Chelsea Street Bridge Improvement Program

Voluntary Advanced Notification Program

Working Group Meeting #2

April 24, 2019

AGENDA

INTRODUCTIONS

OVERVIEW OF PHASING

THREE STEPS OF NOTIFICATION

MEASURES OF EVALUATION & REFINEMENT Break Out Groups

IMPROVEMENTS TRACKING

SCHEDULE REVISITED

NEXT STEPS

PURPOSE OF PHASE II: Trial A Voluntary Advanced Notification Program (ANP)

Implement a Three-month Trial ANP to improve the ***PREDICTABILITY*** *of the Chelsea Street Bridge Lifts and more efficiently manage disruptions to users without adversely impacting maritime operations*

OVERVIEW OF PHASING for the Chelsea Street Bridge Improvement Program

Phase I *- Policy and Regulatory Review*

Phase II *– Bridge Improvements, Advanced Notification Program, and Research on Additional Enhancements*

Phase III *– On-going*

- *Modifications to trial program*
- *Messaging alternatives*
- *Bridge and traffic IT improvements*
- *Permit changes*
- *Investigate regulation changes – ALL need guidance from trial program*

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Chelsea Street Bridge Program – Three Phases

Fall/Winter 2018 | **February to August 2019** | **September 2019-21**

Phase I: Policy and Regulatory Review

Phase II: Trial Advanced Notification Program

Phase III: On-Going – Additional Actions Needed to Improve Performance

Continual Modification to Notifications, Messaging, and Standard Operating Procedures for Communications

Bridge Operational and Traffic Management Improvements

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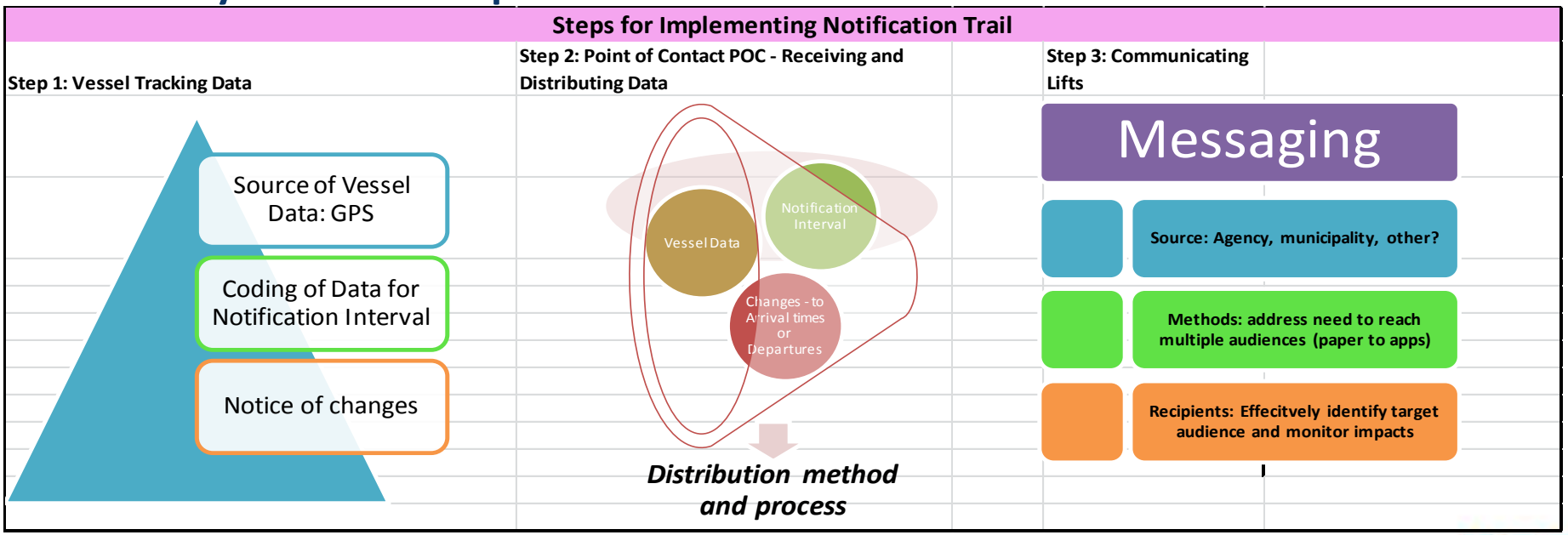
THREE STEPS OF THE ADVANCED NOTIFICATION PROGRAM

1) Identify data source and calibrate model for tracking vessels through the Chelsea River/Creek

2) Identify Trial Program Point of Contacts to receive data and distribute notifications to recipients as defined though the trial program.

