ElemSub_2) >= 85.0) OR ((Structures->NBI_042B_Type_of_Service_UNDER_Bridge = '1' OR Structures->NBI_042B_Type_of_Service_UNDER_Bridge = '3' OR Structures->NBI_042B_Type_of_Service_UNDER_Bridge = '4' OR Structures->NBI_042B_Type_of_Service_UNDER_Bridge = '6' OR Structures->NBI_042B_Type_of_Service_UNDER_Bridge = '8') AND (str_nAAV_ElemDks_2 + str_nAAV_ElemDks_3) > 70.0 AND (str_nAAV_ElemSpr_1 + str_nAAV_ElemSpr_2) >= 85.0 AND (str_nAAV_ElemSub_1 + str_nAAV_ElemSub_2) >= 85.0))	Bridge Deck Replacement (DRP)	Rehabilitation	Major	10		
str_abfTRG_BRH	(NOT str_abfTRG_BRP) AND (str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) >20.0 AND (str_nAAV_ElemSub_3 + str_nAAV_ElemSub_4) >25.0	Bridge Rehabilitation (BRH)	Rehabilitation	Major	10		
str_abfTRG_SBH	(NOT str_abfTRG_BRP) AND (str_nAAV_ElemSub_3 + str_nAAV_ElemSub_4) >=25.0	Bridge Substructure Rehabilitation (SBRH)	Rehabilitation	Major	5		
str_abfTRG_Preservation	NOT str_abfTRG_BRP) AND (str_abfTRG_BEP OR str_abfTRG_BJR OR str_abfTRG_BJS OR str_abfTRG_BPC OR str_abfTRG_BPT1 OR str_abfTRG_BPT2 OR str_abfTRG_BSC OR str_abfTRG_SRH OR str_abfTRG_WSRH OR str_abfTRG_WSRP)	Bridge Preservation (BPRV)	Preservation	Major	5		
str_abfTRG_SRH	(NOT str_abfTRG_BRP) AND (str_nAAV_ElemSpr_3 + str_nAAV_ElemSpr_4) >25.0 AND (str_nAAV_ElemSub_1 + str_nAAV_ElemSub_2) >= 85.0 AND (str_nAAV_ElemDks_1 + str_nAAV_ElemDks_2) >=85.0 AND str_cDAV_CSL_Service ='F'	Bridge Strengthening (SRH)	Rehabilitation	Ancillary	5		

str_abfTRG_WSRP	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_WS_Replace' , (NOT str_abfTRG_BRP) AND (NOT str_abfTRG_WSRH) AND (str_nAAV_ElemWS_3 + str_nAAV_ElemWS_4) > 30.0 AND (str_nAAV_ElemDks_1 + str_nAAV_ElemDks_2) >= 65.0)	Bridge Wearing Surface Replacement (Includes Joints) (WSRP)	Preservation	Ancillary	5	
str_abfTRG_WSRH	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_WS_Repair' , (NOT str_abfTRG_BRP) AND str_nAAV_ElemWS_2 > 50.0 AND str_nAAV_ElemWS_3 > 10.0 AND (str_nAAV_ElemDks_1 + str_nAAV_ElemDks_2) >= 75.0)	Bridge Wearing Surface Repair (M&F) (WSRH)	Preservation	Ancillary	5	
str_abfTRG_BJR	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Jnt_Replace' , (NOT str_abfTRG_BRP) AND (NOT str_abfTRG_WSRP) AND (str_nAAV_ElemJnt_3 + str_nAAV_ElemJnt_4) > 40.0)	Bridge Joint Replacement (BJR)	Preservation	Ancillary	5	
str_abfTRG_BJS	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Jnt_Seal' , (NOT str_abfTRG_BRP) AND (NOT str_abfTRG_WSRP) AND str_nAAV_ElemJnt_2 > 40.0)	Bridge Joint Sealing (BJS)	Preservation	Ancillary	5	
str_abfTRG_BPT1	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Super_Paint' , (NOT str_abfTRG_BRP) AND (NOT str_abfTRG_BSR) AND str_nAAV_ElemSPC_Spr_4 > 35.0)	Bridge Full Painting - Superstructure (BPT1)	Preservation	Ancillary	5	
str_abfTRG_BPT2	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Substr_Paint' , (NOT str_abfTRG_BRP) AND str_nAAV_ElemSPC_Sub_4 > 35.0)	Bridge Full Painting - Substructure (BPT2)	Preservation	Ancillary	5	
str_abfTRG_BEP	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Beam_Paint' , (NOT str_abfTRG_BRP) AND (NOT str_abfTRG_BPT1) AND str_nAAV_ElemBEC_4 > 35.0)	Bridge Beam Ends & Bearings Painting (BEP)	Preservation	Ancillary	5	
str_abfTRG_BPC	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Conc_Prot_Coat' , (NOT str_abfTRG_BRP) AND ((str_nAAV_ElemCPC_3 + str_nAAV_ElemCPC_4) > 50.0))	Bridge Concrete Protective Coating (BPC)	Preservation	Ancillary	5	
str_abfTRG_BSC	IF(IS_COMMITTED() and Structures->COM_TRT = 'Str_Preservation' and YR = Structures->COM_YEAR, Structures->COM_TRT_2 = 'Str_Scour' , str_nDAV_ElemScr_Flag =0.0 AND (NOT str_abfTRG_BRP) AND ((str_nAAV_ElemScr_3 + str_nAAV_ElemScr_4) >40.0 OR IF(Structures->NBI_113_Scour_Critical_Bridges='N', 99.0, VAL(Structures->NBI_113_Scour_Critical_Bridges)) < 5.0))	Bridge Scour Countermeasure (BSC)	Preservation	Ancillary	5	

