TEAM INTRODUCTION

MASSDOT HIGHWAY DIVISION

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DIRECTOR FOR ROADWAY PROJECT MANAGEMENT

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ACTING DIRECTOR FOR BRIDGE PROJECT MANAGEMENT

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DIRECTOR FOR RIGHT-OF-WAY
DISCUSSION TOPICS

- Improving the Highway Division's Capital Program Delivery
- Existing and Proposed Goals and Performance Measures
- FFY 2019 Accomplishments and Lessons Learned
- FFY 2020 Outlook
- What's Next
- Q&A
- Increase public confidence in project delivery dates and project costs
- Efficient use of staff
- Reduce occurrences of schedule driven decision making
- Reduce number of stip amendments
- Increased confidence in our investment plans
- Increase predictability in construction phase: i.e. bidding, schedules, cost

Benefits of being on-time and on-budget
HIGH LEVEL INDICATORS OF A HEALTHY CAPITAL DELIVERY PROGRAM

- ON-TIME ADVERTISING
- DISTRIBUTION OF ADVERTISEMENTS ACROSS THE FISCAL YEAR
- ADHERE TO PROGRAM PLANNING DOCUMENTS i.e. STIP/CIP
- ACCURATE COST ESTIMATES
- ON-TIME NOTICE TO PROCEED FOR CONSTRUCTION
MASSDOT ADVERTISING PROGRAM

NUMBER OF PROJECTS ADVERTISED FROM FY15 TO PRESENT (MONTHLY)

GOAL HAS BEEN EVEN % ACROSS ALL 4 QUARTERS

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ADVERTISEMENTS – ON-TIME PERFORMANCE AND DISTRIBUTION

# TIP Advertised (By Federal Fiscal Year/Quarter/Month)

- # Advertised
- # Scheduled On TIP for Advertise

FFY2018

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ADVERTISEMENTS – ON-TIME PERFORMANCE AND DISTRIBUTION

- **INTRODUCED ON-TIME PERFORMANCE METRIC IN FFY 2019. ACTUAL ADVERTISEMENT IS WITHIN 30 DAYS OF SCHEDULED ADVERTISEMENT.**

- **محافظة** IMPROVED FROM 18% ON-TIME (FFY 18) TO 77% ON-TIME (FFY 19)

- **FFY 2020 GOAL IS 85% ON-TIME PERFORMANCE**

- **FFY 2021 GOAL GOES TO 90%**
FORECASTED STIP PROJECT ADVERTISEMENTS - FFY 2020 BY QUARTER

AD DISTRIBUTION

FFY 2020 – MAX % IN ANY QUARTER IS 35% (# OF PROJECTS)
NUMBER OF PROJECTS ON ORIGINAL STIP (O-STIP) AND NUMBER OF PROJECTS ADVERTISED FROM THAT:

- **FY17**: 97%
  - O-STIP = 105
  - Adv from O-STIP = 102

- **FY18**: 88.8%
  - O-STIP = 90
  - Adv from O-STIP = 80

- **FY19**: 94.5%
  - O-STIP = 92
  - Adv from O-STIP = 87

STIP PERFORMANCE (% of Original STIP Advertised)

- Current performance target is 80%
- Performance has been consistently at or above 80%
- Target in FFY 2020 is 85%
- Will go to 90% in FFY 2022
COST ESTIMATES

OFFICE ESTIMATE VS. BID

FLUCTUATIONS DURING DESIGN DEVELOPMENT

- **MULTIPLE TIP AMENDMENTS**
  - 1/3 OF THE PROGRAM IN FFY19 REQUIRED TIP AMENDMENTS

- **IMPACTS FUTURE PROGRAM SIZES**

- **HAS A RIPPLE AFFECT ACROSS CURRENT AND FUTURE YEARS**

- **IMPACTS ON-TIME PERFORMANCE**
  - CAN TAKE 3 MONTHS FOR A TIP AMENDMENT

GOAL IS 50% PROJECTS WITHIN 10%
ON-TIME NOTICE TO PROCEED

Adv to Bid Opening to NTP (Targets 60 and 120)

- Average Days between Ad and NTP
- % Within Target
- Rolling Average
WHAT WAS NEW IN 2019

- FULL LAUNCH OF BLUE BEAM
- PRE-25% COORDINATION
- RE-ORGANIZATION OF RIGHT-OF-WAY

- HIGHWAY INFORMATION SYSTEMS INVESTMENTS AND POWER BI DASHBOARD
- EARLY PM SCHEDULE REVIEW AND LOCKING OF AD DATES
WHAT WAS NEW IN 2019

RISK REGISTER AND RISK ASSESSMENTS

- DESIGN STATUS
- MUNICIPAL RIGHT-OF-WAY
- STATE ROW
- ARTICLE 97
- COMMUNITY CONCERNS
- MUNICIPAL OFFICIALS
- ENVIRONMENTAL
- DESIGNER
- FUNDING
- UTILITIES
REDUCING ENVIRONMENTAL RISK TO PROJECT DELIVERY
CLICK FOR: FORMS & DOCUMENTS - MASSDOT ENVIRONMENTAL SERVICES

