Michigan DOT Tech Talk

Fare Capping:
Making Transit More Equitable and Efficient

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NELSON NYGAARD

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What is Fare Capping?

Fare Capping Overview

A rider's total fares within a set period of time are "capped," typically at the equivalent value of an unlimited pass for the same period of time.

Riders **"earn" a pass as they go**.

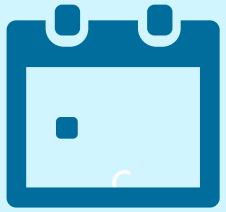
Once spending hits a cap, **additional rides are free for the rest of the period**.

No need to pay upfront for a **daily, weekly, monthly pass**.

Emergence of Fare Capping

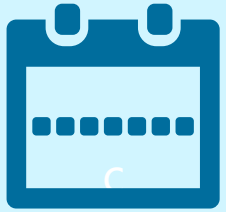
- **London first implemented daily fare capping in 2005** using Oyster stored value cards and introduced weekly capping in 2014.
- **Fare capping emerged in more places between 2010 and 2020**, with notable examples in Dublin, Hong Kong, and systems across Australia, New Zealand, Germany, and Switzerland.
- In the US, **Valley Transportation Authority (VTA) in San Jose, CA, introduced daily fare capping in 2012** for riders paying with a Clipper smart card.
- **Monthly capping was first introduced in the US with the Hop regional fare system** among TriMet, Portland Streetcar, and C-TRAN in the Portland, OR/Vancouver, WA, area.
- At the time of our 2022 TCRP study, about **28 transit systems in the US had implemented some type of fare cap**, with most introduced since 2019.

Types of Fare Capping



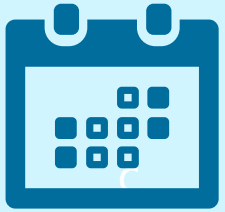
Daily

Sets a **maximum fare a passenger will pay in a single day**. Once the cap has been reached, any additional travel within that day is free.



Weekly

Extends the period to seven days. This is beneficial to commuters, affording them additional travel on weekends and evenings for no cost.



Multi-day

Extends over several days, such as a weekend or special event period. This can be useful for tourists or during a major event requiring multiple transit trips.

Monthly

Riders earn their way to a monthly pass, extending what is typically the best value product to those who cannot afford the cost of a monthly pass all at once.

Technology Makes Fare Capping Feasible

Fare capping as a practice only emerged within the last two decades, as developments in fare technology have made it feasible to implement.

- Made possible with smart cards, mobile fare payment, and account-based systems, coupled with the **declining costs of associated technology**.
- Agencies can adopt **more innovative fare structures** and offer a wider variety of fare products and pricing strategies, including a *guaranteed lowest fare* calculated based on the trips a rider takes.
- Many systems have implemented fare capping as part of introducing **new investments in fare payment technology**, especially mobile payment solutions like fare payment apps and digital wallets.
- **Open payment fare capping** now an option.

Technology and Fare Systems

Fare capping requires changes to an agency's fare revenue collection and financial systems and often requires a major upgrade to modernize technology.

- Expenses may include new **fare media, enhancements for mobile apps, web purchases, new software, farebox upgrades/validators, facility investments** including ticket vending machines at transit centers, and costs of working with and expanding third-party retail outlets.

- The **level of investment may impact adoption rates** and help realize larger agency benefits such as eliminating onboard purchases, less cash handling, faster boarding, etc.

Fare Capping Benefits

Perks of Fare Capping

- Increases fare equity
- Simplifies the rider experience
- Removes financial barriers to frequent transit use
- Builds rider trust and loyalty
- Encourages higher ridership

Fare Capping Benefits Riders

Cost Savings and Convenience

- **Riders do not need to pay the upfront cost** of a period pass and can pay as they go but still get the cost savings of the pass by traveling fare-free once they meet the fare cap threshold.
- **Riders pay only for the trips they take**, and don't risk falling short of their "break even" threshold if they make fewer trips during a period of time.
- The introduction of fare capping can provide an **opportunity for an agency to make their fares simpler**.