Re-Sets

Element Group	Condition	Variables	RSL: Deck	RSL: Superstructure	RSL: Substructure	RSL: Culvert	Culvert (ElemCul): Reset Cond. States?	Culvert (ElemCul): Reset Env.?	Culvert (ElemCul): New TPM	Deck (ElemDks): Reset Cond. States?	Deck (ElemDks): Reset Env.?	Deck (ElemDks): New TPM	Superstructure (ElemSpr): Reset Cond. States?	Superstructure (ElemSpr): Reset Env.?	Superstructure (ElemSpr): New TPM	Substructure (ElemSub): Reset Cond. States?	Substructure (ElemSub): Reset Env.?	Substructure (ElemSub): New TPM
ElemCul	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0	SC = N	---	---	---	75	Y	A2	CULVERT_CONC									
ElemCul	CS3+CS4 => CS2		---	---	---	add 20	Y											
ElemDks, ElemSpr, ElemSub, ElemSPC_Spr, ElemWS, and ElemJnt	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0	FC = N SC=N CSL_Service = A Oper_Rating = 1.0	50	75	75	---				Y	A	DECK_CONC	Y	A2	SUPER_STEEL	Y	A2	SUBST_CONC
ElemDks, ElemSpr, ElemSPC_Spr, ElemWS, and ElemJnt	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0	FC = N SC=N CSL_Service = A Oper_Rating = 1.0	50	75	---	---				Y	A	DECK_CONC	Y	A2	SUPER_STEEL			
ElemDks and ElemJnt	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		50	---	---	---				Y	A	DECK_CONC						
ElemWS, and ElemJnt ElemDks, ElemSpr, ElemSub,	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0 CS3+CS4 => CS2		add 15	add 20	add 20	---				Y								
ElemSub	CS3+CS4 => CS2	SC = N	---	---	add 20	---										Y		
ElemSpr	CS3+CS4 => CS2	CSL_Service = A Oper_Rating = 1.0	---	add 15	---	---							Y					

ElemWS and ElemJnt	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		add 15	add 10	add 10	—					R							
ElemWS	CS2 => CS1, CS3 => CS2		add 10	—	—	—					R							
ElemJnt	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		—	add 10	add 10	—								R			R	
ElemJnt	CS2 => CS1		—	add 5	add 5	—												
ElemSPC_Spr	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		—	add 20	add 20	—								R				
ElemSPC_Sub	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		—	add 20	add 20	—											R	
ElemBEC	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		—	add 15	—	—								R				
ElemCPC	CS1 = 100, CS2 = 0, CS3 = 0, CS4 = 0		—	—	add 10	—											R	
ElemScr and	CS3+CS4 => CS2,	NBI (113) = 7	—	—	add 10	add 10											R	

Joint (ElemJnt)			Wearing Surface (ElemWS)			Steel Prot. Coating Spr. (ElemSPC_Spr)			Steel Prot. Coating Sub. (ElemSPC_Sub)			Scour (ElemScr)			Conc. Prot. Coating (ElemCPC)			Beam Ends Paint (ElemBEC)			TREATMENT
Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	Reset Cond. State?	Reset Env.?	New TPM	
																					Bridge Culvert Replacement (CRP)
																					Bridge Culvert Rehabilitation (CRH)
Y	A	JNT_302	Y	A	WS_ASPH	Y	A1	PNT_SYS	Y	A1	PNT_SYS	Y	A2		Y	A2		Y	A2		Bridge Replacement (BRP)
Y	A	JNT_302	Y	A	WS_ASPH	Y	A2	PNT_SYS													Bridge Superstructure Replacement (BSRP)
Y	A	JNT_302	Y	A	WS_ASPH																Bridge Deck Replacement (DRP)
Y						Y			Y												Bridge Rehabilitation (BRH)
												Y									Bridge Substructure Rehabilitation (SBRH)
																					Bridge Preservation (BPRV)
																					Bridge Strengthening (SRH)

Y		JNT_302	Y	A	WS_ASPH																Bridge Wearing Surface Replacement (includes joints) (WSRP)
			Y	A																	Bridge Wearing Surface Repair (M&F) (WSRH)
Y	A	JNT_302																			Bridge Joint Replacement (BJR)
Y	A																				Bridge Joint Sealing (BJS)
						Y	A2	PNT_SYS													Bridge Full Painting - Superstructure (BPT1)
									Y	A2	PNT_SYS										Bridge Full Painting - Substructure (BPT2)
																		Y	A2		Bridge Beam Ends & Bearings Painting (BEP)
															Y	A2					Bridge Concrete Protective Coating (BPC)
												Y									Bridge Scour Countermeasure (BSC)

