



**Massachusetts Bay
Transportation Authority**

Means-Tested Fares Feasibility Study Update

Fiscal and Management Control Board

December 16, 2019

Laurel Paget-Seekins

Agenda

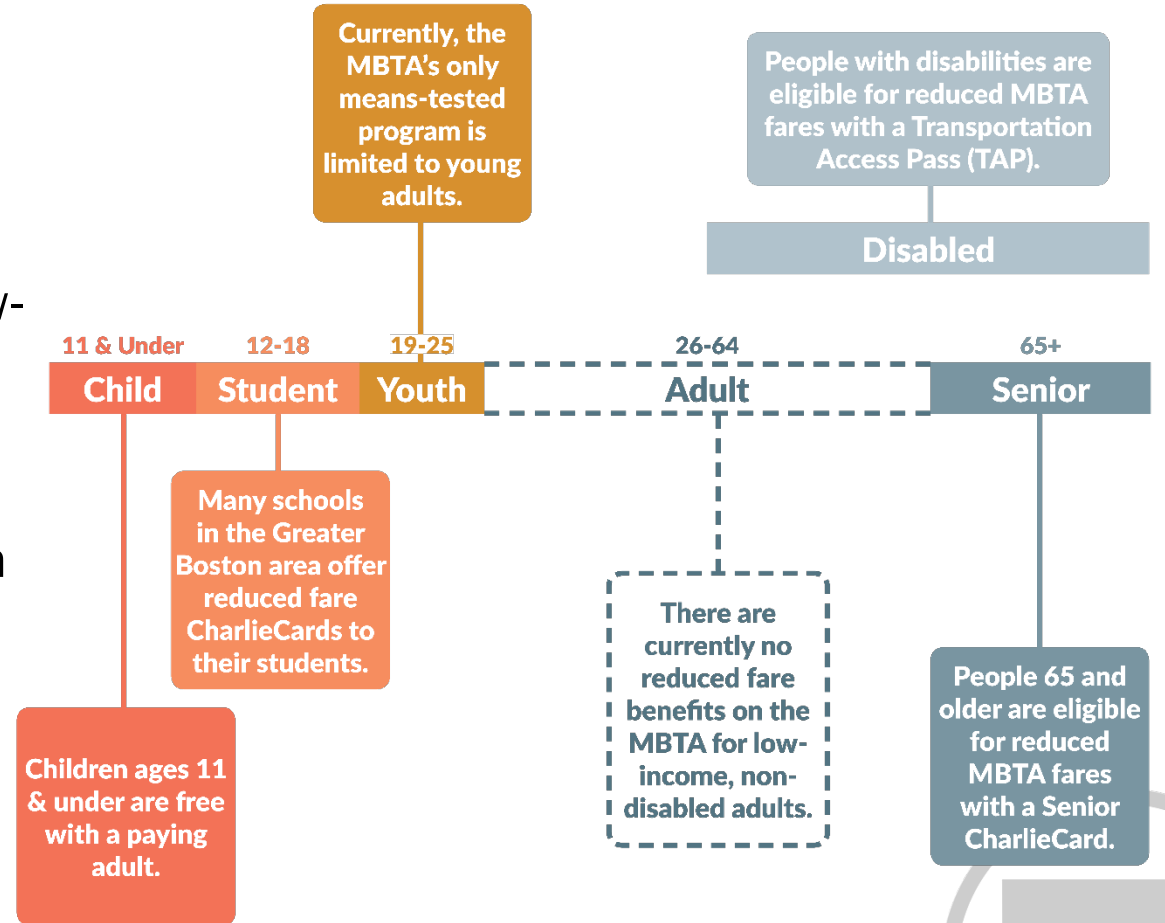
- Background
- Running the Program: Administrative Feasibility
- Paying for the Program: Revenue Implications
 - Fixed Route Revenue Implications
 - Paratransit Revenue Implications
- Operational Feasibility (in appendix)
- Conclusions & Next Steps



Existing Context

- The MBTA has several reduced fare programs; however, there is a gap for non-disabled, low-income adults.
- No reduced fares for the RIDE
- MIT Study on Low-Income Fares suggested that low-income riders will increase their trips with a reduced fare program*.
- The MBTA has some past experience with means testing to draw on through the RIDE pilot and Youth Pass program.

