



METRO FARE COLLECTION COMPARISONS

5/1/2021

PURPOSE AND SCHEDULE

Why Change?

- Customer Convenience
- Administrative Costs
- Equipment end of life

Sequence

- Present to TPPB
- Public Meeting
- TPPB Action/Direction
- Release RFP
- Implementation



FARE-FREE

- Garnered recent attention
- Chapel Hill is largest US city to date
 - Fare revenues were <10% of budget
 - Studying resuming fares
- Kansas City has committed to it
- Europe has more examples
 - Estonia
 - Aubagne, France
 - Luxembourg
- Results have been mixed

FARE-FREE TYPICAL IMPACTS

Benefits

- Reduce barriers
- Increase ridership
- Reduce administrative costs

Challenges

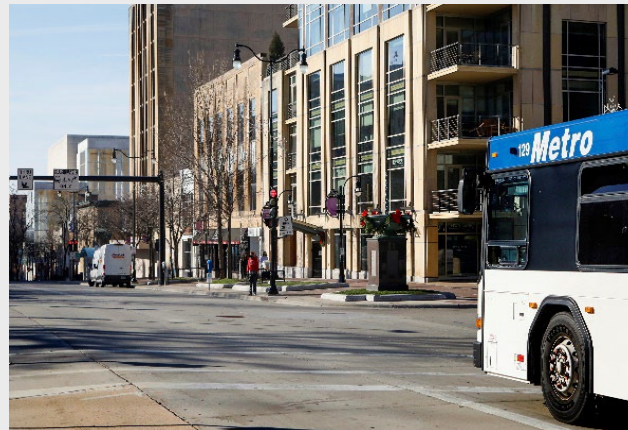
- Loss of operating revenue
- Ridership gain often from biking/walking
- Additional service for capacity
- Increased security challenges

FARE-FREE IN MADISON



Strong existing ridership

- Fares make up large budget share (25%)
- Limited capacity
- Need more service



Offsetting cost opportunity

- Pass programs could go lump sum (\$6.5m)
- Reduce cost of collection (\$0.5m)
- Net gap from \$7.5m to over \$17.4m



Fare-free period in summer 2020 led to security complaints



FARE-FREE IN MADISON

- **Not recommended by staff**
- Seek other methods to reduce barriers
- Additional funding would be better spent enhancing service

FARE SYSTEM TYPES

- Traditional Farebox
- Account Based
- Proof of Payment

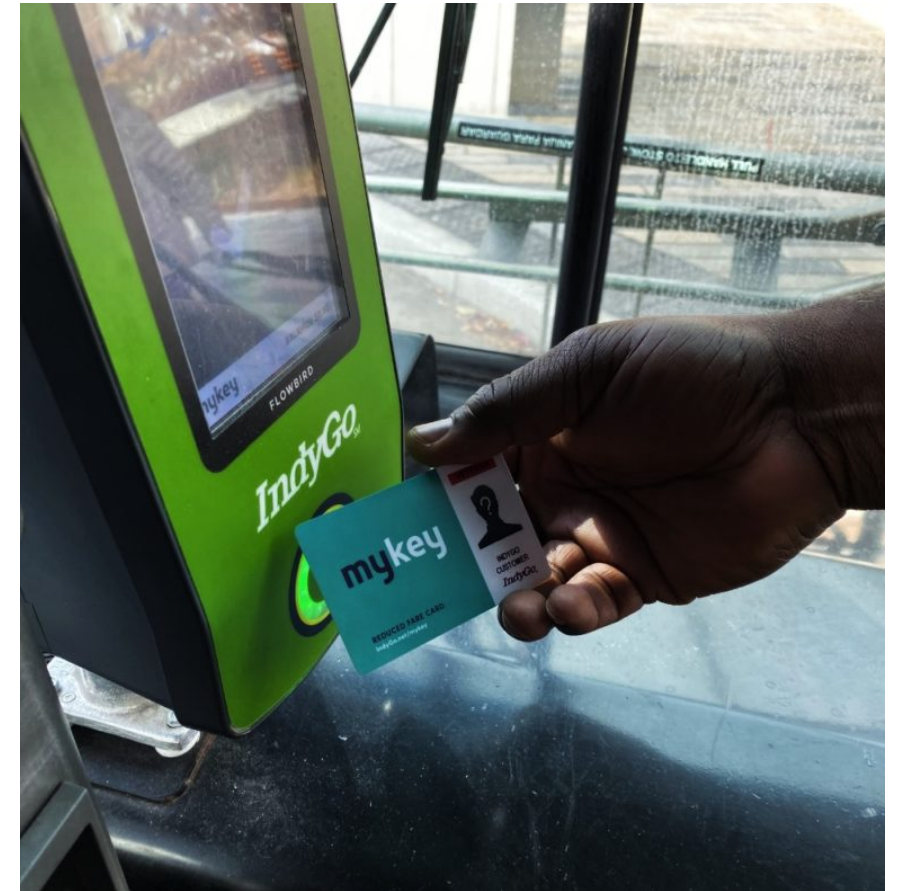
TRADITIONAL FAREBOX

- Current method (no incremental cost)
- Handle cash and passes in one device
- Cash collection slows the bus
- Requires passes to be pre-purchased
- Limited tap cards or mobile payments
- Expensive machine prone to issues
- **Won't work on BRT**



ACCOUNT BASED FARE COLLECTION

- Balances stored in cloud database
- Uses smaller fare validator device
- Can read tap cards and mobile devices
- Rear door entry possible to speed entry
- Can manage account virtually
- Enables various new equity strategies
- No cash collection on the bus
 - Speeds boarding times
 - **Equity concerns that must be mitigated**





PROOF OF PAYMENT

- Only realistic for BRT
- Users pay before boarding, at a station
- No barrier to entry, just enter and sit
- Fastest boarding process
- Can include Account-Based features
- Fare inspectors check tickets
 - Randomized onboard the bus
 - Labor increases cost of collection (\$0.5-1.0m)
 - Prone to profiling concerns



PROOF OF PAYMENT (CONT.)

