Bay Area Transportation Authority

BATA Study Session Minutes

Thursday, February 11, 2021

Topic: IBI Group Tech Study Presentation

1. Call to Order – The meeting was called to order at 1:01pm by Chairman Cochrun

2. Roll Call

John Sommavilla	Attending Remotely from Jenison, MI
Linda Joppich	Attending Remotely from Interlochen MI
Richard Cochrun	Attending Remotely from Traverse City MI
Heather Harris-Brady	Attending Remotely from Traverse City MI
Brad Jewett	Attending Remotely from Garfield Twp, Traverse City MI
Robert Fudge	Attending Remotely from Garfield Twp, Traverse City MI
Rick Robbins	Attending Remotely from Elmwood Twp, Leelanau Co MI
Staff in Attendance:	Kelly Dunham, Eric Lingaur, Mary Meredith

2. First Public Comment — There was no public comment

3. Topics for Discussion

a. Presentation of IBI Technology Study Findings – Eric Lingaur
Eric described why the Study was conducted. Part of the process was determining priorities. He added that it was a several months' study that included several BATA departments. {see Attachment A}

David Duong from IBI Group was introduced and he discussed the current state of technology at BATA and the future vision. The reporting was broken down in four stages:

Task 1:	Existing Conditions Review and Needs Assessment
Task 2:	Industry Scan For similar industries, BATA appears to be in the middle range as far as our systems, taking into effect our size and geographic area.
Task 3:	Options Analysis and Implementation Plan
Task 4:	Costs and Staffing Estimates

Director Jewett asked about the difficulty of moving technology to the new facility and David said that it would not be that challenging as some systems are cloud-based. Eric said this will be taken into account while planning the move to the new office.

The future state roadmap was reviewed and David noted there are 7 projects recommended with various priority levels. Each project was discussed and questions were answered.

- Project A: Fixed Route CAD/AVL (Computer Aided Dispatch and Automotive Vehicle Location)

- Project B: Demand response/On-Demand/Specialized Paratransit CAD/AVL (Computer Aided Dispatch and Automotive Vehicle Location)
- Project C: Automated Planning and Scheduling System
- Project D: Automatic Passenger Counting System
- Project E: Fare System (Farebox and Central Fare System Replacement)
- Project F: Computerized Maintenance Management System (CMMS)
- Project G: Fleet Yard Asset Management

Director Harris-Brady commented on the two sides of such a project: the BATA Operations' side vs rider's side. Improved apps will show exactly where the bus is located and this would be a great benefit for riders.

The proposed timeline for future projects was reviewed.

David presented the Improvement Areas and Costs of each project recommendation. Eric noted that the estimates are conservative but contain everything in the wish list.

The funding for the projects could include a mix of grants, operating surplus funds and CARES ACT funding which have already received plus a potential of $2.3 million in additional funding yet to be received. Kelly said the Finance Oversight Team will look closely at all possible funding options and share a recommendation with the full board at the Feb. 25 meeting. $1.1 million is currently in our Capital Funds Account. There are other options on the table and Kelly encouraged the board to share their ideas with the FOT.

Kelly reiterated that having this well-planned intentional path will provide high efficiency and a superior level of communication that the organization needs to continue to grow.

Director Sommavilla noted that in addition to the three valuable reasons for the study as laid out in the presentation, this was really a board directive given to the Executive Director and that Kelly and her team have fulfilled that request. Director Cochrun commended Eric and Kelly on a great job.

Director Harris-Brady suggested that this may be a good time to review cyber security measures and a written procedure would be a good proactive move to put in place.

Director Jewett asked about demonstrations of some of these technologies to view and Eric said he would provide visuals in a revised version of the presentation. This would add more meaning to the discussion, but he feels the proposal is good.

Director Joppich thinks this project is a great undertaking for the BATA drivers and riders.

Chairman Cochrun thanked IBI for their presentation.

4. Second Public Comment
There was no public comment

5. Adjournment
The meeting was adjourned at 2:14pm

Submitted/Recorded by: Mary Meredith, Administrative Services

Approved on 2-25-21
DATE

Linda Zoppich
Board Secretary

Transit Technology Review, Evaluation and Acquisition Plan

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Why develop a Technology Road Map?