3) Developing the messaging methodology for communicating closures and modify notice to recipients.



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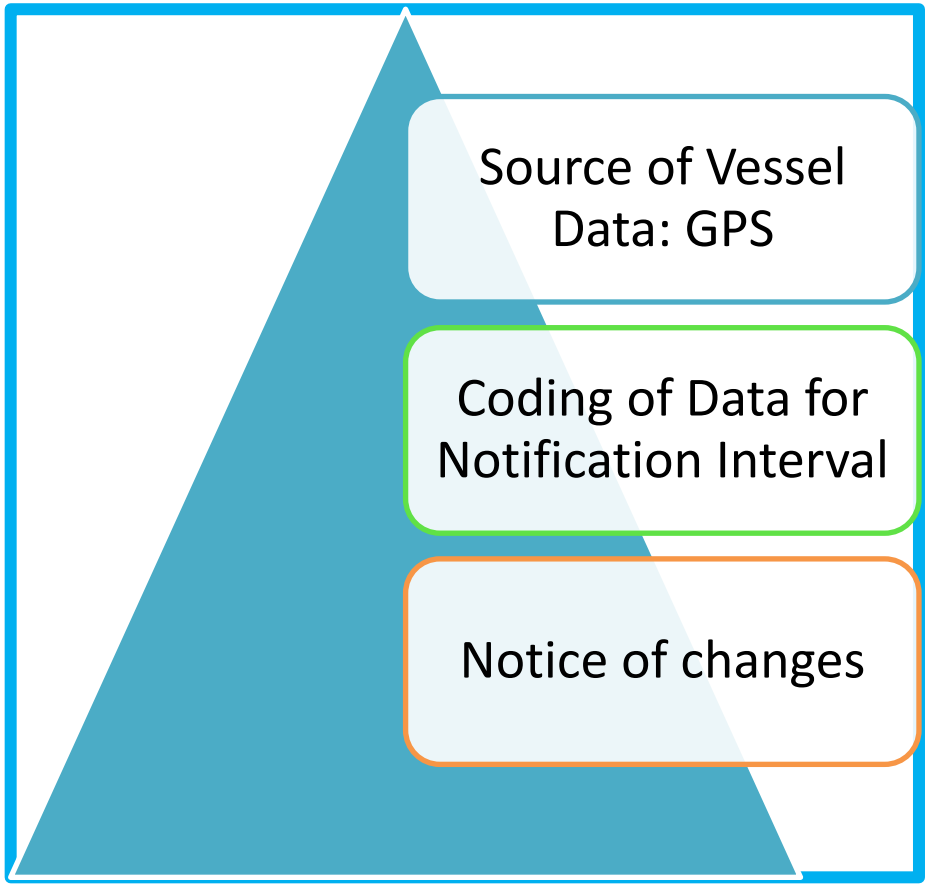
Three Steps for Implementing Notifications (On-Time and Advanced Notice)

