

**Massachusetts Bay
Transportation Authority**

Regional/Urban Rail Transformation

Boston MPO Transit Working Group

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Agenda

- Service driven transformation
 - Goals
 - Service Concepts
 - Objectives
 - Resulting Program
 - Illustrative Timeline
- First Steps
 - Service changes and planning
 - Providence Line EMU Pilot
- Building partnerships
- *Spring Regional Rail Schedule - Keolis*



A blurred, high-speed photograph of a train track stretching into the distance. The tracks are flanked by overhead power lines and support structures. The image has a blue tint and a motion blur effect, suggesting speed and forward movement.

Service driven transformation

Electrification is a means to an end



Goals from Rail Vision study



Match service with growth & changing needs of the region



Enhance economic vitality



Improve passenger experience



Provide an equitable and balanced suite of investments



Achieve climate change and sustainability targets



Maximize return on investments



Service Concepts



- Regional rail
 - “Clock face” scheduling
 - Local service
 - All day bi-directional service
 - 20-30 minute headways
 - Express service
 - Non-stop or skip-stop peak service
 - Focused on peak demand
- Urban rail
 - Inside Route 128/I-95
 - High frequency bi-directional service
 - 15-20 minute headways
 - Rapid transit fare structure



Objectives

FMCB Transformation resolution

- Phase One transformation of:
 - Providence Line - Regional rail
 - Fairmount Line - Urban rail
 - Boston to Lynn (EJ Line) – Urban rail
- Dense corridors:
 - 15-20 min headways
- Others:
 - “Appropriately scheduled” all day service
- Largely electrified
- Integrated with bus/subway
- Improved parking & first/last mile connections
- Include high level accessible platforms
- Start with business case & schedule

Phase One



Resulting Program Scope

Operations

- Service Planning
 - Journey time improvements
 - Easier connections
 - Schedule integration with bus
- Fares
 - Targeted Products
- Frictionless transfers
 - Fare integration with first/last mile
 - Single media – AFC 2.0
- Improved Customer information
- Key Performance data gathering
 - Monitor delivery of goals
- Rolling Stock
 - Continued enhanced cleaning
 - Improved on board experience & facilities with new equipment

