

Clipper® Executive Board

May 20, 2019

Agenda Item 4b

Next Generation Clipper® System Update

Subject: Update Board members on key developments related to the implementation of the next generation Clipper System Integrator project, provide an overall program update, and to highlight key features of the next-generation Clipper mobile app.

Background: **Executive Summary**
Included as Attachment A to this memorandum is a summary of recently completed activities related to delivering the program; upcoming activities and deliverables for MTC, Cubic, and the transit operators; and noteworthy items that the project team is managing. This will be updated and presented to this Board monthly.

Next Generation Clipper Program Schedule

Clipper staff have developed another version of the Next Generation Clipper summary schedule (Attachment B) that will help us plan for upcoming work, manage any schedule slippage, and communicate status of work to the Executive Board. In addition to monitoring the schedule at a high level, we will track package submittals, customer dependencies, and testing and release dates associated with individual accelerated deployment projects. The schedule is intended to answer high level questions to help Board members and their staff manage their resources for activities such as reviewing documents, participating in design sessions, making their properties/vehicles available to Cubic, facilitating third-party integration (i.e. BART and Ventek tasks) and monitoring testing. The account-based schedule information will likely be tracked at a high level until the second half of 2020 when we begin a period of significant design review and equipment procurements.

Mobile App Functionality

The Clipper mobile app being developed by Cubic under the next-generation Clipper contract is described in detail in Agenda Item 4c.

Next Generation Clipper Technical Update

MTC and transit operator staff have invited Cubic to brief the Executive Board with a technical update, and have included as Attachment C to this memo the presentation that Cubic will discuss during the May Executive Board meeting.

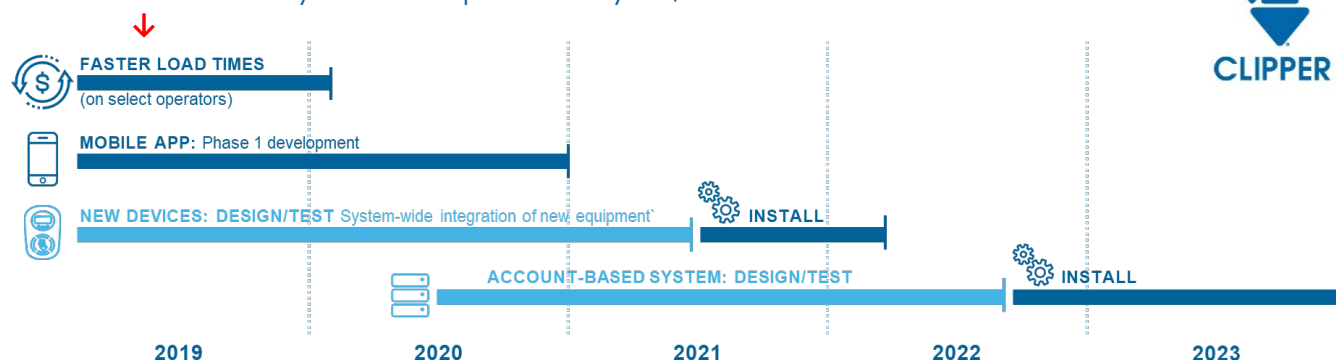
Attachments: **Attachment A:** Next Generation Clipper Program Executive Summary Status Report
Attachment B: Next Generation Clipper Program Schedule
Attachment C: Next Generation Clipper Technical Update



Carol Kuester



Next Generation Clipper Program Executive Summary Status Report – May 20, 2019



Summary

- Final comments on Submittal Package 2 sent to Cubic on 5/13/2019.
- Mobile app user interface/user experience (UI/UX) design process underway.
- Cubic surveys of vehicles/locations with legacy ERG equipment underway.
- Technical discussions continue with operators.