Current MBTA Reduced Fares

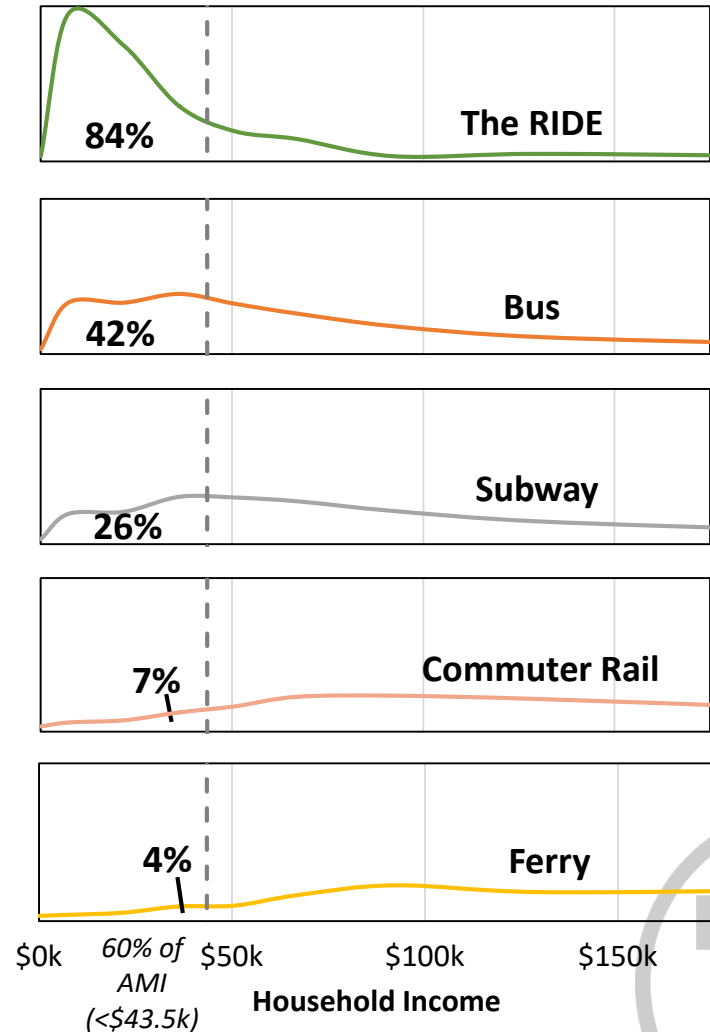


* Jeffrey Rosenblum, *How Low-income Transit Riders in Boston Respond to Discounted Fares: A Randomized Controlled Evaluation: Preliminary Results*, MIT, June 5, 2019.

Variations Between Modes

- Income distribution of MBTA riders varies significantly by mode
- Targeting a program for lower-income people has different implications for revenue and administrative effort by mode

| Service | Percent Low Income | Percent Minority |
|---------------|--------------------|------------------|
| The RIDE | 84% | 23% |
| Bus | 42% | 48% |
| Rapid Transit | 26% | 31% |
| Commuter Rail | 7% | 15% |
| Ferry | 4% | 2% |



Sources: MBTA Systemwide Survey, 2015-17; RIDE customer satisfaction survey, 2018

Aspects of Feasibility

Running the Program

- How do we identify participants?
- Who manages eligibility determination, certification, and recertification?
- Can internal technology systems support the program?
- How do we provide customer service?

Paying for the Program

- What is the revenue loss from implementing the program?
- What is the revenue gain from induced demand?
- Where does the money come from to pay for the program?
- What are the administrative costs for the MBTA and partners?

Operations Impacts

- Is the MBTA able to serve the added trips across different modes?
- Will the MBTA be able to verify participants appropriately?



Running the Program

Administrative feasibility



Components of Means-Tested Fares

- Identify potential roles and responsibilities for the MBTA and a possible partner agency/organization
- Other agencies and organizations are experts in means-testing
- The MBTA knows how to confer reduced fare benefits, and support our customer's use of the system
- Both are needed to successfully implement the program