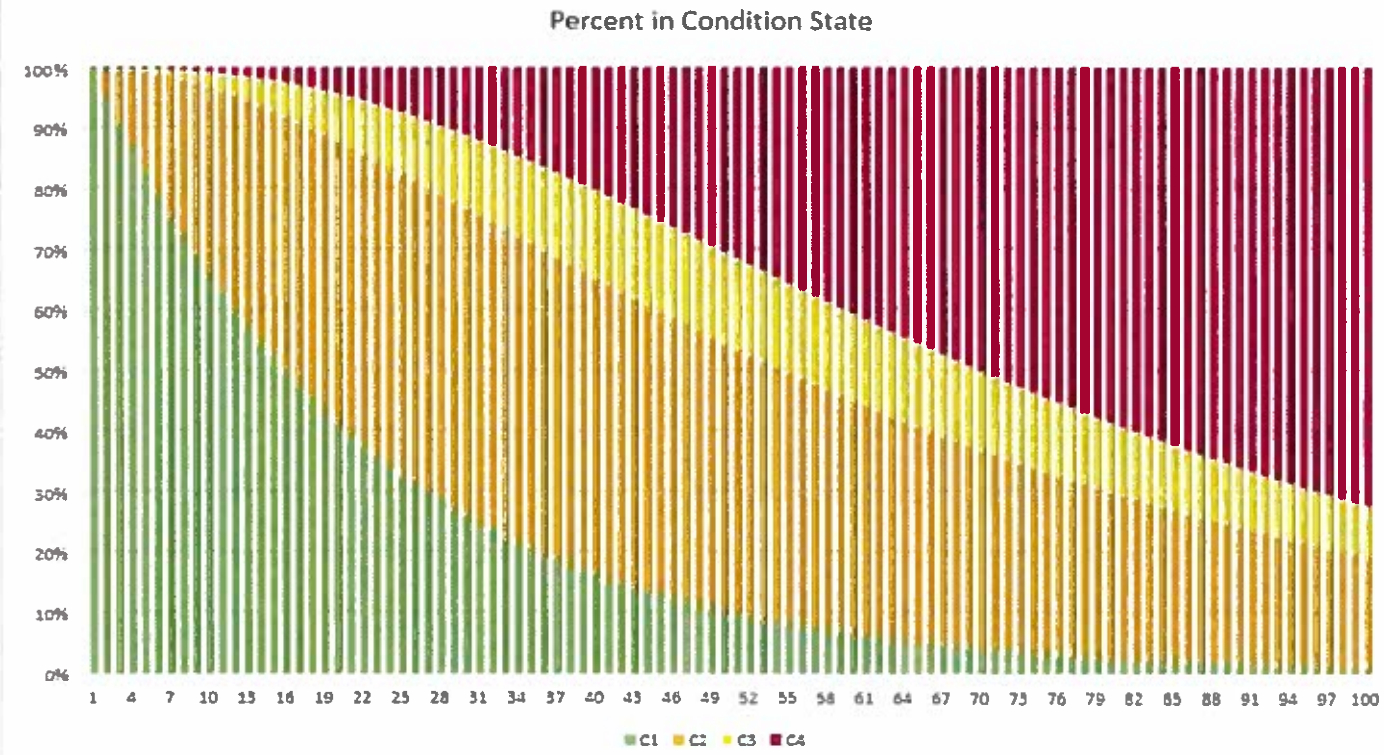
Treatment Name	Description	Main Span Design/Construction Code (43B) 01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	19	20	21	22	
Str_Beam_Paint	Bridge Beam Ends & Bearings Painting (BEP)		$100,000	$150,000						$150,000	$150,000	$150,000	$100,000	$250,000		$100,000	$100,000	$100,000		$150,000			$/ Bridge
Str_Jnt_Replace	Bridge Joint Replacement (BJR)	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000		$1,000	$1,000	$1,000	$1,000	$4,000	$4,000	$1,000	$1,000	$1,000		$1,000	$1,000	$1,000	$/ LF Joint
Str_Jnt_Seal	Bridge Joint Sealing (BJS)	$300	$300	$300	$300	$300	$300	$300		$300	$300	$300	$300	$1,000	$1,000	$300	$300	$300		$300	$300	$300	$/ LF Joint
Str_Conc_Prot_Coat	Bridge Concrete Protective Coating (BPC)	$15	$15	$15	$15	$15	$15	$15		$15	$15	$15	$15	$15	$15	$15	$15	$15		$15	$15	$15	$/ SF Deck
Str_Substr_Paint	Bridge Full Painting - Substructure (BPT2)	$50	$50	$50	$50	$50	$50		$50	$50	$50	$50	$50	$145	$120	$50	$50	$50		$50	$120	$50	
Str_Super_Paint	Bridge Full Painting - Superstructure (BPT1)		$50	$50						$120	$120	$120	$120	$145		$50	$50	$50		$50			$/ SF Deck
Str_Bridge_Rehab	Bridge Rehabilitation (BRH)	$360	$360	$360	$360	$360	$360	$360		$360	$360	$360	$360	$500	$500	$500	$500	$500		$360	$360	$360	$/ SF Deck
Str_Bridge_Replace	Bridge Replacement (BRP) *	$620	$620	$620	$620	$620	$620	$620		$620	$620	$620	$620	$800	$800	$800	$800	$800		$620	$620	$620	$/ SF Deck
Str_Scour	Bridge Scour Countermeasure (BSC)	$120	$120	$120	$120	$120	$120	$120		$120	$120	$120	$120	$120	$120	$120	$120	$120	$120	$120	$120	$120	$/ SF Deck
Str_Super_Replace	Bridge Superstructure Replacement (BSR)	$370	$370	$370	$370	$370	$370	$370		$370	$370	$370	$370	$500	$500	$500	$500	$500		$370	$370	$370	$/ SF Deck
Str_Culv_Rehab	Bridge Culvert Rehabilitation (CRH)																		$200				$/ SF Deck
Str_Culv_Replace	Bridge Culvert Replacement (CRP) *																		$400				$/ SF Deck
Str_Deck_Replace	Bridge Deck Replacement (DRP)		$170	$170	$170	$170	$170	$170		$170	$170	$170	$170	$170	$170	$170	$170	$170		$170	$170	$170	$/ SF Deck
Str_Substr_Rehab	Bridge Substructure Rehabilitation (SBH)	$100	$100	$100	$100	$100	$100	$100		$100	$100	$100	$100	$100	$100	$100	$100	$100		$100	$100	$100	$/ SF Deck
Str_Bridge_Strengthen	Bridge Strengthening (SRH)	$60	$60	$60	$60	$60	$60	$60		$60	$60	$60	$60			$60	$60	$60		$60	$60	$60	$/ SF Deck
Str_WS_Repair	Bridge Wearing Surface Repair (WSRH)	$15	$15	$15	$15	$15	$15	$15		$15	$15	$15	$15	$15	$15	$15	$15	$15		$15	$15	$15	$/ SF Deck
Str_WS_Replace	Bridge Wearing Surf Repl (incl joints) (WSRP)	$40	$40	$40	$40	$40	$40	$40		$40	$40	$40	$40	$40	$40	$40	$40	$40		$40	$40	$40	$/ SF Deck