- **Fulfilling Millage Promises:** Adding new user-friendly technology is one of the top improvements the community asked for as part of BATA's last millage approval in 2017
- **Aging Technology:** BATA's technology has started to become antiquated and is having trouble meeting the current needs of the community and positioning to adapt to future growth
- **Timeline and Budget and Integration:** Acquiring new technology takes planning and establishing a 5-year road map helps prioritize and provide direction to meet BATA's technology goals. Selecting technologies that integrate and allow future growth with a new facility on the horizon

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Agenda

- Purpose / Objectives
- Project Methodology
- Current State
- Priority Projects and Benefits
- Future Projects
- Next Steps

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Purpose / Objectives

Why: Technology is a means to help **Operations Staff** perform their roles more efficiently, as well as to improve the **customer experience**

Objectives:

- **Present:** Understand how technology today is used to perform different business functions
- **Future:** Present to stakeholders how technology could change based on future business functions needs
- **Innovation**: Brainstorm with stakeholders on future innovations

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Project Methodology

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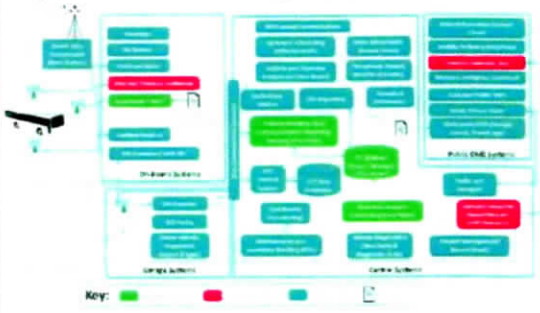
Existing State

High-level Current-state Transit Technology Roadmap



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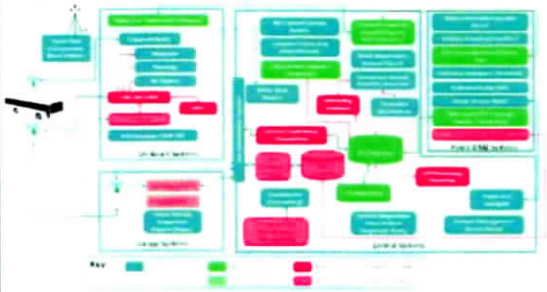
Proposed Future Projects

High-level Future-state Transit Technology Roadmap Modified and New Systems



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Priority Projects & Benefits

- **Project A: Fixed Route CAD/AVL (Computer Aided Dispatch and Automotive Vehicle Location)**
  - BATA's current system is rudimentary and provides basic functionality. Features like real-time tracking, fixed route integration and enhanced functionality can be incorporated into BATA's current on-board system
  - Ridership reporting data is rudimentary and time consuming to compile
  - Benefits:
  - Install new on-board computer or tablet with user-friendly functionality that will be the central point of interface and control between central systems and on-board components.
  - Improved data and voice communications between on-board and central systems
  - Turn by turn navigation instructions and graphical detour and service disruption information
  - Provide real-time vehicle tracking information to staff and customers and supply real-time data information to third parties for the development of arrival time predictions
  - Enhanced reporting capabilities include NTD reporting which is required if BATA receives the "Small Urban" transit system designation
  - Additional capabilities include: Visual on-board signage to show next stop information; Audio Automated Vehicle Announcements (AVA) and more

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Priority Projects & Benefits

- **Project B: Demand Response / On-Demand / Specialized Paratransit CAD/AVL (Computer Aided Dispatch and Automotive Vehicle Location)**
  - BATA's current demand-response scheduling software has reached the end of its useful life. It does not provide the functionality to expand into on-demand transportation or provide growth for paratransit service.
  - Reporting is rudimentary and delayed.
  - The TransLoc Link On-Demand pilot has shown what a fully functional technology solution can do in terms of efficiency, data and functionality.
  - Benefits:
  - Real-time vehicle tracking.
  - Vehicle routing (scheduling) in real time.
  - Service provider management and paratransit capabilities.
  - Online and app booking functionality.

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Priority Projects & Benefits

- **Project C: Automated Planning & Scheduling System (NOTE: Project C may be able to be integrated into Projects A & B depending on the vendor).**
  - BATA currently has no fixed route planning or scheduling software solution.
  - Routes are developed manually and involve multiple processes.
  - Benefits:
  - Route design software for stops, stations, timing points, and other location data.
  - Improves payroll process (integrated planned work time, via interface with payroll system). Can also help automate scheduling and bid management.
  - Automated generation of GTFS files with automatic schedule updates to Transit App, Google Maps and Apple Maps.
  - Enhanced data functionality that can build on census and other data for future route planning and adjustments.