Fare Capping Provides a More Equitable Service

Equity

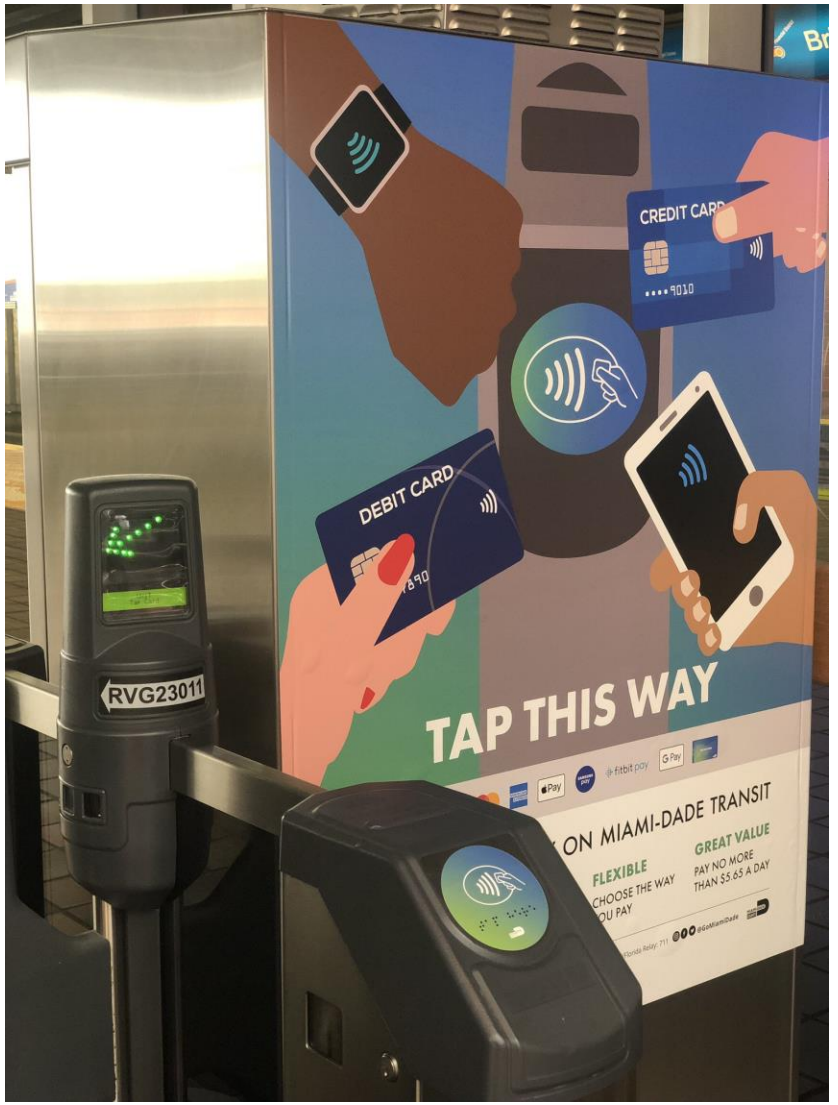
- **Fare equity** is one of the most frequent arguments in favor of fare capping.
- There is significant **disparity between the cost savings** of period passes **and the barrier posed** by their high upfront cost to riders.
- Fare capping ensures that the **best value fare products are available to all riders**, not just those who can afford to pay upfront or who have more predictable trip needs.
- **"Fair fare" or "best fare" policies** often refer to or include fare capping due to addressing this disparity.

Fare Capping Increases Ridership

Ridership

- Convenience, flexibility, and cost savings could **attract new riders and keep existing riders** loyal to using transit, and perhaps encourage more transit use
- Transit systems that adopted monthly fare capping policies for more than one year experienced an average **increase in annual bus ridership ranging from 3.6% to 4.1%***; these results were heterogenous and increased over time.

Source: Ziedan, A., Hightower, A., Lima, L. & Brakewood, C., 2024. The app or the cap? Which fare innovation affects bus ridership? Transport Policy