- Use of 25% Design Early Environmental Coordination Checklist
- Early Coordination with PM and Environmental Services to Discuss Project Scope and Potential Impacts
- Timely Submission: Assess Permits Required, Submission and Process Timelines
  - Be aware of interdependency on regulatory process and permit issuance (e.g., MEPA-WQC-ACOE 404).
  - Do not rely on advertising date to establish permit timeline
- Account for Critical-Path: Determine Longest Permit Timeline
  - Chapter 91 or USCG Permit can require over a year to obtain and are the last to be issued
- Quality Submissions: Wetland Applications; 25%/75% Water Quality Data Form & Review of Project Area for Listed Haz Mat Sites.
- Permit Plans: Be aware that each regulatory agency has specific permitting plan requirements that may differ from the example plan set.
WHAT WAS NEW IN 2019

- Launch of Agile teams with dedicated focus on specific project delivery process improvements:
  - Advertisement
  - Advertisement to Bid
  - Bid to NTP
- Diverse teams
- 12 week cycles with specific deliverables
- Access/involvement of other departments
- Encourages problem solving at lower levels in the agency
FY 2019 LESSONS LEARNED

MASSDOT NEEDS TO IMPROVE:
- SCOPE CREEP
- COST ESTIMATES
- ISSUE/COMMENT RESOLUTION
- EARLY COORDINATION
- TRANSITION TO CONSTRUCTION

INDUSTRY NEEDS TO IMPROVE:
- BASELINE SURVEY
- UTILITY COORDINATION
- ARTICLE 97
- ROW PLANS
- COST ESTIMATES
- SCOPE CREEP
- ON-TIME SUBMISSIONS/DESIGN SCHEDULES
- DESIGN QUALITY
RIGHT-OF-WAY

ROW FAILURES: there have been many recent projects that had incorrect and inaccurate information on the accepted ROW Plans that caused delays in the acquisition process, including:

- Incorrect existing layout information
  - Information not recreated correctly in CAD from record plans
- GIS data and information from the assessors’ map used to place property lines on ROW plans
- A municipality contracted the original surveyor for a project to prepare the survey baseplan. The surveyor was not prequalified by MassDOT.

- Numerous parcel area differences between the accepted ROW plan and Layout plan
- Differences in information between ROW plan and Layout plans.
  - CAD file sharing issues between consultants
- Combo State/Municipal project with different and conflicting information between all sets of plans

When information on the accepted ROW Plans is shown incorrectly, the acquisition process is delayed.
RIGHT-OF-WAY PROCESS

- Qualified surveyors should be developing the ROW Plans, so the geometry and parcel configurations can be seamlessly utilized in the preparation of the Layout/Easement plans.
  - Often differences in calculations are discovered upon review of the Layout Plans which delays the acquisition process.
- Information provided to the property owners by the ROW agents and appraisers, early in the acquisition process, needs to match the recorded Layout/Easement Plans and instrument.
- The calculations and geometry on the ROW Plans must be developed precisely at the acceptance stage, to ensure the seamless transition in the eventual development of the Layout/Easement documents.
  - The above is controlled by:
    - Code of Massachusetts Regulations Title 250
    - MassDOT Survey Manual
It is critical that the consultant confirms the survey base plan is accurate before they begin the proposed design.

- Verify the existing location lines are accurate based on record information.
- Verify the property lines are placed accurately using record deed information.
  - GIS data and information from assessors’ maps are NEVER an acceptable source.
- Verify frontages shown on the plans are based on deed description.
- Verify the existing conditions shown on the plans match the actual conditions in the field.
- Verify land with any restrictions (Article 97, etc.) is called out on the plan.
When designing the project, it is important to minimize impacts to property owners and open space parcels.

- Parking, utilities, slopes, federal land, open space parcels, etc.

Dispositions for all privately-owned items, within a proposed parcel, are shown correctly.

- Dispositions are a critical piece of the ROW Plans. It is how the appraisers determine what the property owner will be compensated for.

Parcel Summary is filled out correctly.

- Grouped together by titleholder, deed reference, proposed easement type.

- CAD Standard is followed.

Proposed easement cannot be excessive in size or nature.

Proposed easement cannot be overburdened
RE-CAP OF PERFORMANCE TARGETS

ON-TIME ADVERTISING
85% (90% in FFY 2021)
- AD DISTRIBUTION GOAL
  <35% IN EACH QUARTER
- STIP PERFORMANCE
  85% ADHERENCE (90% IN FFY 2022)
- OFFICE ESTIMATE vs BID → MIN.
  50% OF PROJECTS WITHIN 10%

PLANS & RECORDS
SUBMISSION CHECKLIST
- 19 DAYS BEFORE ADVERTISEMENT

TIME FROM ADV TO NTP
- 120 DAYS
FY2020: A LOOK AHEAD

- PS&E Completeness at Advertisement
- Expediting Contract and Spec.'s Pre-Bid Review/Use of Blue Beam
- Improved Comment Resolution Process
- Implementation of Electronic Signatures to Expedite Bid to NTP Process
- Improve Process from PRC Approval to Design NTP for Municipal Projects
FY2020: A LOOK AHEAD

- Revised Engineering Directive on Controlling Criteria and DER Process
- Increased Monitoring of On-Time Design Submissions, Including On-Time Schedule Submissions
- Committee Re-Group on Cost Estimating Best Practices
- Next Round of MSAs
- Revised Process for CTD’s and CD’s
MASSDOT
HIGHWAY
DIVISION
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