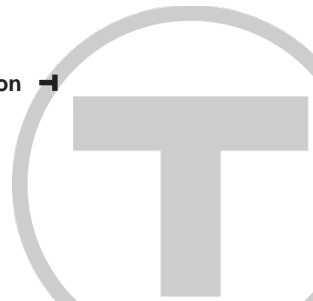
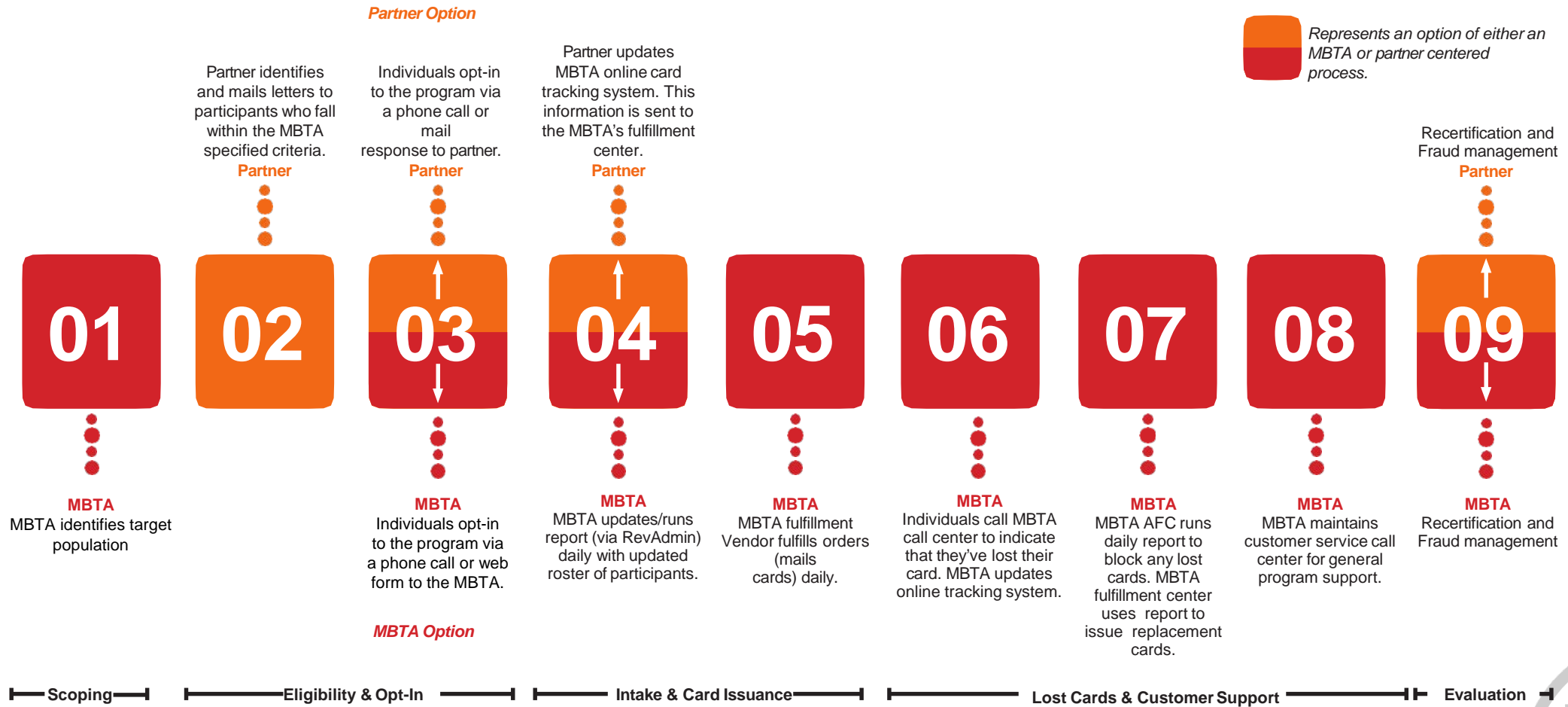


Best practices in means-testing

- There are existing organizations and agencies that determine income-level and eligibility for state and federal programs
- These programs have strict re-certification/verification program generally on 6-month or annual cycle, and robust fraud protection programs
- Consumer's ease of use should be a primary consideration
- **Setting eligibility by programs, versus income level, is easier to manage and communicate to public**
- Programs have high-churn levels of participants entering and exiting over a short periods of time

