



**Massachusetts Bay
Transportation Authority**

Lean Strategy Update

Fiscal and Management Control Board

October 21, 2019

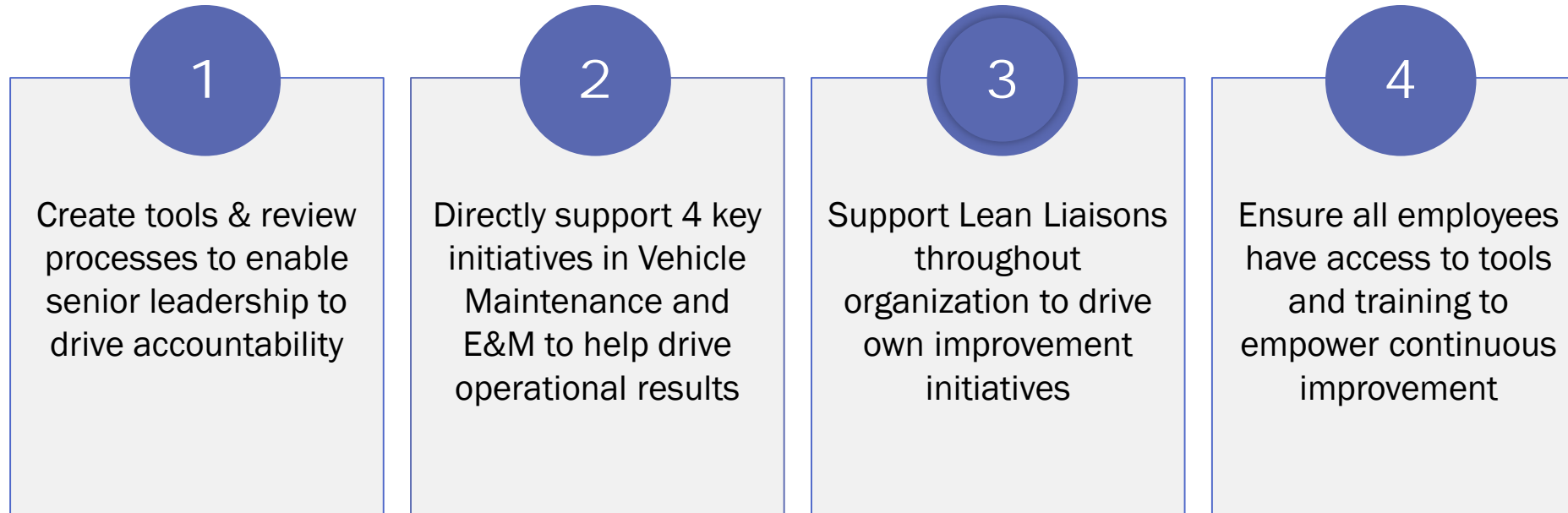
Kat Benesh

Lean at the MBTA

- **What is Lean?** Lean is a systematic approach to continuous improvement that empowers employees at all levels of the organization to identify and implement process changes in order to work safely and efficiently
- **Why are we here?** MBTA has high level of broken processes and inefficiencies
- **What is our opportunity?** By providing **collaboration tools and establishing approaches for employees** to solve problems together, we can create safe and efficient processes that will improve the working environment for all employees and enable us to deliver quality service to our riders
- **How does Lean Strategy Department operate?**
 1. Work alongside department staff to identify and implement process improvement initiatives and to establish a sustainable framework for continuous improvement within that department
 2. Coach managers and project leads to lead continuous improvement initiatives in their areas
 3. Provide formal industry-recognized training to create champions throughout organization



Reminder: Four Major Objectives for FY19



• **Example of major accomplishments over past months:**

- Bus System-wide: Completed Standard Repair Time initiative on 940 buses, currently focusing on DMAs and North Cambridge fleet
- Bus System-wide: Implemented reimbursement process for reusable component, estimated annual savings of \$400K run-rate
- Everett Bus/Rail: Completed 95 new Standard Repair Times (SRT) since start of FY19, which is 50% complete
- Corporate/Support: Implemented internal HR re-org by adding vertical specializations to help enable HR to meet MBTA-wide acceleration goals



Reminder: Example of Work at Southampton

Standardizing work

- Focused additional resources on SRT implementation, increased compliance from 50 to 80%, and created 24 new SRTs
- Standardized and trained all staff on parts issuance processes
- Dedicated locations and upkeep process for specialty tools
- Created Superintendent audits/checklists