* Minimum $750k

	Bridge Data Attributes
Main Span Design/Construction Code	NBI 043B: Structure Type_Main_Design/Construction
LF Joint	ElemJnt_Total Quantity
Bridge SF Deck	(NBI 049: Structure Length)*(NBI 052: Deck Width_Out-To-Out)
Culvert SF Deck	(NBI 049: Structure Length)*(NBI 032: Approach Roadway Width)

Bridge Management Deterioration Models

Markov transition probability matrices for element level groups based upon performance life estimates from local subject matter experts



MaineDOT

U:\Deighton_v9_2016\Current_databases\Feb_2018_Analysis_with_2016_partial_2017_Condition_Data\Triggers_Treatments_February_2018.xlsx

ABN Codes: **A**: Built 23-Feb-2018 **(Analysis) YR >= 2 for Seal, CPR, Ultra_Thin_Bond and PPM_075, >=3 for LCP**
B: Unbuilt **P**: PMRAP **R**: (slipped to) Rehab **(Analysis)YR>=4 forPPM_125, Mill_Fill_150, Pvmt_Rehab. >=4 for PMRAP, Reconstr**
C: Committed (funded) **S**: Structure (bridge) - excluded all checked AC 02-07-2018 **For all Index values:0 is worst,100 is best.**

Length is in miles No Ancillary Treatments in Model
Thru Width, Total Shld Width in feet # This is a re-set for
(x) = Interval Year Shoulder Code (Curb, Grav, No or Pv), Urban/F all the Treatments

Triggers are checked in this order				TRIGGERS		INDEX IRI		INDEX RUT		INDEX FUNC		INDEX STRC		0-5 PCR
prpsHCP		ABN		Other Criteria										
0, 1 or 2	&	A	&	4 years after Reconstr c	&	AGE >2				>=80	&	>=90	&	4.0-4.7
				Use Adder in Benefit ca		**DO NOT USE**						**DO NOT USE**		
4	&	Any	&	AGE >= 7										
3	&	B	&	AGE >= 7										
1 or 2	&	B or R	&	AGE >= 7										
3	&	A or P	&	AGE >=9	&			>=30			&	>=40		
0,1,2	&	A or P	&		&	>75	&	**>69**	&	>70	&	>80	&	(3.2-4.0)
0				*no 3/4" on Interstate*										
1 or 2	&	A or P	&	abfTRG_PPM_075_HC	&	>65	&	>55	&	>69	&	>75	&	(3.0-3.8)
0	&	A	&		&	(20-80	&	20-80	&	40-80	&	**60-90)**	&	**(2.0-3.5)**
1 or 2	&	A or P	&	Shld_code cannot be C	&	(20-80	&	20-80	&	40-70	&	**60-90)**	&	**(2.0-3.5)**
				convert any gravel shoulders										
				(build that into Cost Expression)										
0,1,2	&	A or P##	&	Shld_code cannot be G	&	(20-60	or	20-65	or	20-60)	&	**55-90**	&	(2.0-3.2)
0, 1 or 2	&	A or P	&		&					(0-50	or	0-60)	&	<=2.5
3	&	B, P or R	&		&					< 60	&	<80	&	< 2.7
no Reconstr on Interstate for 10-20+ years														
1	&	B	&		&					(0-50	or	0-50)	&	<=3.2
2	&	B	&		&					(0-50	or	0-50)	&	<=2.8

TREATMENT		Major Minor Ancill.	Yrs. To Wait	Budg. Cate-gory	Cost Expression See equations & Lookup table	Subsq. Trtmts Allowed	Re-Sets nAAV_Yrly_Cost#; Re-calc PCR#	
Seal	Fog, Cape, Chip (not Crack Seal)	Major	3 (4)	Preserv	Fuschia **DO NOT USE**	Seal?,utb, 075/125,m&f	Age=0,IRI,Rt,St not reset	
							FUNC= <of FNC+10,99	
LCP		Major	4 (4)	Maint	#FF00C000 light green (no change)	LCP PMRAP Reconstr	AGE= 0	
							IRI (>of IRI+20 or	80
							RUT*,FUNC,STRC	90/90/95
CPR	Cyclical Pavement Resurfacing	Major	7 (7)	CPR	Green	CPR	AGE= 0	
							IRI, RUT*	90
							FUNC, STRC	90/90/95
Ultra_Thin_Bond		Major	5 (5)	Preserv	Red	utb,75,125 Mill_Fill_150 Pvmt_Rehab	AGE= > of age-7, 4	
							IRI, RUT*	90
							FUNC, STRC	92/95
PPM_075		Major	6 (6)	Preserv	PowderBlue (no change)	All Lights** PPM_125 Mill_Fill Pvmt_Rehab	AGE= > of age-7, 4	
							IRI, RUT*	90
							FUNC, STRC	90/95
PPM_125	cannot be used where there is curb	Major	8 (8)	Preserv	#FF0000C0 dark blue (no change)	All Lights** PPM_125 Mill_Fill_150 Pvmt_Rehab	AGE= > of age-10, 4;shld:if G ->P	
							IRI, RUT*	94
							FUNC, STRC	94/97
Mill_Fill_150	(includes prior Mill_Fill_175 for Int'st)	Major	8 (8)	Preserv	Purple	All Lights** PPM_125 Mill_Fill_150 Pvmt_Rehab	AGE= > of age-10, 4	
							IRI, RUT*	94
							FUNC, STRC	
Pvmt_Rehab	HIPR, CIPR, Strct. M/F,Strc. O'lay	Major	10 (10)	Preserv	DarkOrange	All Lights** PPM_125 Mill_Fill_150 Pvmt_Rehab	**ABN**, AGE, FWD, shld	A,0,S,P
							Do not re-set any CSLs	
							IRI, RUT*, F, ST	98/99
PMRAP	Plant-Mixed Recycled Asphalt	Major	9 (9)	PMRAP	Brown	CPR LCP	abn, age, shld, QF	P,0,P,avg
							IRI, RUT*, F, ST	90/90/90/95
							Do not re-set any CSLs	
Reconstruction	Foamed Asph't, FDR, cement-stblz	Major	12 (12)	Unbuilt	BurlyWood	All Lights** PPM_125 Mill_Fill	abn, age, shld, QF	A,0,P,avg
							IRI, RUT*, F,ST	100
							Do not re-set any CSLs	