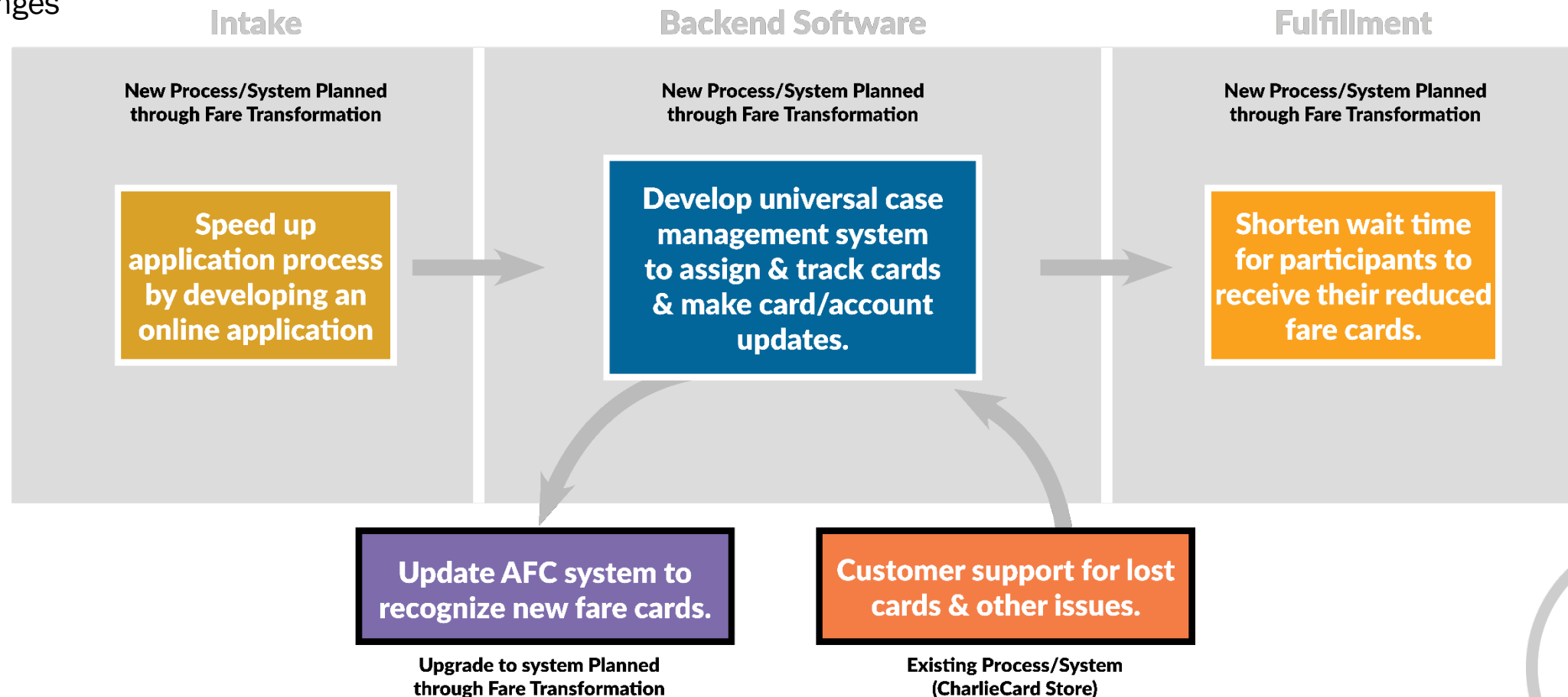


Possible Future Processes



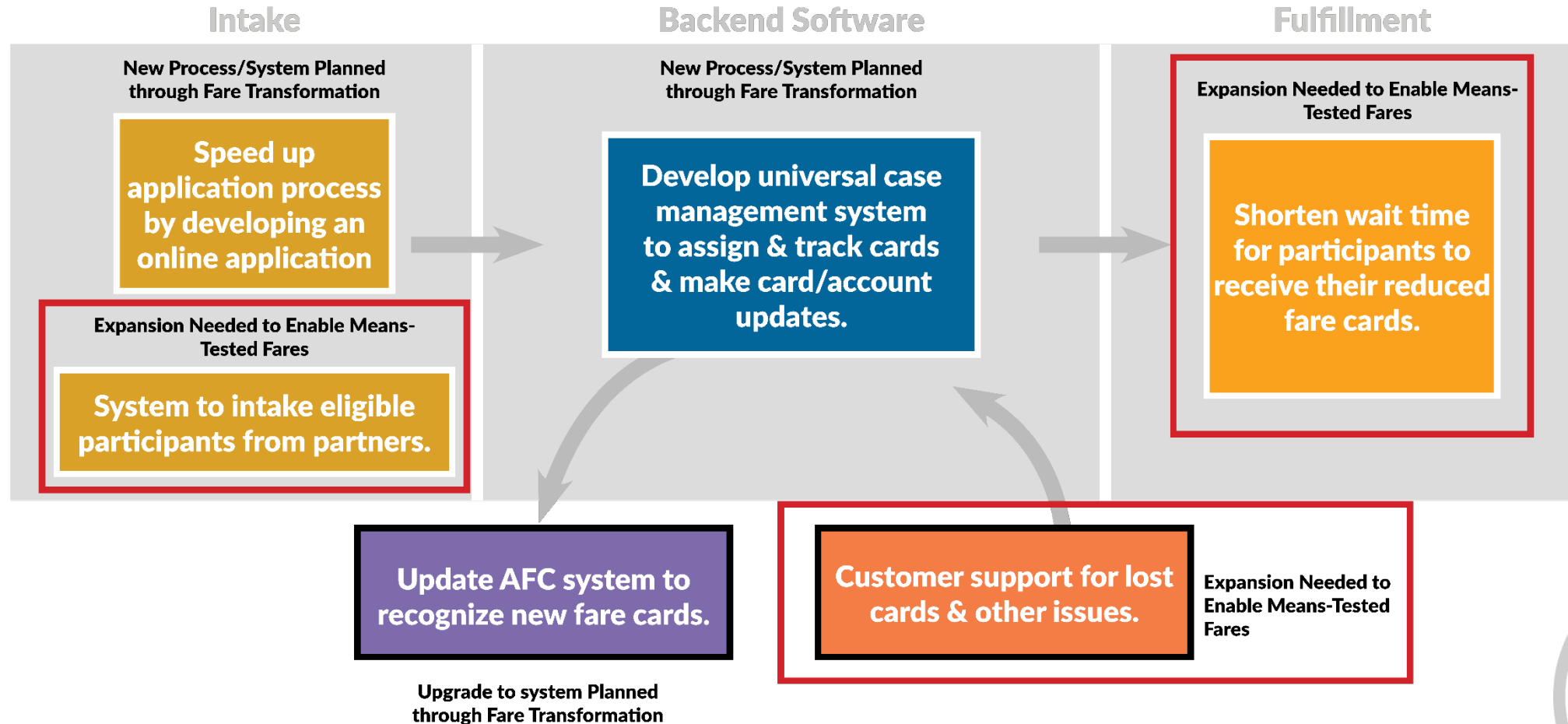
Improve Reduced Fare Business Process

- Strategic investments in MBTA internal IT systems and support teams can unlock reduced fares for wider population, both means-tested fares and existing reduced fares programs
- Some investment already budgeted as part of Fare Transformation, but time and additional resources needed to implement changes



Additional Improvements for Means-Testing

- Some of these systems/processes overlap with existing reduced fare programs, but all require upgrades
- Would require additional customer support resources and IT integration with partner systems



Administrative Feasibility Takeaways

- Means-Testing fares is possible, but requires partner(s) for eligibility determination
- Tying eligibility to existing program(s) simplifies administration significantly than using an income level
- Will require MBTA technology and customer service upgrades and staffing and back-end connection to partner agency



Administration Policy Questions

- What is the next step to identifying the best partner agency and securing their partnership?
- Should we price out the cost of administration and IT build outs needed for the MBTA part of administration? And develop implementation timelines?
 - \$500,000 included in supplemental budget for Fare Transformation to do business process development and cost estimates for IT improvements for reduced fare programs, including means-tested fares



Paying for the Program

Revenue Implications + Administrative Costs



Baseline Assumptions

To complete the study the following assumptions were made:

- Eligibility will be a sensitivity analysis using 200% of Federal Poverty Level (FPL) or eligibility criteria based on another social service program as identified by stakeholders
- Verification of eligibility will be made by a third party partner, possibly another state agency
- MBTA services to be included shall include the rapid transit, bus network (including express), commuter rail, and ferry services
- Fare discounts will be consistent with current reduced fare programs:
 - 50% discount on single-ride fares for all bus and rapid transit trips;
 - 66% discount for monthly Linkpass;
 - 50% single-ride discounts on commuter rail and ferry trips