Management best practices

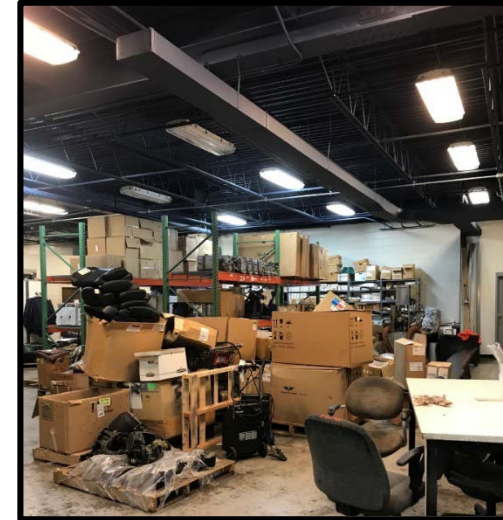
- Displayed KPI 4'x6' dashboard in foremen's office
- Launched foremen daily checklist
- Established bi-weekly executive steering committee

Training

- 9 days of training for all 18 members of 589 Union
- 5S Lean training for 20 members of 264 Union and 5 members of Alliance

Inventory capacity increasing

- Doubled storage capacity of upstairs inventory room
- Relocated storage trailers from Cabot
- Removed 25 pallets of obsolete parts



Lean Initiatives in Engineering and Maintenance

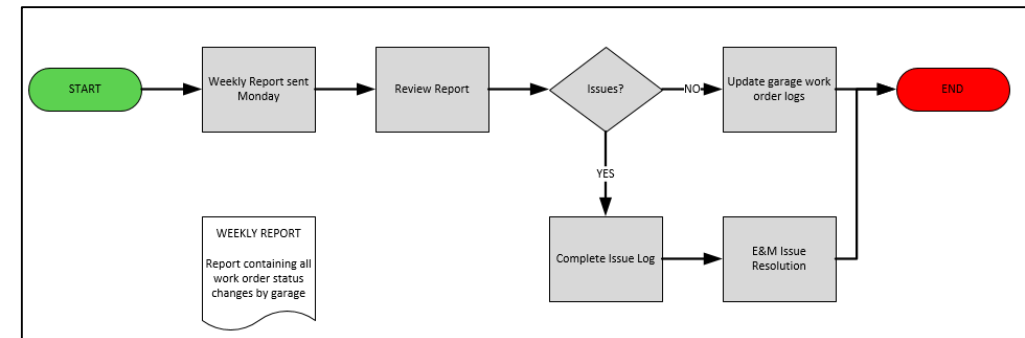
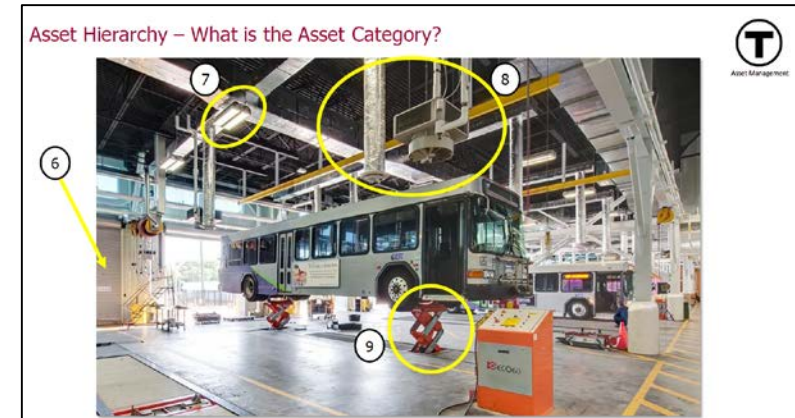
Customer Focus

Management Best Practice

Process Redesign

Customer Focus

- Provided training to Maintenance Control Center to improve service request entry process in order to **reduce time spent identifying the problem on site** and allowing crews to prepare for the job (results: 3x improvement in the accuracy of service requests entries)
- Developed weekly work order reporting process to **improve communication between Bus Maintenance and E&M** to reduce time spent on informal communication and status updates