* wherever RUT(index) is reset,MAX_RUT is re-set to corresponding value(in inches)

Note with CSLs: Congestion, Crash Rate, Pvmt Width and Posting cannot be determined from data within dTIMS, so they will not be re-set (they will be updated each year from Hwy_Inventory). CSL Analysis Variables CSL_IRI, CSL_PCR and Safety_Rutting are recalculated from re-set Condition analysis variables

LightTrtmts:SEAL not allowed**,Ultra_Thin,PPM_075 **Hvy Trtmts**: PPM_125,Mill_Fill_150,Pvmt_Rehab

Starting 2-07-2018: nCSL_CONDITION_STRENGTH no longer used to calcualte ancCSL_CONDITION

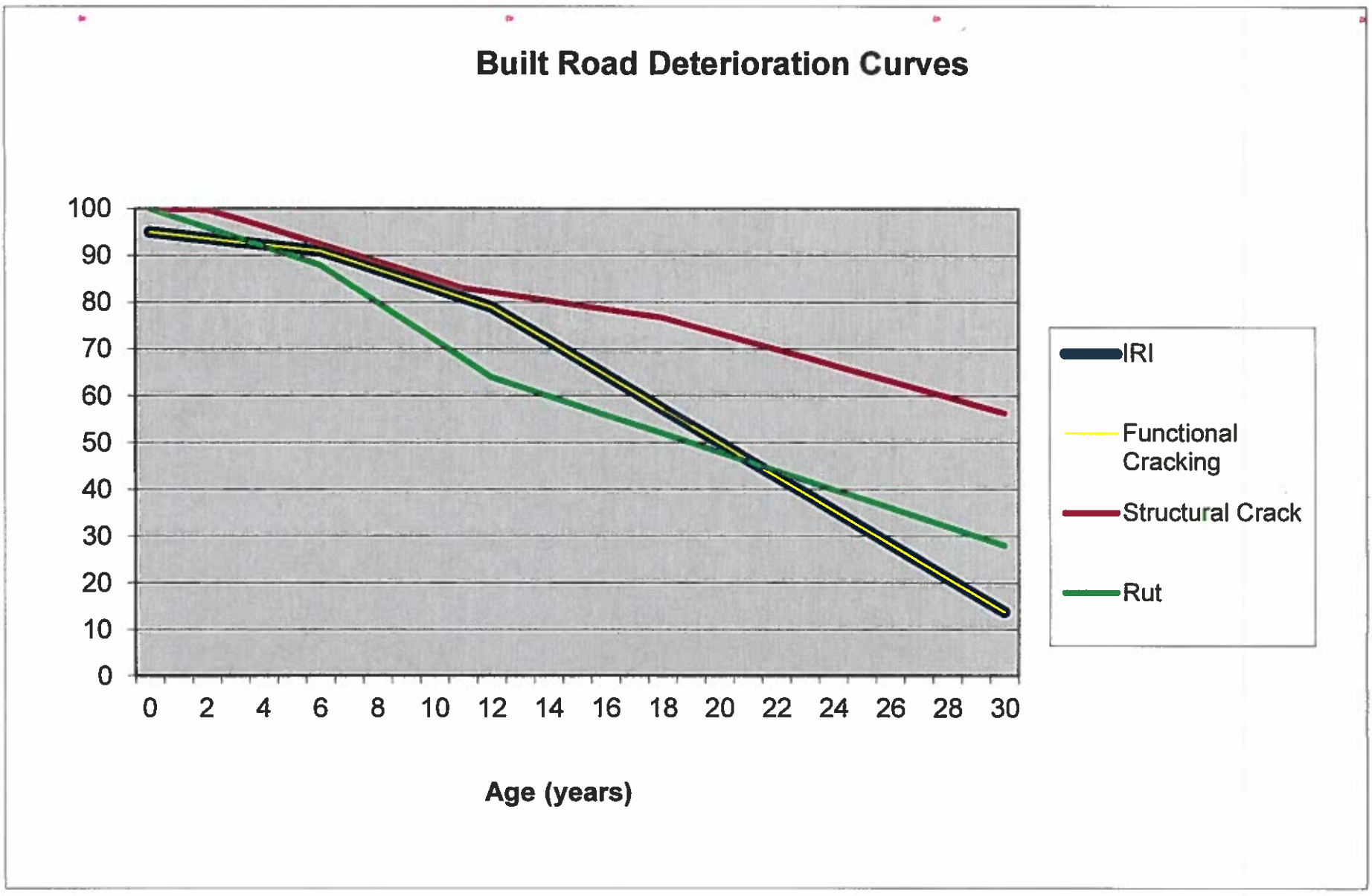
For Pvmt_Rehab, ABN could be 'A', 'P' or 'R' but would always get re-set to 'A' QF = Quality_Factor