 - No discounted CR monthly pass



Mode Affects Revenue Impact Analysis

Response of riders of the fixed route system and paratransit to fare changes are different, so analysis considers each separately.

Methodology: Fixed Route

- CTPS staff conducted several analyses to determine the range of reasonable participation and ridership estimates
- Datasets:
 - Rider surveys;
 - Geospatial-census data
- Steps:
 - Determine number of eligible riders
 - Estimate participation rates
 - Calculate revenue impacts

Methodology: The RIDE

- RIDE staff assessed the overall revenue impact based on:
 - Previous findings of paratransit demand elasticity (estimated);
 - The fare reduction (known); and
 - Baseline trip volumes and per-trip costs (known)



Fixed Route Eligible Riders

- Determining the number of riders, depends on the income range for eligibility. Ridership estimates range from a low of **27,000** potentially eligible riders within close geography to the MBTA service system to a high of **107,000 riders**.
- These estimates were used to determine that approximately **61,000 Bus/Rapid Transit riders** and **4,000 Commuter Rail/Ferry riders** may be eligible for the program.
- Eligible riders depends on program design
- Participation depends on implementation model



Bus and Rapid Transit Revenue Impacts

- Low-income programs can induce increase in travel behavior.* Revenue impacts vary based upon whether the riders use a monthly pass or pay-as-you-go. Estimates of revenue impact annually for bus/rapid transit are presented below.

Annual Revenue Losses Using the Census-Based Methodology:
Bus and Rapid Transit Stops (in Millions of Dollars)

| Income Level | HH of 1 Income | Enrollment Rate | Participating Riders | Margin of Error | Revenue Loss Estimate | Revenue Margin of Error |
|--------------|----------------|-----------------|----------------------|-----------------|-----------------------|-------------------------|
| 125% FPL | \$15,613 | High | 43,210 | 16,175 | \$20.5 | \$7.7 |
| 200% FPL | \$24,980 | High | 69,108 | 20,005 | \$32.8 | \$9.5 |
| 300% FPL | \$37,470 | High | 107,421 | 23,768 | \$51.0 | \$11.3 |

* Jeffrey Rosenblum, *How Low-income Transit Riders in Boston Respond to Discounted Fares: A Randomized Controlled Evaluation: Preliminary Results*, MIT, June 5, 2019.