Lean Initiatives in Engineering and Maintenance

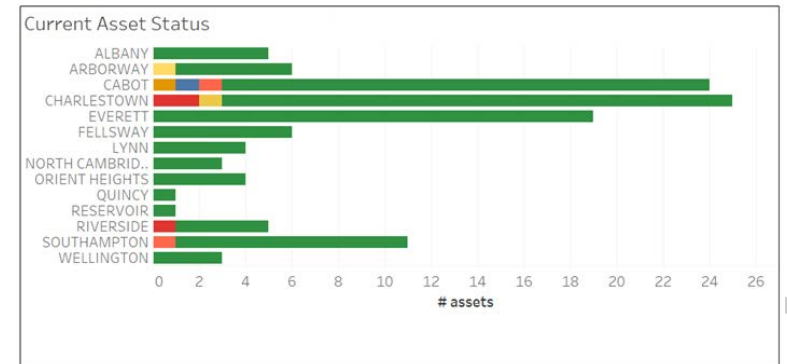
Customer Focus

Management Best Practice

Process Redesign

Management Best Practices

- Launched **tableau dashboards** for Directors and Supervisors to facilitate review of work order backlog and allow active management of workload across departments
- Created dashboard to track service status of **critical assets** for TFM, allowing supervisors to **prioritize safety and service sensitive issues**



FY20 Goals and Priorities

- **FY20 emphasis will be on Safety, Quality, and Efficiency** with a targeted focus on process improvement in the following areas:
- **Engineering & Maintenance**
 - Establish communication tools allowing E&M to track and respond to high-priority items
 - Improve ability to execute and track preventative and reactive maintenance
 - Improve business processes in E&M support functions to support efficient execution of maintenance activities
- **Blue Line and Orange Line Vehicle Maintenance**
 - Conduct deep dive assessment of current state at Orient Heights and develop action plan to implement Lean best practices in order meet FY20 departmental goals (Leveraging learnings from Southampton Bus Maintenance initiative)
 - Standard Repair Times (SRT): Commence developing SRTs (Blue Line and new Orange Line vehicles) to create standard processes for Vehicle Maintenance
- **Human Resources**
 - Create a standardized, streamlined, and scalable process to increase HR hiring capacity and speed of hiring as well as to improve diversity & retention
 - Develop robust metrics program to track requisitions, recruiter, and departmental performance
- **Continue White Belt training and Start Green Belt training as pilot (FY20 Q2) (in mid-procurement)**



Appendix



Why is Lean Important?

Lean Guiding Principles

Frontline empowerment

Those staff closest to the work have the best (feasible and impactful) ideas for improvements



Customer-driven

Value is defined by the customer, i.e. value is what ultimately impacts their experience and perception



Low cost

A series of small/simple or low cost improvements can have a significant impact



Process-oriented

The focus is on how to evaluate and improve the process, not the people



Lean Results

- **Improves Safety:** building safety into SOPs and daily routines empowers employees to create and expect a safe work environment
- **Improves Quality:** focusing on process standardization allows us to quickly identify and fix the root cause of underlying issues
- **Improves Reliability:** empowering staff to implement small improvement suggestions improves system reliability
- **Increases Efficiency:** Eliminating waste and creating efficient processes allows us to deliver more value to the customer in a cost efficient manner



Lean Six Sigma Green Belt Overview

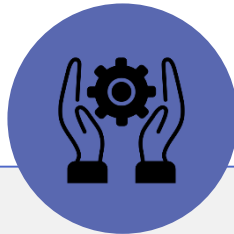
Lean Department Vision Statement

Develop Lean culture by empowering all employees to lead process improvement projects in order to be able to provide frequent, reliable, safe, and efficient service to our customers.



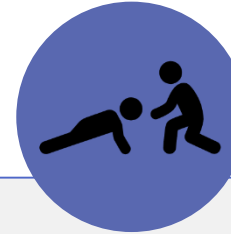
- Formal classroom training
 - 8 full days (1 day every 2 wks)
 - Customized to fit MBTA needs

Training



- Apply learning to day-to-day work
- Complete a Green Belt project
- Deliver operational results

Practical Experience



- In-person project coaching
 - ~5 hrs
- Electronic support as needed

Coaching



- Certification Exam (optional)
 - 4 hours
- Capstone project presentations

Certification

Stakeholder Input

- Strategic Project Selection: (minimal budget, data driven, well defined scope /timeline)
- Green Belt Candidate Selection (analytical, process oriented, some decision making authority)