Recently Completed Activities

	MTC/IBI	Cubic	Operators	Date
• Submittal Package 2:				
○ Review meeting (internal)	●		●	Apr 23
○ Review meeting with Cubic	●	●	●	Apr 24
○ 1 st resubmittal received from Cubic		●		Apr 30
○ Review meetings with Cubic	●	●	●	May 7–8
○ Final comments sent to Cubic	●		●	May 13
○ 2 nd resubmittal received from Cubic		●		TBD
○ Approval by MTC	●			TBD
• Mobile app UI/UX design:				
○ Kick-off meeting	●	●	●	May 3
• Technical meetings with operators:				
○ BART (general)	●	●	●	Apr 17
○ BART (network engineering)	●	●	●	Apr 29

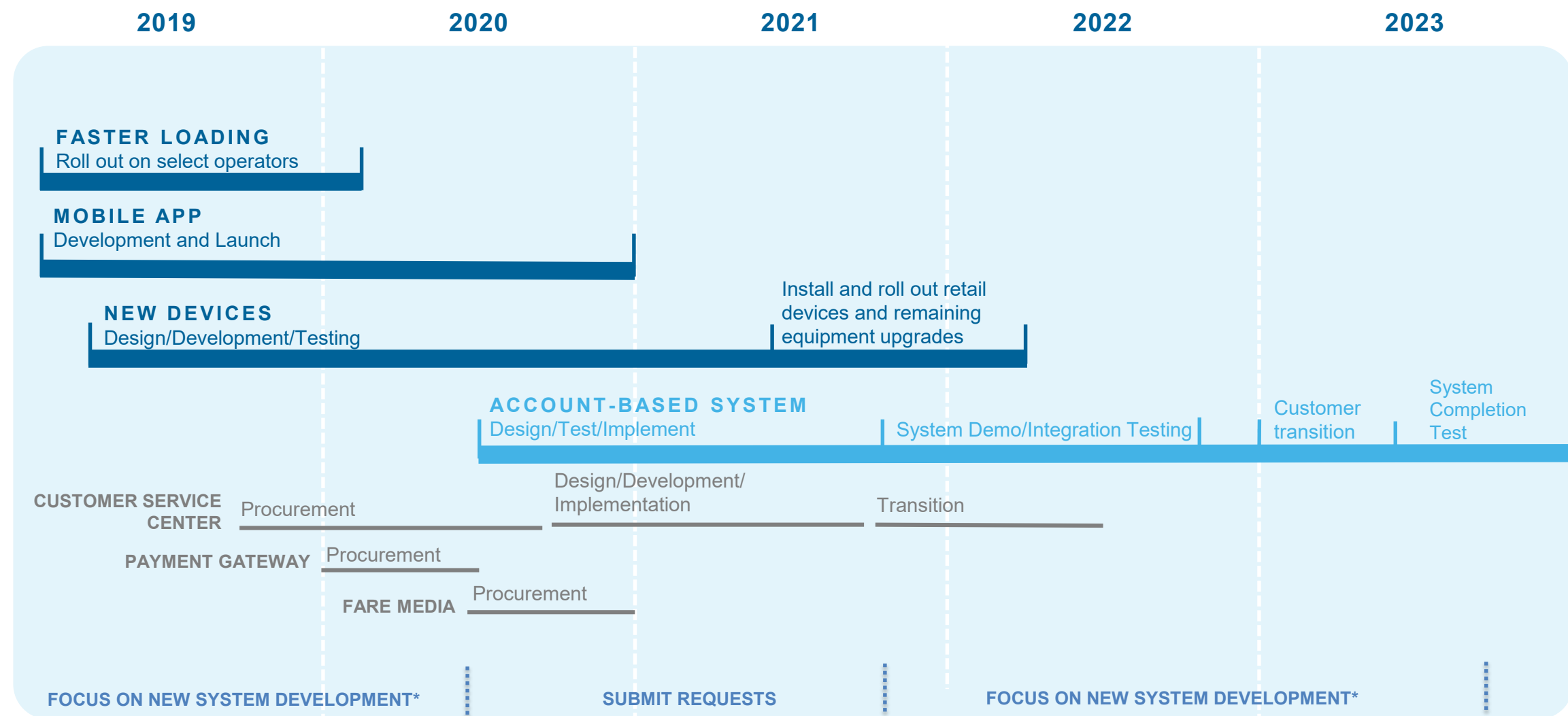
Upcoming Activities/Deliverables

	MTC/IBI	Cubic	Operators	Date
• Legacy ERG equipment surveys continue		●	●	through June
• Mobile app UI/UX workshops	●	●	●	Jun 3, Jun 17
• Clipper Executive Board Meeting	●	●	●	Jun 17

Items to Highlight

Description	Resolution/Mitigation
• More aggressive roll-out of more frequent actionlist updates is planned but not yet reflected in Cubic's Project Schedule.	• Cubic to revise Project Schedule to reflect planned dates.