Commuter Rail Revenue Impacts

- For Commuter Rail, which has been less studied, it is harder to predict impacts
- However, based upon current ridership, and type of pass purchased today, we can expect approximately \$175,000 monthly revenue loss, totaling \$2.1 million annually
- Predicting uptake of new riders to the Commuter Rail based upon the implementation of low-income fare is even more difficult. However, any new induced trips would reduce the total revenue loss
- No analysis conducted for the ferry



The RIDE Revenue Impacts

- The fare discount assumed was 50% for both ADA and Premium service
- We calculated a paratransit demand elasticity of 0.43 using data from the 2012 fare increase, 2014 fare decrease, and 2015 pilot
- In the baseline scenario with no means-tested fares, The RIDE expects to deliver 1.66 million trips in FY21 at an average per-trip cost of roughly \$44
- The projected annual cost of offering means-tested fares to RIDE customers in FY21 is roughly \$20 million per year for high participation and \$10 million per year in medium participation.
 - Majority of the increase is due to induced demand operating costs, with the remainder attributable to fare revenue loss



Revenue Impact Takeaways

Revenue Impact Estimates;

- \$20M - \$51M: Bus/Rapid Transit Fares
- ~\$2M: Commuter Rail Fares
- \$10-20M: Paratransit Fares & Operating Costs

Some new income would be generated by new induced CR fares.

- More exact revenue estimates depend on the eligibility criteria (or partner agency) and implementation model
- Does **not** include administrative costs associated with standing up or operating the program



Revenue Implications Policy Questions

- Given the make-up of the RIDE customer based, is means-tested fares the right tool for addressing affordability for the RIDE?
- What is the right policy criteria for setting the RIDE fares?



Summary



Aspects of Feasibility

Running the Program

- How do we identify participants?

Typing eligibility to existing program simplifies administration significantly

- Who manages eligibility determination, certification, and recertification?

MBTA needs a partner to verify eligibility

- Can internal technology systems support the program?

Will require technology upgrades for MBTA and partner connection

- How do we provide customer service?

Requires additional staffing

Paying for the Program

- What is the revenue loss from implementing the program?

Depends on what modes are included, eligibility criteria, and participation rates

- What is the revenue gain from induced demand?

Not enough data to determine for commuter rail

- Where does the money come from to pay for the program?

Not determined

- What are the administrative costs for the MBTA and partners?

Requires additional scoping and study to price and develop implementation timeline

Operations Impacts

- Is the MBTA able to serve the added trips across different modes?

Would add some peak trips on bus and subway, but higher off-peak usage by low-income riders, not enough data on commuter rail

- Will the MBTA be able to verify participants appropriately?

Some policy questions, but verification more comprehensive once we move to proof of payment



Conclusions and Next Steps

- We need to invest in our existing reduced fare programs
- We need to learn from our existing means-tested fare program (Youth Pass) to improve the implementation model
- Before adopting a means-tested fare, we need to identify an eligibility partner, understand how to replace the fare revenue, and make IT and customer support upgrades

Next Steps

- Scope IT and business process upgrades as part of Fare Transformation
- Continue feasibility assessment of means-testing
- Youth Pass Program marketing campaign and program recommendations



Appendix



Background: Peer Comparison Analysis

| | Seattle, King County | LA Metro | Portland TriMet | SFMTA - San Francisco | NYC MTA |
|----------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eligibility | 200% FPL | HUD "Very Low" income | 200% FPL | 200% FPL | 100% FPL |
| Discount | 45-50% depending upon mode | Sliding Scale Subsidy (\$24 discount on \$100 monthly pass for regular riders) | <ul style="list-style-type: none"> • 50% off single rides • 72% off monthly pass | <ul style="list-style-type: none"> • 50% off monthly pass • No-single ride discount | 50% discount |
| Partner(s) | Public Health Dept.; 501(c)(3) affiliated with health care enrollment | Three admin agencies hire partner agencies to run program | NGOs | SFMTA administrates with SF Human Service Agency (HSA) | Mayor's Office |
| Verification | <ul style="list-style-type: none"> • Proof of public assistance OR proof of income | <ul style="list-style-type: none"> • Government-issued ID • Proof of public assistance OR proof of income | <ul style="list-style-type: none"> • Proof of public assistance OR proof of income | <ul style="list-style-type: none"> • To SFMTA: Medi-Cal or EBT • To HSA: Proof of income AND government-issued ID | <ul style="list-style-type: none"> • NYC residents, CUNY students, veteran students, or employed • Receiving SNAP or Cash Assistance • Low-income |
| Certification | 2 years | Annual | 2 years | 2 years | n/a |