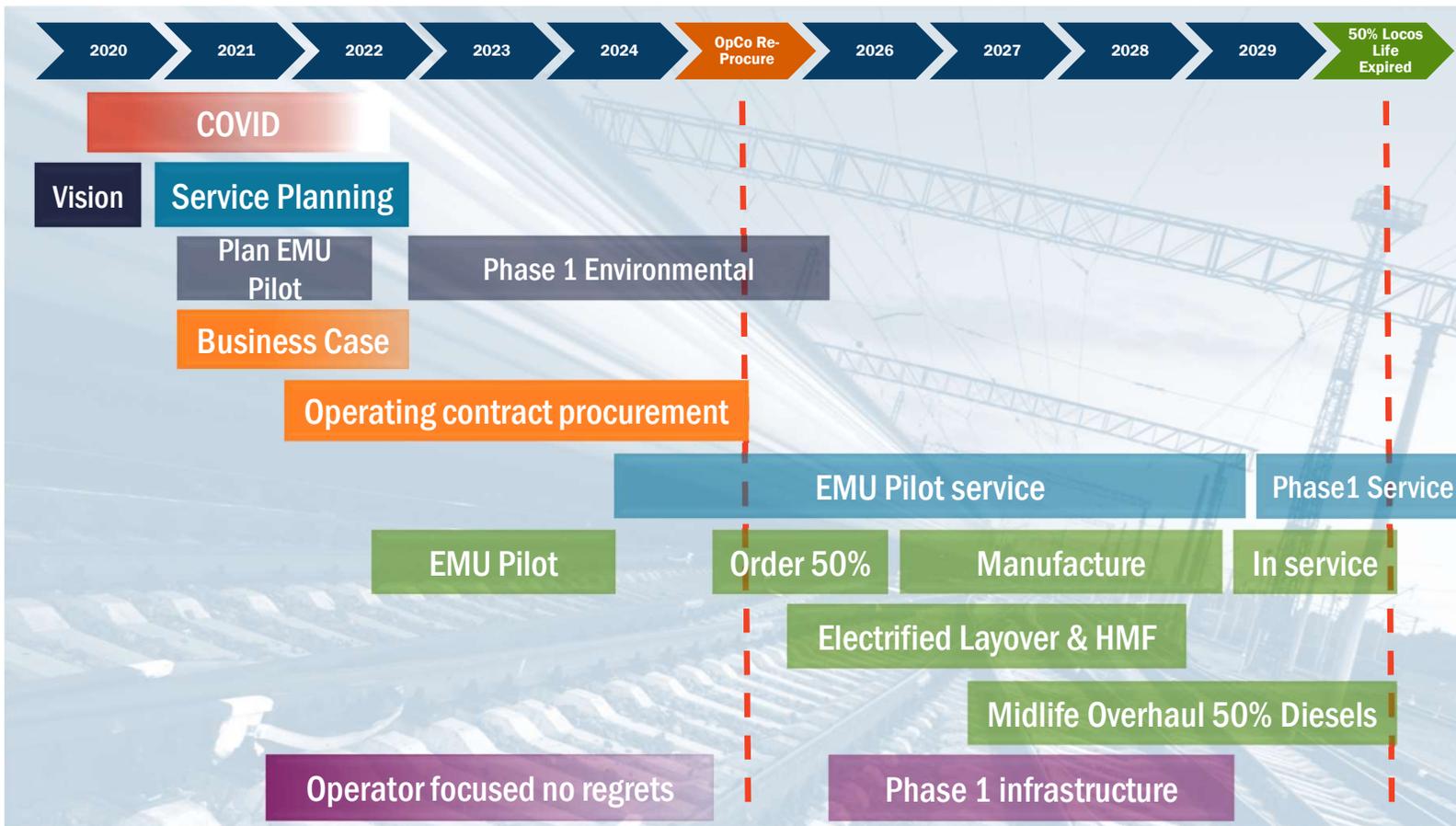
Infrastructure

- Stations
 - Bus stops & drop off facilities
 - Pedestrian & bike access, wayfinding
 - High level platforms & accessibility improvements
 - State of good repair & brightening
 - Parking – Auto & bicycle
- Transit Oriented Development
 - Land
 - Mitigations
- Network improvements
 - Turn tracks
 - Drawbridge replacement
 - Double & Triple Track
 - Signal improvements
 - Grade Crossing improvements/new grade separation
- Electrification
 - Elimination of bridge clearance issues
 - Power feeds & facilities
 - Mix of battery and catenary



Illustrative Timeline

- Planning
- Commercial
- Service
- Fleet/Locos
- Infrastructure



First Steps



Steps in 2021

Come Back Better

- Continuous service planning for existing diesel push-pull equipment
 - Close to clock face all-day spring schedule
 - Investigate where and when to add more service
 - Monitor demand
- Develop bus integration plans over summer
- Marketing planning (jointly with Keolis)
 - Branding & defining new product
 - Customer polling and outreach
 - Updated fare products
- Develop no regrets investments in network and stations
 - To eliminate constraints on headways or journey time
 - To improve connections
- EMU Pilot feasibility and procurement planning
 - Develop proposed approach and explore funding options
 - Test out potential of new service to deliver improvements

Planning

- Transformation Business case
- Updated Service Planning
 - Update strategy from Rail Vision
 - EMU Pilot service plan
 - Electric/Battery/Bimode service plan
- Detailed technology & electrification study
 - Technology survey
 - Segment specific whole life cost comparison
 - Rail decarbonization roadmap
 - EMU pilot electrification needs
- Fleet & Facilities study
 - Overall fleet strategy, leasing options
 - Layover and maintenance needs



Providence Line EMU Pilot

- Providence Line already electrified to Providence
 - Missing 1.7-mile gap at Attleboro station is being filled
 - Potential need for additional feeder supply is being modelled
- Acquire or lease existing Buy America compliant rolling stock
 - Study potential modifications required to infrastructure
 - Investigate major procurements that have unneeded options which may be transferable
- Layover & maintenance facility
 - Explore interim light maintenance options
 - Develop plans to electrify existing layover at Pawtucket
- Coordinate with Amtrak



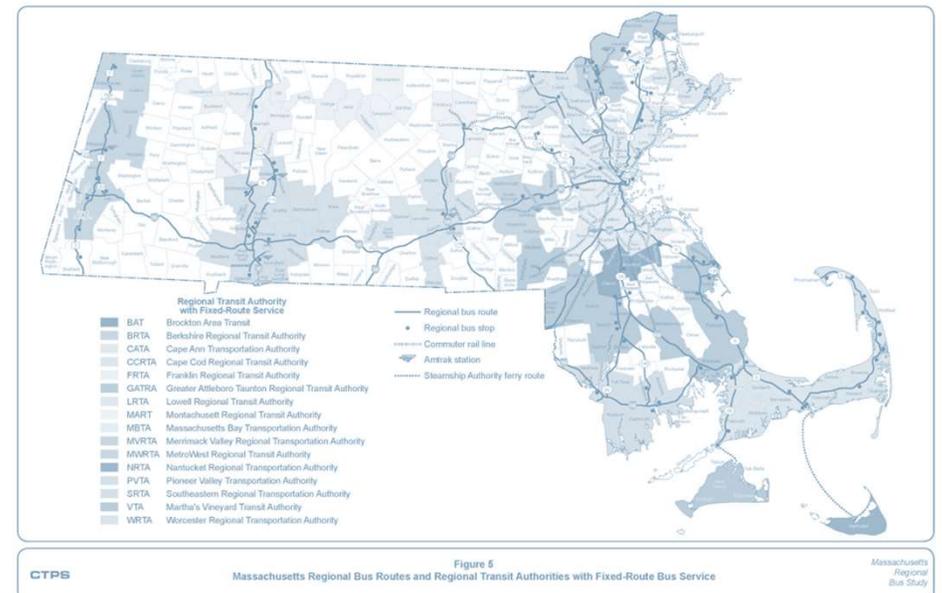
A photograph of high-speed train tracks, heavily blurred to convey a sense of rapid motion. The tracks recede into the distance under a bright, overcast sky. The overall color palette is a cool, monochromatic blue.