Step 1: Obtain Vessel Tracking Data



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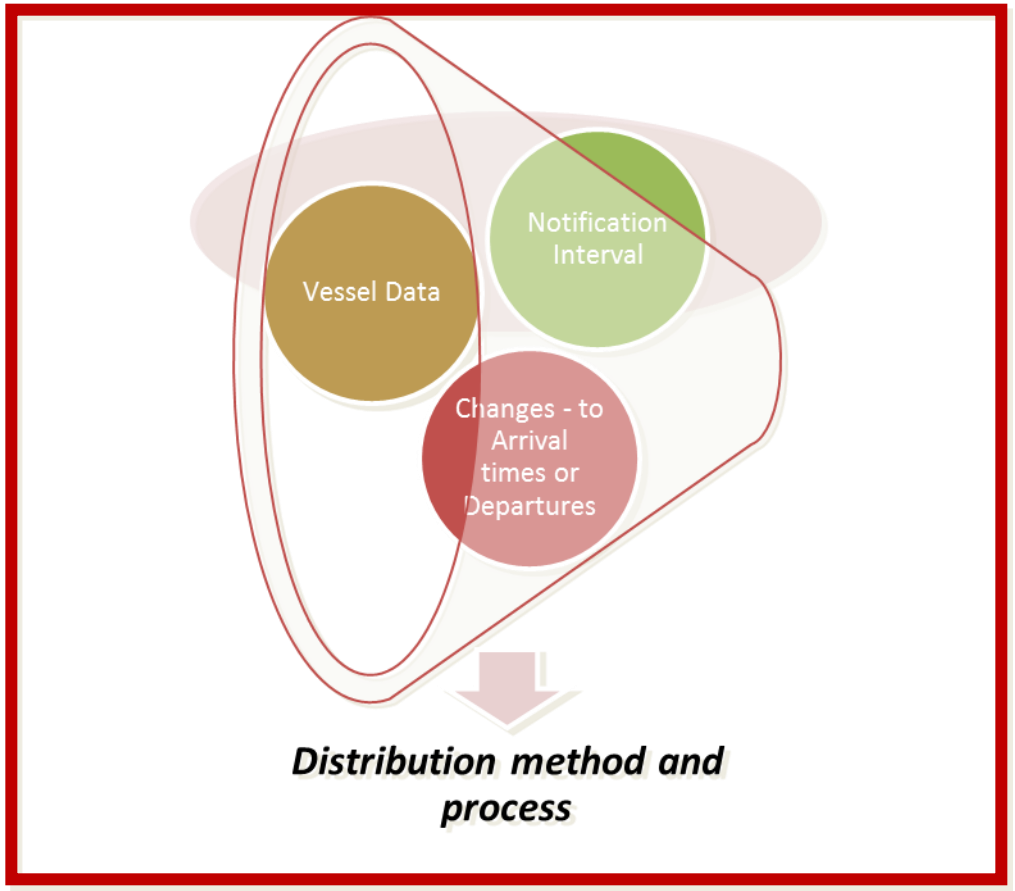
Three Steps for Implementing Notifications (Real and Advanced)

Step 2: Identify Point of Contact to Receive and Distribute Advance Notification Data



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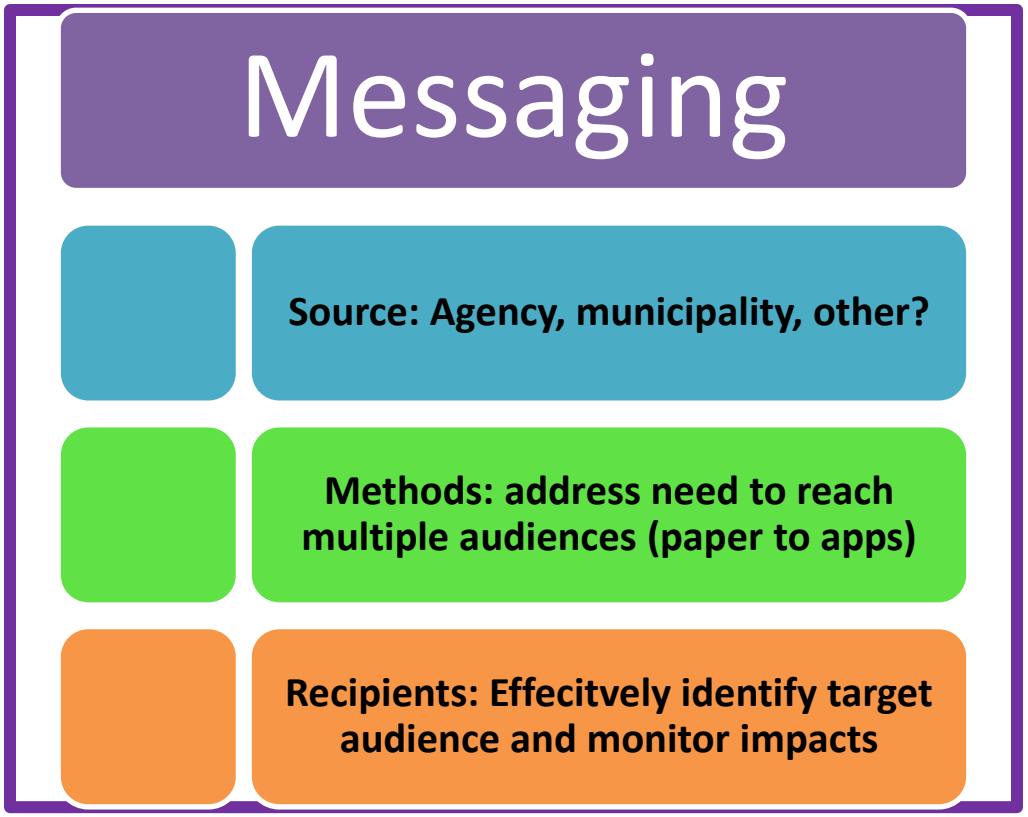
Three Steps for Implementing Advanced Notification