raw IRI inches/mile	INDEX_IRI (0-100)
41	100
70	92
100	84
120	79
150	71
170	66
200	58

raw IRI inches/mile	INDEX_IRI (0-100)
200	58
220	52
250	44
280	37
300	31
350	18
400	5
417	0

average Rut inches	INDEX_RUT (0-100)
0.10	91.20
0.20	82.80
0.25	78.75
0.30	74.80
0.40	67.20
0.50	60.00
0.60	53.20

average Rut inches	INDEX_RUT (0-100)
0.75	43.75
0.80	40.80
1.00	30.00
1.20	20.80
1.50	10.00
1.80	2.80
2.00	0.00


Built Road Deterioration Curves
100
90
80
70
60
50
40
30
20
10
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Age (years)
IRI
Functional Cracking
Structural Crack
Rut

Appendix – E

TRAPPD

Project title: Encompassing All Assets into MaineDOT's Transportation Risk Assessment for Planning and Project Delivery (TRAPPD)

Responsible party: Judy Gates, Director, Environmental Office

FHWA mandates that a state's Transportation Asset Management Plan (TAMP) is built around both risk based asset management and life cycle planning. Assessing the risk not only to the asset, but also to delivering a project involving work on that asset informs decisions in the life cycle planning of that asset. Asset managers will continue to make decisions on the timing of resource allocation for repairs or replacement of a specific asset based on their expertise, state of the applicable field of practice, and externalities, such as economic benefits/impacts and natural resources. TRAPPD will enable MaineDOT asset managers as well as emergency managers, natural resource planners, and municipalities to consider projected effects of changing climate, extreme weather, and stormwater in life cycle planning. Consideration of these risks, as well as those posed by characteristics of a project's landscape setting, will enable intentional decisions on the most appropriate timing or method for adapting asset designs to changing conditions.

TRAPPD is functional and beyond proof of concept for MaineDOT's bridges and large culverts. Asset managers are actively using the resulting risk ratings in establishing schedules and budgets for the upcoming work plan. Because the model draws on existing data, adding several layers and expanding its use to highway segments, multimodal facilities, and cross culverts requires a relatively minor investment of time for coding. Locating unstable and stabilized slopes may require a two-pronged approach: institutional knowledge of those within MaineDOT who have worked on or maintain assets meeting specific criteria or working with the Maine Geological Survey and Maine Emergency Management Agency to map likely areas of subsidence of interest to MaineDOT as part of an ongoing effort. This project draws on the expertise of asset managers in MaineDOT's Highway, Multimodal, and Maintenance and Operations programs. First, all partners will consider what information is most relevant to decision-making on the management of Maine's highway and multi-modal assets. Together, they will select any additional proxy indicators that will: 1) most accurately reflect risks assets under their respective purviews, and 2) have existing geo-spatial information associated with them to minimize the fiscal and temporal burdens of data gathering. Preliminary discussions regarding the scope of this project suggest that landscape-based proxy indicators for road segments may include: proximity to surface waterbody; soils; topography; unstable slope adjacent; and woody debris potential. Watershed size is also an important consideration, but is part of the existing TRAPPD matrix. Asset-based proxy indicators may include: road geometry; presence of unstable slope; elevation; cross culvert redundancy/capacity; age/condition; and history of flooding/failure.

Funding provided through a 2017 STIC grant will enable expanding risk ratings based on existing landscape and context information that will be generated for each asset, allowing consideration of risk in delivery across a broad spectrum of assets: bridges, large culverts, coastal multi-modal facilities, highways, cross-culverts and pavement surfaces. This project will be directly applicable for the 19-20-21 MaineDOT work plan, which will be developed within the timeframe of this project beginning in May 2018. The TRAPPD methodology will be transferrable to other agencies charged with providing current flooding and emergency management information throughout the state as well as to municipalities who are required to consider emergency response. To support this effort, MaineDOT will create an ESRI story map to serve as a user's guide for municipalities and other entities who are interested in risk ratings for transportation infrastructure. MaineDOT to beta test a smart phone application that accesses the TRAPPD system via ESRI, allowing real time access to GIS-based resource layers for any transportation asset managers.

Transportation Risk Assessment for Planning And Project Delivery (TRAPPD)
MaineDOT