FPL: Federal Poverty Level



Background: Existing MBTA Reduced Fare Programs

| Group | Eligibility | Policy Basis | Products | % taps on bus/rapid transit FY19 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Student (11 and under are free) | <ul style="list-style-type: none"> Enrolled in middle school or high school | MGL ch 159 sec 5 (e) | <ul style="list-style-type: none"> 50% fares 66% off Student Pass for subway, bus, and up to Zone 2 on CR | 6.3% |
| Youth (25 and under) | <ul style="list-style-type: none"> Income verified program or job training program Living in participating city or town | MBTA program | <ul style="list-style-type: none"> 50% fares on bus and subway, but not CR 66% off Linkpass | 0.7% |
| Senior | <ul style="list-style-type: none"> 65 years or older | Federal requirement for half priced at off-peak times ^{*,**} | <ul style="list-style-type: none"> 50% fares 66% off Linkpass | 5.1% |
| TAP | <ul style="list-style-type: none"> People with disabilities Medicare card holders Application process | Federal requirement for half priced at off-peak times ^{*,**} | <ul style="list-style-type: none"> 50% fares 66% off Linkpass | 3.5% |
| Blind/visually impaired | <ul style="list-style-type: none"> ID from Massachusetts Commission for the Blind | State policy | <ul style="list-style-type: none"> Free | 0.2% |

*49 USC Chapter 53, Section 5307 (d)(1)(D); ** MGL ch 159 sec 5(e)



Study Scope: Process

- Held 3 group meetings with community groups to discuss scope and process
- Conference calls with other transit agencies to discuss their means-tested programs, with a focus on administrative feasibility
- Literature review on means-tested programs from peer transit agencies
- Learned about existing state and federal means-tested programs
- CTPS data analysis of revenue and ridership impacts