Step 3: Communicating Lifts – Advance and On-Demand Notice of Lifts

Ideas Welcome



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Draft Measures of Evaluation & Refinement (MOER) - An *EVOLVING* process to develop, modify and track benefit of Advance Notice

- ***Purpose:*** Develop evaluation metrics to track, analyze and effectively evaluate the performance of the trial program
- Identify achievable timeline & data for 3-month ANP Trial and actions for Phase III
- **Use the measures to fine-tune and further enhance the Advanced Notification Program**

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PRINCIPLES, PURPOSE & GOALS

Principles

- Safety
- Optimize Bridge Performance
- Transparency
- Simple and Effective Communications

Purpose

Trial a voluntary advanced notification program to improve the predictability of bridge lifts

Goals

1. Provide Reliable and Accurate Bridge Data for Advanced Notification and On- Demand Lifts
2. Improve Operational Performance to Maximize Economic Opportunities and Minimize Delays
3. Manage Disruptions Caused by Bridge Lifts

BREAK OUT SESSIONS – Purpose & Process

- Break into Three Groups
- Visit each Area – review the Goal
- Review preliminary list of MOERs for each Goal and data sets for measuring performance
- Offer additions, deletions, modifications to existing categories of problems and objectives

REMEMBER – MOERs ARE CONSTANTLY EVOLVING, CONTINUALLY REFINED BASED ON MONITORING & FINDINGS TO FINE TUNE THE ANP.

MOER Actions Needed – Constantly Evolving Measures

Title	Objective	Source of Data	Metric	Considerations	Time Frame

1. Review and Modify the Objective
2. Identify a Data source by which we can track and measure performance
3. Confirm the measure to evaluate the objective works – right percentages, values, etc.
4. Are there other considerations , caveats, on-gong actions or other issues that should be noted and/or tracked during the trial ANP?
5. Confirm the Time frame – Green what can reasonably be expected in during the 3-month trail – Blue what we pursue later (due to costs or time or source of funds or IT complications, etc.

MOER Actions Needed – Evaluate, Refine, Reset - Sample

Title	Objective	Source of Data	Metric		Considerations	Time Frame
Predicted Lift Accuracy	Determine if predicted vessel arrival times align with actual bridge lifts	Notification: Shipping Agent (**Moran Shipping**) Bridge Lifts: **MassDOT D6** bridge log book	1	Predicted lift times are reliably within a 20-minute window (+/- 10 minutes)	The May trial period will determine the notification interval and the window of accuracy	Phase II
			0	Predicted lift times are reliably within a 30-minute window (+/- 15 minutes)		
			-1	Predicted lift times are not reliably within a 30-minute window		
Overall Lift Height	Change the bridge permit height (170') to closer reflect maximum vessel height (~135') to reduce lift duration	**MassDOT D6** Internal bridge software & bridge logs	1	Reduce lift duration by more than 1 minute	No regulation change required, only permit change which can begin during Trial ANS	Phase III
			0	Reduce lift duration by less than 1 minute		
			-1	Increase lift duration		
User Benefit	Need INPUT	Undeterimined - for speed and accuracy of sources	1		Need INPUT	Phase II ?
			0			
			-1			