Type of Value	Question Number	Proxy Indicator	Proxy Description	MaineDOT Risk Type	Data source	Data Source Details	Key MaineDOT staff	Narrative Scoring	Numeric Score	Proxy Risk Rating	Risk Rating by Value Type
Ecology	Q1	Is the drainage area part of a priority Atlantic salmon watershed?	The three Maine Atlantic salmon habitat recovery units (SHRUs) have been designated into "tiers" based on habitat value as determined by USFWS, NMFS, and Maine DMR. These designations relate to the Maine Atlantic salmon Programmatic Consultation requirements for design and construction.	budget, process, schedule	GIS layer	MEGIS ASHAB3	Ham	Tier 3/Not applicable	0		
								Tier 2	1		
								Tier 1	2		
	Q2	Is the project located within a mapped buffer for habitat for a state endangered, threatened, or special concern species?	Presence of the habitat and/or any buffers critical to a lifestage of species listed under Maine's Endangered Species Act identifies the potential need for pre-construction surveys, passage modifications, or post-construction monitoring that may need to be incorporated into project design.	budget, process, schedule	GIS layer	MEGIS	Boyden	No	0		
								Yes	1		
	Q3	Is the feature a mapped stream barrier?	USFWS, in conjunction with other non-government organizations, developed a GIS-data layer showing those stream crossings that have the potential or have been observed to be barriers to aquatic species' movement up and downstream. Mapped barriers may be prioritized for replacement.	budget, schedule	Stream Viewer ENV GIS layer	ENV GIS layer	Ham	No	0		
								Potential or Yes	1		
	Q4	Is the location identified as a large undeveloped habitat block connector?	Presence of GIS-mapped large undeveloped blocks of potential habitat on either side of a road increases the likelihood that terrestrial species will cross roads that may otherwise serve as barriers to movement. Adjacent large habitat blocks may necessitate inclusion of wildlife crossing structures in any reconstruction.	process, schedule	GIS layer	turtles, EBKT, salamanders, moose/deer crash	Ham, Bostwick	No	0		
								Yes	1		
	Q5	Is the existing structure greater than or equal to the calculated bankful width?	Maine's USFWS and USACE consider stream crossing structures with a span equal to or greater than 1.2 times the stream bankfull width (1.2 x bfw) to be fully accessible for all aquatic species. Any crossing less that 1.2 x bfw may need to be upsized or pay in lieu fee mitigation depending on its location.	budget, schedule	StreamStats	StreamStats with MATS [Span_Width]	Hebson	≥1.2x calculated bankful width	0		
								1.0-1.2x calculated bankful width	1		
								<1.0x calculated bankful width	2		
Hydrology	Q6	What is the drainage area to (i.e. watershed size of) feature?	Watershed size affects the amount of surface water draining to an asset under typical or extreme precipitation conditions. Whether an asset conveys or retains runoff is an important considering in sizing, elevation and design.	budget, event	StreamStats	USGS	Folta	area ≤ 0.5 sq mi	0		
								0.5 < area ≤ 5 sq mi	1		
								5 < area ≤ 45 sq mi	2		
								area > 45 sq mi	3		
	Q7	Is the feature located within an identified FEMA 100-year floodway?	Specific FEMA criteria disallow any further constriction or new construction within the 100-year floodway.	event	M&O	NOAA	MEMA	No	0		
								Yes	1		
	Q8	Is the feature subject to coastal threats of sea level rise (SLR) and/or storm surge (SS)?	Sea level rise and storm surge projections for coastal Maine were developed using the most current NOAA data and applied to tidally-influenced assets. Storm surge is considered to most imminent and therefore unpredictable threat; projected sea level rise data are being used to update MaineDOT's bridge design guidance.	budget	NOAA		GEI	Not coastal, No	0		
								Low 50-yr SLR scenario (+1 ft)	1		
								Low 100-yr SLR scenario (+2 ft)	2		
								High 50-yr SLR scenario (+2 ft)	3		
								High 100-yr SLR scenario (+5 ft)	4		
								100-yr SS	5		
	Q9	What percentage of the drainage area to the feature is developed and/or impervious?	Percent impervious area is a proxy for the rate of runoff within a watershed, and also relates to potential water quality decline. A watershed with more than 10% impervious area is considered to have a greater likelihood of being designated as impaired, thereby increasing stormwater managment requirements and project costs.	budget, event	StreamStats	USGS	Folta	<5%	0		
								5 - 10%	1		
								>10%	2		
	Q10	Is the asset within the watershed of an urban impaired stream (UIS) or within a Municipal Separate Stormwater Sewer System (MS4) community?	UIS watersheds and MS4 communities are subject to more stringent state and federal stormwater management requirements that can increase both the scope and cost of a project through additional treatment measures as well as requirements for offsite mitigation of water quality impacts.	budget			Newkirk	No	0		
								UIS	1		
								MS4	2		
								UIS + MS4	3		
Landscape	Q11	Is the asset an eligible historic resource or within a historic district pursuant to Section 106?	An asset's designation as a historic resource or a project's effect on a historic resource or district can significantly increase the time and process required as part of NEPA approvals for a project.	budget, schedule			Folta	No	0		
								Eligible or listed structure	1		
								Within a historic district	2		
	Q12	Is the road a sole access, evacuation route or access for emergency response vehicles?	An asset's designation by MEMA as an evacuation route or emergency response access translates to ensuring safe travel through reasonably foreseeable events. This may require adjusting elevation, stability, or hydraulic capacity, each of which require additional, specific design considerations.	event, safety		MEMA	Folta	No	0		
								sole access route	1		
								emergency response or evacuation route	2		
TOTAL RISK RATING		(Note: range of total risk ratings is 0 to 25)									