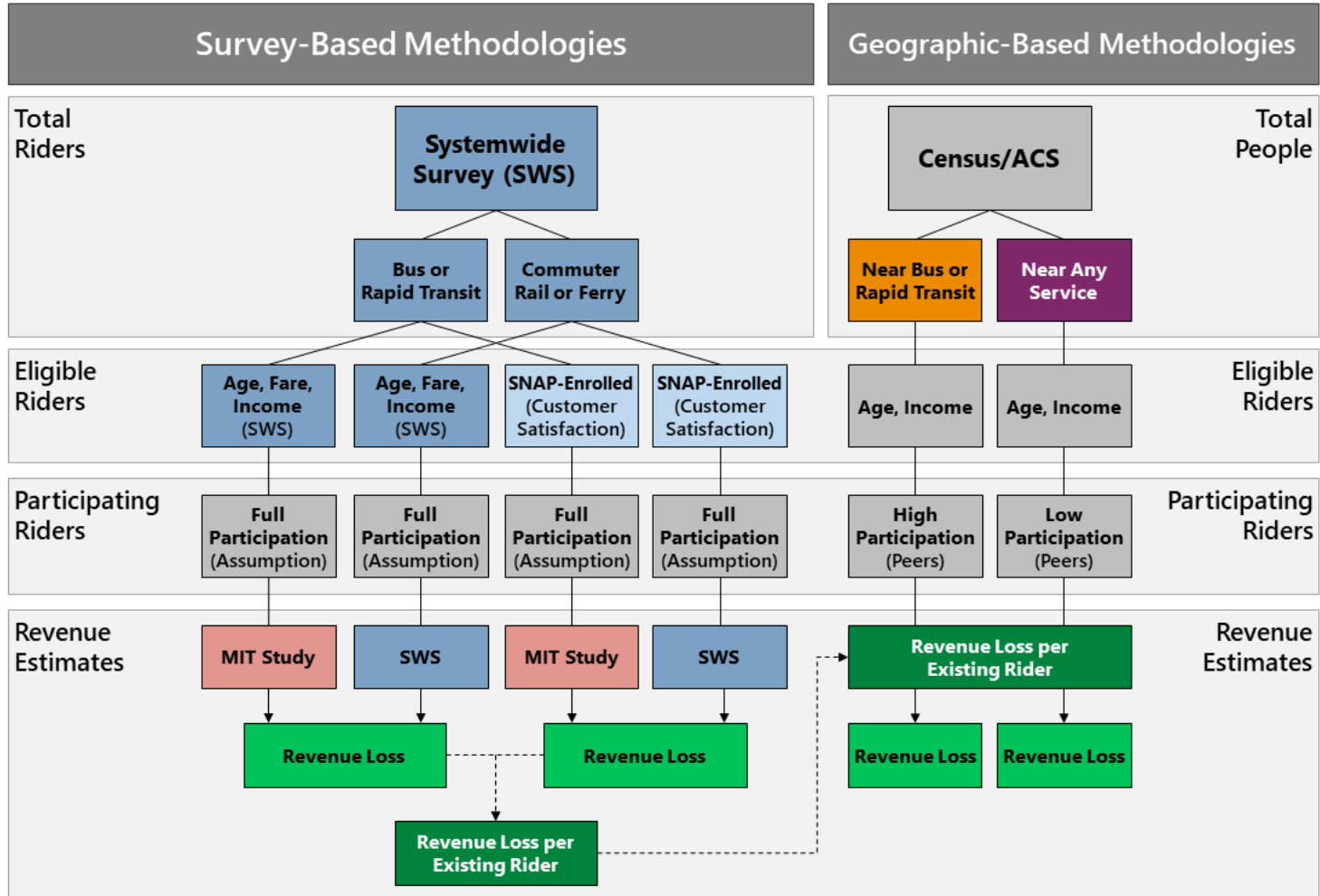


Fare Collection Technology Limitations

- The MBTA's current fare collection is a **card-based system**, the CharlieCard, on bus/subway.
 - Currently, to confer reduced fare benefits, smart cards are encoded with additional information regarding the program and relevant fare.
 - This same technology can be used today on the Rapid Transit/Bus network.
- On the Commuter Rail and Ferry, customers must present these smart cards to the conductor in order for them to know to charge them the appropriate fare for visual validation. Additionally, customers can use mTicket app to purchase reduced fare tickets.
 - This same technology can be used today for a reduced fare program.
- In the future, with fare transformation, the MBTA will be in a position to have greater flexibility with fares, verification, and distribution.



Revenue Estimate Methodologies



Eligible Riders (Fixed Route)

- Determining the number of riders, depends on the income range for eligibility. Ridership estimates range from a low of **27,000** potentially eligible riders within close geography to the MBTA service system to a high of **107,000 riders**. Note these are riders, not trips.

| Analysis Method | Very Low Income (Various) | Low Income (< 200% FPL) | Medium Income (< 300% FPL) |
|-----------------------------------------|---------------------------|-------------------------|----------------------------|
| Systemwide Survey | 31,000 | 65,000 | 101,000 |
| Intercept Survey | — | 25,000 (SNAP enrolled) | — |
| US Census (All Stops)- Low % Uptake | 27,000 ± 10,000 | 43,000 ± 12,000 | 66,000 ± 14,000 |
| US Census (Bus/RT Stops)- High % Uptake | 43,000 ± 16,000 | 69,000 ± 20,000 | 107,000 ± 24,000 |

Each data source has different ranges and sources of error. All estimations were to the nearest 1,000.



Eligible Riders (Fixed Route)

- Eligible riders vary significantly by mode, as is to be expected. Based on Rider survey data, weighted boarding by mode were calculated.

| Eligibility | Mode | Weighted Number of Boardings | Weighted Percent of Boardings (by Mode) |
|--------------|------------|------------------------------|-----------------------------------------|
| Eligible | Bus and RT | 183,125 | 20.4% |
| Not Eligible | Bus and RT | 713,448 | 79.6% |
| Eligible | CR/Ferry | 11,444 | 6.3% |
| Not Eligible | CR/Ferry | 171,226 | 93.7% |

- These estimates were used to determine that approximately **61,000 Bus/Rapid Transit riders** and **4,000 Commuter Rail/Ferry riders** may be eligible for the program.



Participation Rates (Fixed Route)

- Participation rates are determined from uptake rates reported by transit agencies in the Seattle area. These rates ranged from 16% to 28% uptake
- Will depend on implementation model

| Income Level | Service Area | Enrollment Rate | Participating Rider Estimate | Margin of Error |
|--------------|-----------------------|-----------------|------------------------------|-----------------|
| < 125% FPL | Bus and Rapid Transit | High (28%) | 43,210 | 16,175 |
| < 200% FPL | Bus and Rapid Transit | High | 69,108 | 20,005 |
| < 300% FPL | Bus and Rapid Transit | High | 107,421 | 23,768 |
| < 125% FPL | All Stops | Low (16%) | 26,689 | 9,985 |
| < 200% FPL | All Stops | Low | 42,632 | 12,184 |
| < 300% FPL | All Stops | Low | 66,051 | 14,449 |



Operational Impacts



Ridership Impacts

Subway and Bus trips

- Low-income riders are more likely than high income riders to take trips off-peak
- Actual number of additional trips varies by participation estimates, but under one set of assumptions, there would be an increase of 5% more journeys in the 4-5pm peak hour
 - Depending on geographic distribution, this could contribute to minor crowding

Commuter Rail

- Not enough is known about induced demand of commuter rail trips from low-income riders



Verification of Participants

Agencies who assess income have robust systems for:

- Income verification, generally every 6 months to 1 year, depending upon the program
- Randomized income and identity checks for program participants

MBTA verification:

- Switching to proof of payment and civilian fare verification will create more robust process for verifying proper usage of reduced fare cards
- Pictures on cards (or in fare verification system) complicates administrative process significantly