Reports from Facilitators

- **Goal 1:** Provide Reliable and Accurate Data on Bridge Lifts for Advanced Notification Program (ANP) and On-Demand Lifts (ODL) ***Sushma Srinivas***
- **Goal 2:** Improve Operational Performance to Maximize Economic Opportunities and Minimize Delays ***Melissa Ryan***
- **Goal 3:** Manage Disruption Caused by Bridge Lifts ***Ray Hayhurst***

Next Steps:

- The Team will take all outcomes from the break out sessions and revise the MOER table for the first round of tracking
- Report preliminary results at the May meeting – Re-evaluate MOERs

TRACKING BRIDGE OPERATIONAL IMPROVEMENTS

Working with Highway & District to Monitor Improvements to Bridge

- **Bridge Engineering** - heights
- **Bridge Operations** - automation of tracking, additional safety methods
- **Traffic Signals** - monitoring mechanisms, signal locations
- **Traffic Signage** - locations for warnings and notification signs

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ACTION CRITICAL START DATES - Phase II Concludes In August

Target Date for:

1) ***Tracking Existing Conditions*** **is: Monday, May 6, 2019 – for one month**

2) ***Trial ANP*** **set for June 3, 2019 until end of August**

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PROPOSED MEETING SCHEDULE & AGENDAS – Phase II

Date	Topical Agenda
April 3rd	Overview of Phase II: Advanced Notification Program Trial (ANP)
April 24th	Draft Measures of Evaluation & Refinement (MOERs)
May 22nd	Existing Conditions, Modifications to MOERs, Options for Communication Methods
June 19th	Review of ANP Trial launch and preliminary tracking and review of MOERs
July 24th	MOER tracking and review of communications
August 14th or 21st	Report out on ANP results and outline of Next Steps, Phase III Action Items

QUESTIONS & DISCUSSION

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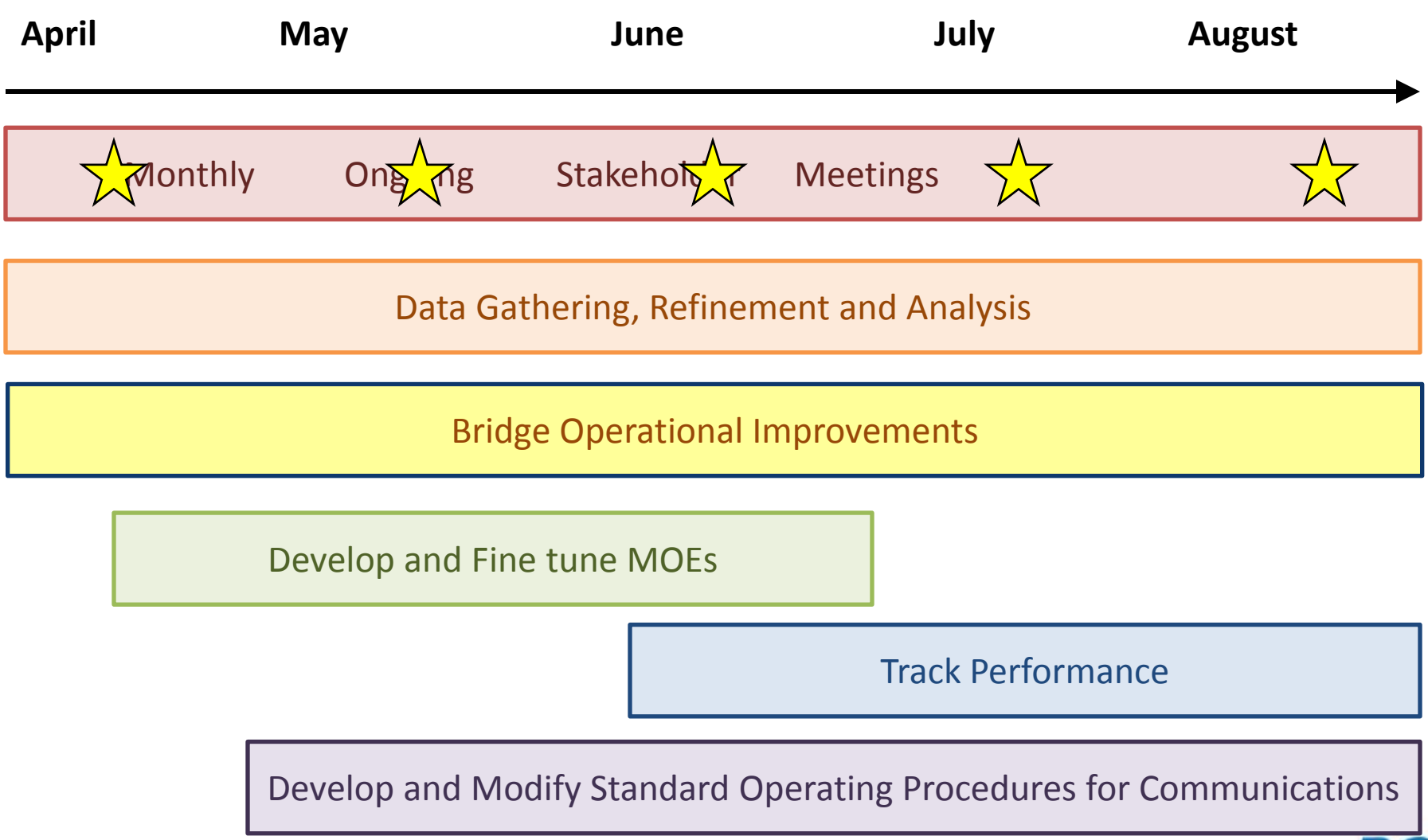
EXTRA SLIDES