Revenue Considerations

How Fare Capping Works

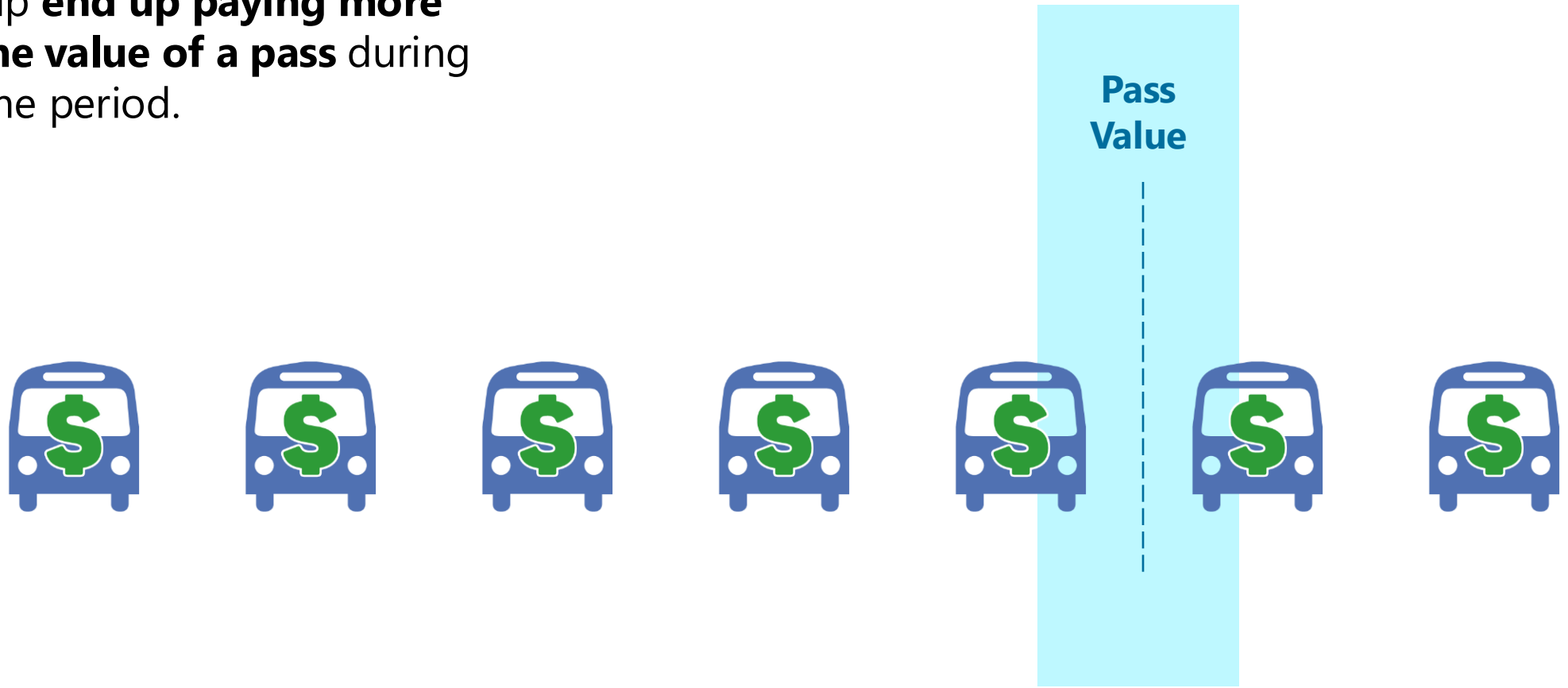
Riders **pay per trip** using smart card or mobile app.

Fare system **tracks cumulative spending**.

Once the cap is reached (e.g. $5/day or $20/week), riders are **free for the remainder of the period**.

Impact on Cash (Pay per Trip) Riders

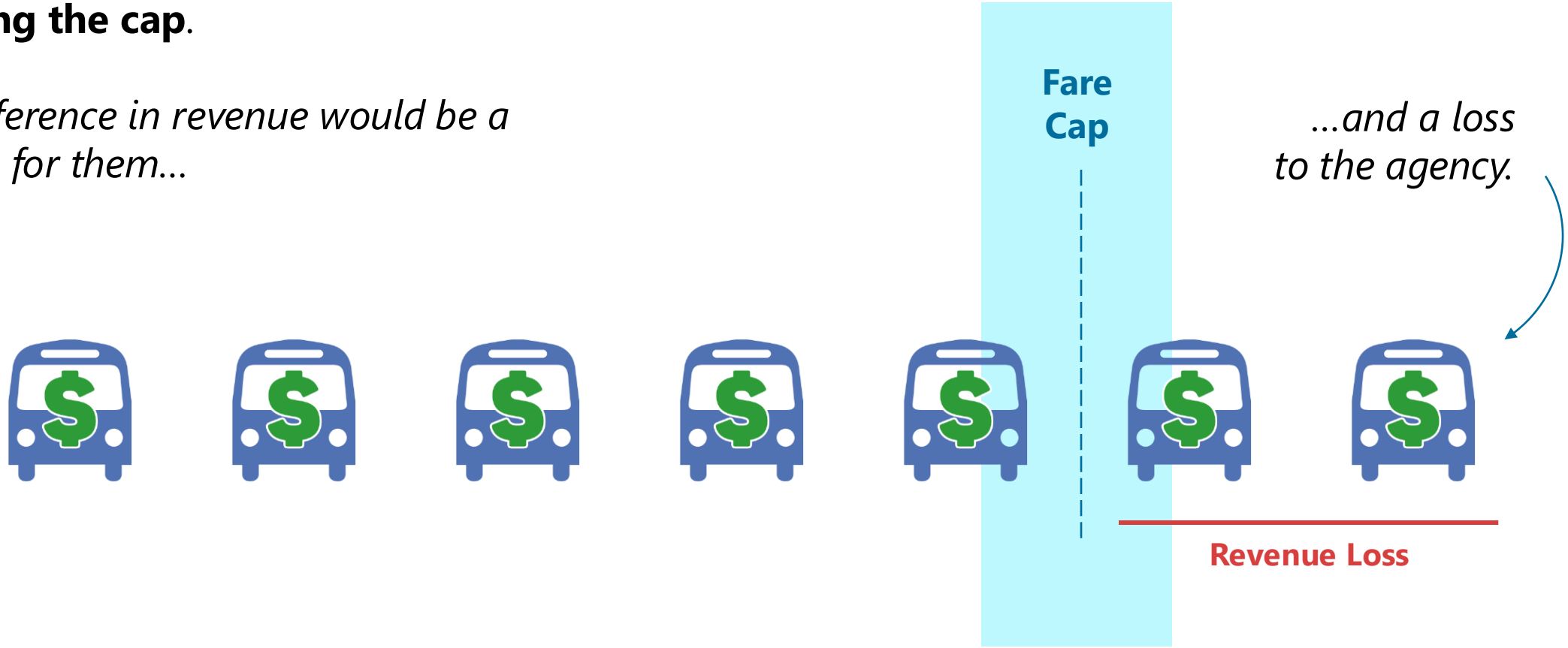
Riders who currently pay for each trip **end up paying more than the value of a pass** during the same period.