Building Partnerships



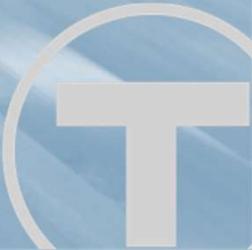
How can you help?

- Customer outreach
- Schedule coordination
- Potential fare collaboration
- Share Ideas
 - Service modifications/ innovations
 - Fare pilots (like Brockton pilot)
 - Station facility/drop off improvements
 - Proactive approach to TOD and mitigations
- Perhaps via Quarterly Advisory panel or consultation group?



A photograph of high-speed train tracks, heavily blurred to convey a sense of rapid motion. The tracks recede into the distance under a bright sky. The word "Appendix" is centered over the tracks in a dark blue font.

Appendix



Rail Vision – Urban Rail concept

- Urban rail to route 128 with turns at:
 - Beverly
 - Reading (or new I-93)
 - Anderson/Woburn
 - Brandeis (or new I-95)
 - New Riverside or Framingham (lower frequency)
 - Readville (all of Fairmount line)
- Single service pattern on
 - Providence/Stoughton
 - Needham (possible extension of Urban pattern)
 - Franklin
 - Old Colony and SCR Phase 1



Target Headways (min)

Line/ Segment	2021 Clockface?	Spring 2021 Peak	Spring 2021 Off-Peak	Transformation Peak	Transformation Off- Peak
Beverly (Urban rail)	🕒🕒	30	30	15	15
Newburyport	🕒	60	90	30	60
Rockport	🕒	60	90	30	60
Providence	🕒	60	60	30	30
Stoughton	🕒	60	120	30	60
Fairmount	🕒	45	45	15	15
Worcester	🕒🕒	30	60	15	15
- key stations	🕒	60	60	30	60
- local service (urban or zonal)					
Franklin	🕒	60	60 (to Walpole) 120 (beyond)	30	60
Needham	🕒	60	60	15-30	15-60
Haverhill		45	45 (to Reading) 90 (beyond)	15-30	15-60
Lowell (plus Nashua/Manchester)	Off peak	45	60	15-30	15-30
Fitchburg	🕒	60	60	15 (to Brandeis)	15 (to Brandeis) 30 (beyond)
Middleborough (plus Fall River/SCR)		60	70-80	30-45	60-90
Kingston		60	70-80	30	60
Greenbush		60	70-80	30	60

- Notes**
- **Bold** indicates Transformation Phase 1
 - Transformation headways purely indicative
 - Middleborough impacted by South Coast Rail Phase 1
 - Worcester line includes express, zonal local/express and urban local services to reduce journey time



Clock face Schedules

- Beverly inbound example
 - 30 minute headway
 - 20 minutes and 50 minutes past the hour 6:20am-4:20pm

NEWBURYPORT/ROCKPORT LINE 2021 Spring Schedule Effective April 5, 2021

Moving Forward Together.
In response to COVID-19, we continue to adapt our service to meet your needs.

B: Due to construction activities for the Gloucester Drawbridge Replacement project, bus shuttles will replace train service between Rockport, Gloucester, West Gloucester (and Manchester on designated outbound trips) on the Rockport Line. On weekends, bus shuttles replace train service between Beverly and all stations on the Rockport Line. Buses may depart intermediate stations in advance of schedule. Bicycles cannot be taken on substitute bus service.