TRIAL NOTIFICATION SYSTEM TIMELINE – 3-4 month period



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ESTABLISHING MOERs – Goal #1 – Sample

Goal 1: Provide Reliable and Accurate Bridge Lift Data for Advanced Notification Program (ANP) and On Demand Lifts (ODL)							
No.	**Title**	**Objective**	**Source of Data (**owner in **bold)**	**Metric**		**Considerations**	**Time Frame**
1.1	Predicted Lift Accuracy	Determine if predicted vessel arrival times align with actual bridge lifts	Notification: Shipping Agent (**Moran Shipping**) Bridge Lifts: **MassDOT D6** bridge log book	1	Predicted lift times are reliably within a 20-minute window (+/- 10 minutes)	The May trial period will determine the notification interval and the window of accuracy	Phase II
				0	Predicted lift times are reliably within a 30-minute window (+/- 15 minutes)		
				-1	Predicted lift times are not reliably within a 30-minute window		
1.2	Advanced Notification Reliability	Communicate predicted bridge lift times to users to a level of acceptability - therefore our program must be reliable and accurate to gain confidence that the information is reliable	Potential sources include **Massport** Twitter, **MBTA** T alerts, and **MassDOT** user surveys	1	90%+ of advanced notifications delivered	Current data on tankers and barages has a high degree of reliability and accuracy. Confidence on other vessals will be determined through Trail. Bridge will be required to open on demand for vessels.	Phase II
				0	80% - 90% of advanced notifications delivered		
				-1	Less than 80% of advanced notifications delivered		
1.3	Lift Information Sources	Currently there are 3 sources of lift information. Develop a communication system with a single source of bridge lift information.	**MassDOT** program oversight and agency coordination	1	1 or 2 sources for lift information	Current sources are MBTA, Massport, and Bridge Logs. Ideally, a single source will be created that is automatically generated from the bridge.	Phase III
				0	3 sources for lift information		
				-1	4 or more sources of lift information		
1.4	Communications Steps	Currently there are 5 steps to communicate bridge lifts. Develop an ODL communications system that requires fewer steps.	**MassDOT** proposed system design and documentation	1	3 or fewer communication steps	Current steps are: 1. Vessel radios the bridge 2. Bridge operator calls MBTA 3. MBTA inputs data into a software tool 4. Activate PA system	Phase III
				0	4 communication steps		
				-1	5 or more communication steps		

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