Next Generation Clipper Program Schedule



* During these periods, resources will be dedicated to new system development instead of changes to current system



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Next Generation Clipper Technical Update

May 20, 2019

Agenda Item 4b
Attachment C

1. Program Plans & Schedule

COMPLETE

- 1st Submission: 11/26/18
 - *Review Meetings: 12/6 - 7*
 - *Comment Period: 11/26 - 12/21*
- 2nd Submission: 1/30/19
 - *Review Meetings: 2/15, 2/19*
 - *Comment Period: 1/30 – 3/1*
- 3rd Submission: 3/5/19
 - *Review Period: 3/5 - 3/12*
- Approval: 3/12/19

Contents

- CS-DD-016a Accelerated C2 System Deployment Plan
- CS-PM-008 Program Management Plan
- CS-PM-009 Project Schedule
- CS-PM-011 Requirements Traceability Matrix
- CS-SL-001 Software List

Contents

- CS-DD-013 C1 Design Coordination Plan
- CS-DD-015 Joint C1-C2 Development and Testing Plan
- CS-O&M-005 Change Management Plan
- CS-O&M-013 Q/A and Q/C Program Plan
- CS-O&M-013a C2 System Configuration Management Plan
- CS-O&M-014 Risk Management Plan
- CS-O&M-015 Safety Management Plan
- CS-O&M-016 Information and Security Management Plan
- CS-O&M-018 Sys. Monitoring and Control Mgmt. Plan
- CS-PM-001 Change Management Register
- CS-PM-003 Contract Submittals Management Plan
- CS-PM-005 Cost Adjustment Register
- CS-PM-009a Schedule Recovery Plan
- CS-PM-012 Risk Register
- CS-TEST-001a Accel. C2 Sys. Deployment Testing Plan

2. Program Plans & Controls

COMPLETE

- 1st Submission: 3/19/19
 - *Review Meetings: 4/2 - 3*
 - *Review Period: 3/19 - 4/15*
 - *Response Review: 4/24*

- 2nd Submission: 4/30/19
 - *Review Meetings: TBD*
 - *Review Period: 4/30 – 5/13*

- Approval: 5/13/19

Mobile App User Interface / User Experience (UI/UX) Sprints

- Kickoff on May 3rd

- 12 weekly sprint meetings from June through August
 - *Iteration of visual design*
 - *Clickable demos*
 - *Broad stakeholder participation*

- Goal is to have a final UI/UX design by late August 2019

Installation Surveys

- Platform and vehicle surveys to proceed through the summer to plan for new C2 device installation

- Power, comms, device location, & mounting will be reviewed at representative locations and vehicle types

- Surveys will feed into design & documentation process of new equipment

Accelerated Deployment Preliminary Design Review

- 1st Submission: 8/8/19
 - *Review Meetings: 8/15 – 8/21*
 - *Review Period: 8/8 – 9/5*
 - *Response Review: TBD*
- 2nd Submission: 9/20/19
 - *Review Meetings: TBD*
 - *Review Period: 9/20 – 10/3*
- Approval: 10/3/2019

Contents

- CS-DD-018 Accelerated C2 System Deployment Design Doc.
(Accelerated Deployment Packages 1, 2, and 3)
- CS-DD-019 Accelerated C2 System Deployment Dev. Plan
(Accelerated Deployment Package 1)
- CS-DD-002 C2 System Back Office Design Document
- CS-DD-004 Communications Network Design
- CS-DD-008 Environmental Design Specifications Document
- CS-DD-009 Equipment Design Document
- CS-DD-009a Fare Validator Design Document
- CS-DD-009c Onboard Validator Solution Design Document
- CS-DD-009d Standalone Validator Solution Design Document
- CS-DD-009g Retail Solution Design Document
- CS-DD-010-[X] ICD Design Documents
- CS-DD-012a Website, Web Portal, and Mobile App Design Doc.

- Design Review Participants
 - *Program plans and controls*
 - *Design, development, and test plans*
 - *Device specifications*
 - *Active participation from mobile app UI/UX review team*
- Site Access
 - *Agencies with legacy ERG vehicle and platform devices*
- Software Testing
 - *Coordination with BART & VenTek (VTA/SMART/Caltrain) to integrate initial builds of updated Clipper software on their devices*