Appendix - F

Risk Register

MaineDOT TAMP Risk Register

Risk Category	Event	Likelihood	Impact	Total	Rating	Monitoring	Mitigation	Responsible Party -
		1-10	1-10		H-M-L			Core Team Lead
Department Risk					H>50, Medium 25-49, Low <25			
	Policy/Legislative Action							
	legislation is passed that severly limits the Departments ability to contract effectively	3	8	24	Low	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	Legislation is passed that mandates a particular large scale project be funded	5	8	40	Medium	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	legislation that fundamentally changes the mission of the Department	1	10	10	Low	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	Legistlative reduction in staffing	5	10	50	Medium	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	Legislative directive to prioritize funding in a certain area of interest not in line with MaineDOT Strategic goals	5	10	50	Medium	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	Change in Administration significantly changes strategic direction	8	8	64	High	Monitoring of all candidates policy and transportation posisitons	Rely heavily on Asset Management Plans and Procedures to direct funding appropriately	COO
	Technology of CV/AV advancements outpace Infrastructure and administrative policy	5	7	35	Medium	Active in AASHTO, Maine CV/AV organizations and assign Engineering staff to stay current on developments		Chief Engineer
	State Funding							
	Highway Fund Revenues drop by >10%	5	8	40	Medium	Monthly reporting on revenue		CFO
	legislation is passed limiting flexibility in funding use	3	8	24	Low	Legistlative Liason Review of Bills Committee activity		Deputy Commissioner
	Bond Levels are not maintained at $100M or more	4	10	40	Medium	Executive engagement on bond packages		Deputy Commissioner
	Voters do not approve bonding for Transportation	4	10	40	Medium	Annual review of passing % and annual customer survey polls		Commissioner
	Maine Bond Rating is dropped considerably	6	8	48	Medium	Annual review of key indicators considered by rating agencies for trend identification		CFO
	Federal Funding							
	Federal changes in funding eligibilty	8	4	32	Medium	Monitor Federal Reauthorization Bills		CFO
	Federal GARVEE bonding is not supported	2	7	14	Low	Executive engagement on bond packages		CFO
	Federal Grant Programs are eliminated or altered in a way Maine does not compete well	8	8	64	High	Monitor Federal Reauthorization Bills	Maximize the amount of grants received in the near term and highlight to policy makers this is not reliable revenue	Deputy Commissioner/Planning Director
	Federal "Cliff" is realized	5	9	45	Medium	Monitor Federal Reauthorization Bills		CFO
	Organizational/Staffing							
	Staffing cuts are required to balance HF budget	5	8	40	Medium	Monitor Revenue Forecasting and project impacts		CFO
	Workforce shortage at the crew level	10	8	80	High	Continuous reporting on vacancies and trends	Partnering with Communnity College System, Pay increases, incentives, private contracting	COO/HR Director
	Workforce shortage at the exception level	5	8	40	Medium	Continuous reporting on vacancies and trends		COO/HR Director
	IT Cyber attack	8	5	40	Medium	OIT monitors and updates cyber security measures and training continually		COO/RIO Director
	Technology outpaces training and work force development capabilities	4	6	24	Low	MaineDOT Training programs for misison critical technology		COO/RIO Director
	MaineDOT does not receive adequate support from other state agencies(DAFS, OIT, etc) to meet goals and mission	4	8	32	Medium	Core meetings weekly that provide the opportunity for discussion		Commissioner
MaineDOT Work Plan Delivery Risk								
	Environmental							
	Identification of additional endangered species	5	7	35	Medium	Continuous monitory of federal agencies		Chief Engineer

	Environmental requirements upsizing of structures increases cost	5	6	30	Medium	Early scoping of structures and TRAPPD		Chief Engineer	
	Adapting Assets for climate change scenarios	4	8	32	Medium	Membership to State Climate change groups/Legistlative monitoring		Chief Engineer	
	Air Quality placed in non-attainment	6	6	36	Medium	Continuous monitory of federal agencies		Planning Director	
	New restrictive climate change based design requirements	5	8	40	Medium	Continuous monitory of federal/state agencies and legislation		Chief Engineer	
	Natural Disaster significant enough to consume workplan resources that impact NHS	4	10	40	Medium	TMC capabilities, MEMA relationship, Cost Tracking for FEMA reimbursement	TMC capabilities, MEMA relationship, Cost Tracking for FEMA reimbursement	M&O Director	
	New restricions for based on environmental/in stream/wildlife/historic	7	5	35	Medium	Continuous monitory of federal agencies		Chief Engineer	
	External Contracting								
	Bid Prices consistently higher than estimates by > 10%	8	9	72	High	Weekly bid tracking and reporting	Rely on Highway Corridor Priority system, defer projects when necessary, provide temporary holding actions (LCP) for pavement and Post Bridges for loads required for safety when necessary	COO/BPD Director	
	Lack of Bidders/Contracters/capacity	10	7	70	High	Monthly/Quarterly meetings with industry organizations	Constant communication with industry, be predictable and reliable so investments can be made, package work to be right sized for the entire contracting community	COO/BPD Director	
	Public Sector workforce shortage large enough to hinder work performed	6	8	48	Medium	Monthly/Quarterly meetings with industry organizations		COO/BPD Director/HR Director	
	Shortage of ROW Appraisers	9	8	72	High	HR/BPD monitoring of market and job respondents data	Possible look at pay scale for classification, community college coordination, realtors association communication	BPD Director/HR Director	
	Lack of qualified consultant inspectors	5	6	30	Medium	Monthly/Quarterly meetings with industry organizations		BPD Director	
	Lack of consultant design resources	2	6	12	Low	Monthly/Quarterly meetings with industry organizations		BPD Director	
	Commodities/Material Processing								
	High Tariffs on needed materials	7	6	42	Medium	Monitor Federal Activity/legislation		Planning Director	
	Expansion of Buy America/Buy Maine provisions	5	9	45	Medium	Monitor Federal Activity/legislation		Planning Director	
	Shortage of raw materials meeting specifications	5	9	45	Medium	Monthly/Quarterly meetings with industry organizations		BPD Director	
	Lack of availablity of liquid asphalt	9	8	72	High	Weekly monitoring of Asphalt Index	Specification modification, bulk purchasing, communication with providers	BPD Director	
	Spikes in Asphalt pricing	9	6	54	High	Weekly monitoring of Asphalt Index	Specification modification, bulk purchasing, Asphalt escalator	BPD Director	
Asset Risk									
	Bridges	Bridges asset risk is handled by the TRAPPD process, see narrative write-up							
	Highways	Highway asset risk is handled by the TRAPPD process, see narrative write-up							