Monday to Friday

Inbound to Boston		AM													PM															
ZONE	STATION	TRAIN #	140	100	142	102	144	104	146	106	148	108	150	192	110	152	112	154	114	156	198	116	158	118	160	120	162	122	124	164
8	Rockport	6	-	B 4:58	-	B 6:03	-	B 7:03	-	B 8:03	-	B 9:03	-	-	B 10:33	-	B 12:03	-	B 1:33	-	-	B 3:03	-	-	-	B 5:33	-	B 7:33	B 8:40	-
7	Gloucester	6	-	B 5:05	-	B 6:10	-	B 7:10	-	B 8:10	-	B 9:10	-	-	B 10:40	-	B 12:10	-	B 1:40	-	-	B 3:10	-	-	-	B 5:40	-	B 7:40	B 8:47	-
7	West Gloucester	6	-	5:21	-	6:26	-	7:26	-	8:26	-	9:26	-	-	10:56	-	12:26	-	1:56	-	-	3:26	-	-	-	5:56	-	7:56	9:03	-
6	Manchester	6	-	5:28	-	6:33	-	7:33	-	8:33	-	9:33	-	-	11:03	-	12:33	-	2:03	-	-	3:33	-	-	-	6:03	-	8:03	9:10	-
5	Beverly Farms	6	-	5:34	-	6:39	-	7:39	-	8:39	-	f 9:39	-	-	f 11:09	-	f 12:39	-	f 2:09	-	-	f 3:39	-	-	-	f 6:09	-	f 8:09	f 9:16	-
4	Montserrat	6	-	5:40	-	6:45	-	7:45	-	8:45	-	f 9:45	-	-	f 11:15	-	f 12:45	-	f 2:15	-	-	f 3:45	-	-	-	f 6:15	-	f 8:15	f 9:22	-
8	Newburyport	6	4:49	-	5:54	-	6:54	-	7:54	-	8:54	-	9:54	-	-	11:24	-	12:54	-	2:24	-	-	3:54	-	5:05	-	6:54	-	-	9:39
7	Rowley	6	4:54	-	5:59	-	6:59	-	7:59	-	8:59	-	f 9:59	-	-	f 11:29	-	f 12:59	-	f 2:29	-	-	f 3:59	-	f 5:10	-	f 6:59	-	-	f 9:44
6	Ipswich	6	5:00	-	6:05	-	7:05	-	8:05	-	9:05	-	10:05	-	-	11:35	-	1:05	-	2:35	-	-	4:05	-	5:16	-	7:05	-	-	9:50
5	Hamilton/Wenham	6	5:06	-	6:11	-	7:11	-	8:11	-	9:11	-	f 10:11	-	-	f 11:41	-	f 1:11	-	f 2:41	-	-	f 4:11	-	f 5:29	-	f 7:11	-	-	f 9:56
5	North Beverly	6	5:10	-	6:15	-	7:15	-	8:15	-	9:15	-	f 10:15	-	-	f 11:45	-	f 1:15	-	f 2:45	-	-	f 4:15	-	f 5:33	-	f 7:15	-	-	f 10:00
4	Beverly	6	5:15	5:45	6:20	6:50	7:20	7:50	8:20	8:50	9:20	9:50	10:20	10:50	11:20	11:50	12:50	1:20	2:20	2:50	3:20	3:50	4:20	5:05	5:38	6:20	7:20	8:20	9:27	10:05
3	Salem	6	5:19	5:49	6:24	6:54	7:24	7:54	8:24	8:54	9:24	9:54	10:24	10:54	11:24	11:54	12:54	1:24	2:24	2:54	3:24	3:54	4:24	5:09	5:42	6:24	7:24	8:24	9:31	10:09
3	Swampscott	6	5:26	5:56	6:31	7:01	7:31	8:01	8:31	9:01	9:31	10:01	10:31	11:01	11:31	12:01	1:01	1:31	2:31	3:01	3:31	4:01	4:31	5:16	5:49	6:31	7:31	8:31	9:38	10:16
2	Lynn	6	5:29	5:59	6:34	7:04	7:34	8:04	8:34	9:04	9:34	10:04	10:34	11:04	11:34	12:04	1:04	1:34	2:34	3:04	3:34	4:04	4:34	5:19	5:52	6:34	7:34	8:34	9:41	10:19
2	River Works	6	f 5:32	f 6:02	f 6:37	f 7:07	-	f 8:07	f 8:37	-	-	-	-	-	-	-	-	f 2:37	f 3:07	f 3:37	f 4:07	f 4:37	f 5:22	f 5:55	f 6:37	-	-	-	f 10:22	
1A	Chelsea	6	5:39	6:09	6:44	7:14	7:43	8:14	8:44	9:13	f 9:43	f 10:13	f 10:43	f 11:13	f 11:43	f 12:13	f 1:13	f 1:43	f 2:44	f 3:14	f 3:44	f 4:14	f 4:44	f 5:29	f 6:02	f 6:44	f 7:43	f 8:43	f 9:50	f 10:29
1A	North Station	6	5:53	6:24	6:58	7:29	7:57	8:29	8:58	9:27	9:56	10:28	10:57	11:26	11:58	12:27	1:28	1:57	2:59	3:28	3:57	4:29	4:58	5:44	6:16	6:59	7:57	8:58	10:05	10:43



Planning Sequence