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Priority Projects & Benefits

- **Project D: Automatic Passenger Counting System**
  - BATA currently tracks ridership and passenger traffic manually.
  - Current process for tracking ridership is time consuming, adds another driver function and delays real-time ridership data collection.
  - Benefits:
  - Provides consistent up to date ridership data.
  - Reduces manual work to collect ridership data.
  - Supports NTD reporting.

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Priority Projects & Benefits

- **Project E: Fare System (Farebox & Central Fare System Replacement)**
  - BATA's current fare system is reaching the end of its useful life and will eventually not be supported by the current vendor.
  - The current fare software is old and difficult to navigate and program allowing for timing reporting and functionality.
  - Maintenance and repair of the mechanical fare box components is time consuming and can interrupt service delivery.
  - Benefits:
  - Reduced required maintenance.
  - Better data reporting.
  - Automated farebox issue logging.
  - Self-serve reload web-portal for riders to purchase fare or renew fare passes.
  - Supporting all fare types on-board.

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Priority Projects & Benefits

- **Project F: Computerized Maintenance Management System (CMMS)**
  - BATA has a basic maintenance tracking and management system that functions but could more to improve efficiency and connectivity.
  - Benefits:
  - Mileage and fuel use tracking.
  - Inventory tracking and automatic purchase order generation.
  - User-friendly system allowing for in-field use for management of in-service dispatch and robust reporting capabilities.
  - Asset/facilities management.
  - Integrated maintenance and finance management for purchase order processing.

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Priority Projects & Benefits

- **Project G: Fleet Yard Asset Management**
  - BATA has a basic manual fleet tracking system for vehicle management, but it can be hard to find and navigate the vehicle resources needed for daily operation.
  - Driver vehicle inspections are currently done manually using paper forms.
  - In the new HQ facility buses will be parked indoors in a lane formation, which will make timing and tracking of vehicle assets even more essential.
  - Benefits:
  - Support tracking of all BATA assets.
  - Supports Transit Asset Management (TAM) reporting.
  - Provides data to optimize maintenance operations and maximize vehicle availability.
  - Automated vehicle inspection reports will create a lean digital process to retain required maintenance documents.
  - Schedule periodic maintenance, create and process work orders and track warrant.
  - Yard management.
  - Track parts inventories using technologies such as barcode enabled workstations.

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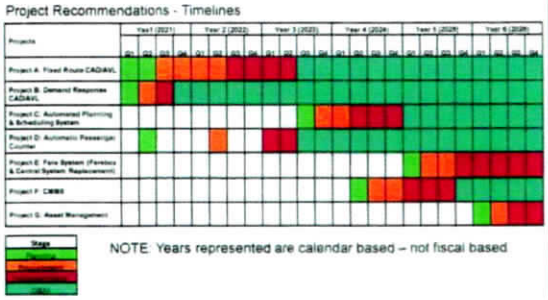
Proposed Future Projects

Project Recommendations - Timelines



NOTE: Years represented are calendar based – not fiscal based

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Proposed Future Projects

Project Recommendations – Improvement Areas & Costs

Project	Capital Expense Type							
Project A: Fixed Route CAD/AVL			$2,575,150					
Project B: Demand Response CAD/AVL			$284,000					
Project C: Automated Planning & Scheduling System				$300,000				
Project D: Automatic Passenger Counter					$228,000			
Project E: Fare System (Farebox & Central System Replacement)						$1,350,000		
Project F: CMMS							$450,000	
Project G: Asset Management							$150,000	
Total Expense			$ 2,863,150	$300,000	$228,000	$1,350,000	$600,000	$5,341,150

- All project capital expenses are conservative estimates and include full system features and functionality. Project costs can be potentially lowered by adjusting project scope and through a competitive bidding RFP process.

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Technology Funding Secured

Technology Funding Plan - 02.09.21

FTA - IMI Technology Grant	$802,624					$802,624
MDOT Rural Task Force & Small Urban Funds	$263,159					$263,159
Future RTF / Small Urban Funds		$131,840	$105,625	$142,688	$56,250	$436,413
Operating Surplus / Capital Funds / Additional CARES ACT Funds						$0
Total Funding	**$565,783**	**$131,840**	**$105,625**	**$142,688**	**$56,250**	**$1,002,196**

- **Additional funding needed to complete Projects A & B is potentially $2.3 million.**
- **Funding recommendation will be developed by Finance Oversight Team and be brought to the full board for consideration.**

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Next Steps

- **Q&A**
- **Plan to take action based on the Finance Oversight Team recommendation at the Feb. 25, 2021 BATA Board meeting.**

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