- Require ticket equipment at all stops
 - \$10-20k each if not dispensing cards
 - \$40-60k each if dispensing cards
 - Prone to maintenance issues
- Challenges with Pass Programs
 - Billed per ride
 - Users will forget to tap, Metro can't bill
- Local routes would still use farebox

FARE TYPE RECOMMENDATION

- Staff recommends an Account-Based system on all Metro services
- Mitigation for cash collection required
- Allows uniform system for all
- All door boarding on all routes
- Allows new techniques (discussed later)



CASH COLLECTION

- Goal to eliminate cash on board
- Cash collection is costly and slow
- <10% of current riders use cash on board
- Account-based collection relies on users loading money to their account
- Unbanked may have no other option
- **This is an important equity issue**

GENERAL CASH MITIGATIONS

- Post pay/negative account balance – bill users after their rides
 - Mitigate reload location issues
 - Would need to be a lower bound
 - Works only when the card itself has value
- Half fare program for low income users
 - Offsets the extra hassle of having to reload
 - Encourages protecting fare cards
 - Often requires registration so that lost half fare cards can be disabled
 - Currently exists, but limited in number

CASH MITIGATION: RETAIL NETWORK



- Retailers use gift card networks
- Can buy new cards
- Can use cash to re-load at checkout
- May not have retailer in all areas
- Limited to store hours
- Charges a commission of 5-10%

CASH MITIGATION: KIOSKS

- Install machines to reload accounts
- Machines are expensive
 - \$10-20k each if not dispensing cards
 - \$40-60k each if dispensing cards
- Maintenance challenges
 - Failure rate is high
 - Frequent source of customer complaints
- Available 24/7





CASH MITIGATION: ON-BUS

- Could continue current cash policy
- Would slow the bus and reduce benefits
- Need to maintain expensive cash collection equipment on board
- User likely would not accrue benefits of account based system

CASH COLLECTION RECOMMENDATION

- Create half fare low income program w/ post-pay/negative balance
- Leverage robust retail network
- Continue cash on board for local routes
 - No benefits of account based system
 - Phase out over 5 years @ farebox end of life
- No cash on BRT
 - Include a few reload kiosks, not all locations



FARE CAPPING

- Users pay \$2 per ride, up to cap
- Limit can be daily, weekly, or monthly
- Weekly caps drive weekend ridership
- Replaces need for passes
- Cap typically set at pass rate
- Benefit those who can't afford pass
- Lessens the sunk cost mentality of pass
- Slight reduction in expected revenue



<https://transitcenter.org/video/the-fare-capping-chronicles/>



MOBILE PAYMENTS

- Gaining significant attention
- Limited use among heavy users
- Two different variables to explore
- Variable 1: Integration with Account
- Variable 2: Validation Method

MOBILE PAYMENTS: ACCOUNT INTEGRATION

- Open Payments
 - Use your phone as Apple Pay or Google Wallet
 - No new app to install
 - No ability to purchase passes
 - No account-based benefits
- Closed system
 - Dedicated App mimics phone as a fare card
 - Can accrue benefits of account based system
 - Requires installing new app and adding payment info



MOBILE PAYMENTS: VALIDATION TYPE

- Visual Validation
 - App creates an moving or time-stamped image
 - Show phone to driver, who validates
 - Works only at front door, won't work for BRT
- Barcode Validation
 - App creates a barcode that is read by validator
 - Reader is often finicky and time consuming
- NFC Validation
 - Uses NFC chip on phone to act as tap card
 - Not available on lower end and older phones



OTHER TECHNIQUES

- Integrate existing ID's as tap cards
 - Pass partners can manage user accounts
 - No additional media to distribute
- Single use cards for social services
 - Paper card with tap functionality
 - Relatively expensive (50 cents each)
- Transfer periods
 - Charges once for all taps within 2 hr period
 - Eliminates transfer slips
- Allow non-cash payment on paratransit
- Contactless Credit Cards

RECOMMENDATION SUMMARY

- Account Based System
- All door tap readers on all routes
- Unlimited half fare + negative balance for low income w/ registration
- Retail reload network
- Limited Kiosks
- Cash on board
 - Local only
 - Does not accrue benefits
 - Phase out over 5 years
- Weekly + daily fare capping
- Mobile payments:
 - Custom App with NFC card emulation
 - Open mobile payments (Apple + Google)
 - No option for those without either capability
- Integrate with other ID cards
- Implement 2 hour transfer periods
- Limited single use paper cards
- Integrate with paratransit
- Open payments w/ contactless cards

NEXT STEPS/REMAINING DETAILS

- Finalize detailed memo
- Additional integrations?
 - Bikeshare
 - Parking
 - Zipcar
- Process Questions
 - Public Meeting vs. Public Hearing
 - TPPB vs. TC for final action

NEXT STEPS

- Questions



1245

metro transit
administration offices

NOT IN SERVICE

945