Impact on Cash (Pay per Trip) Riders

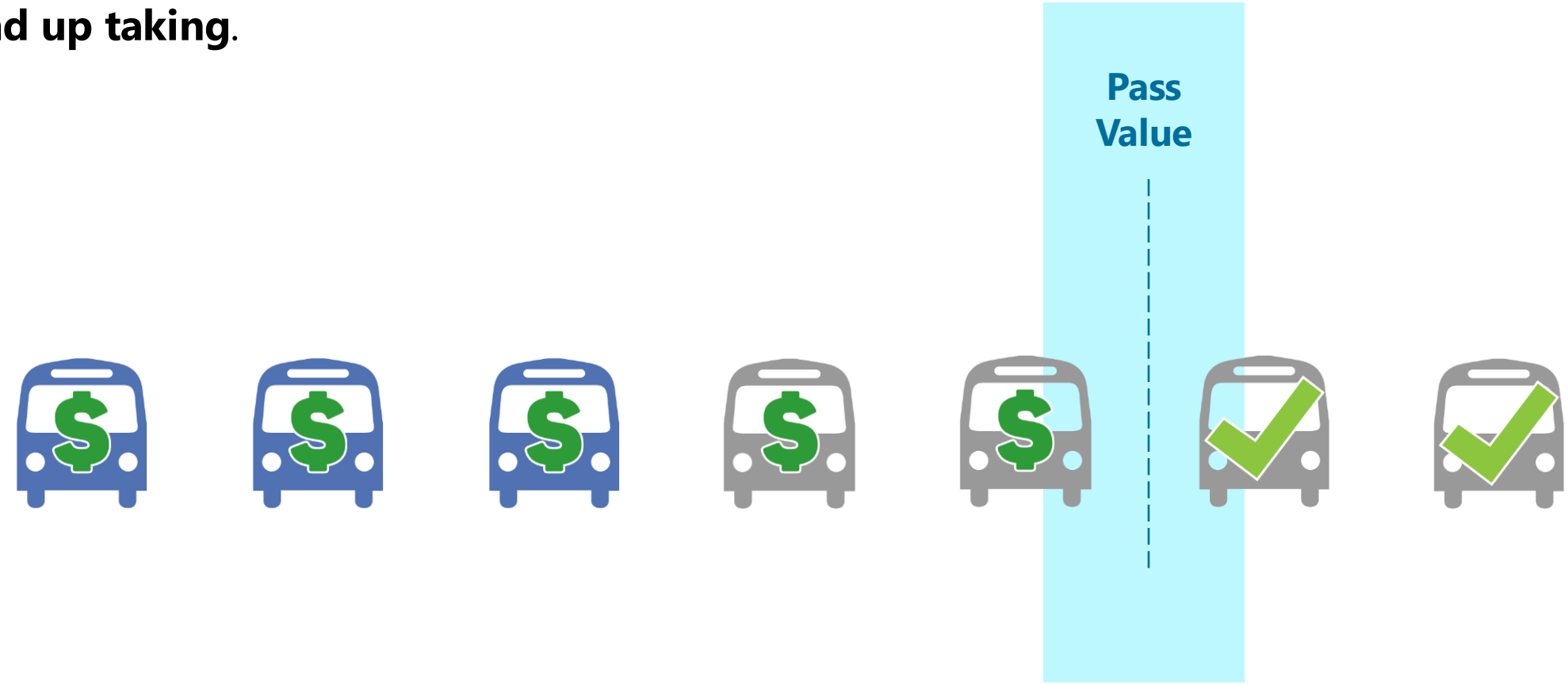
Riders who currently pay per trip would **no longer pay for trips after reaching the cap**.

The difference in revenue would be a savings for them…



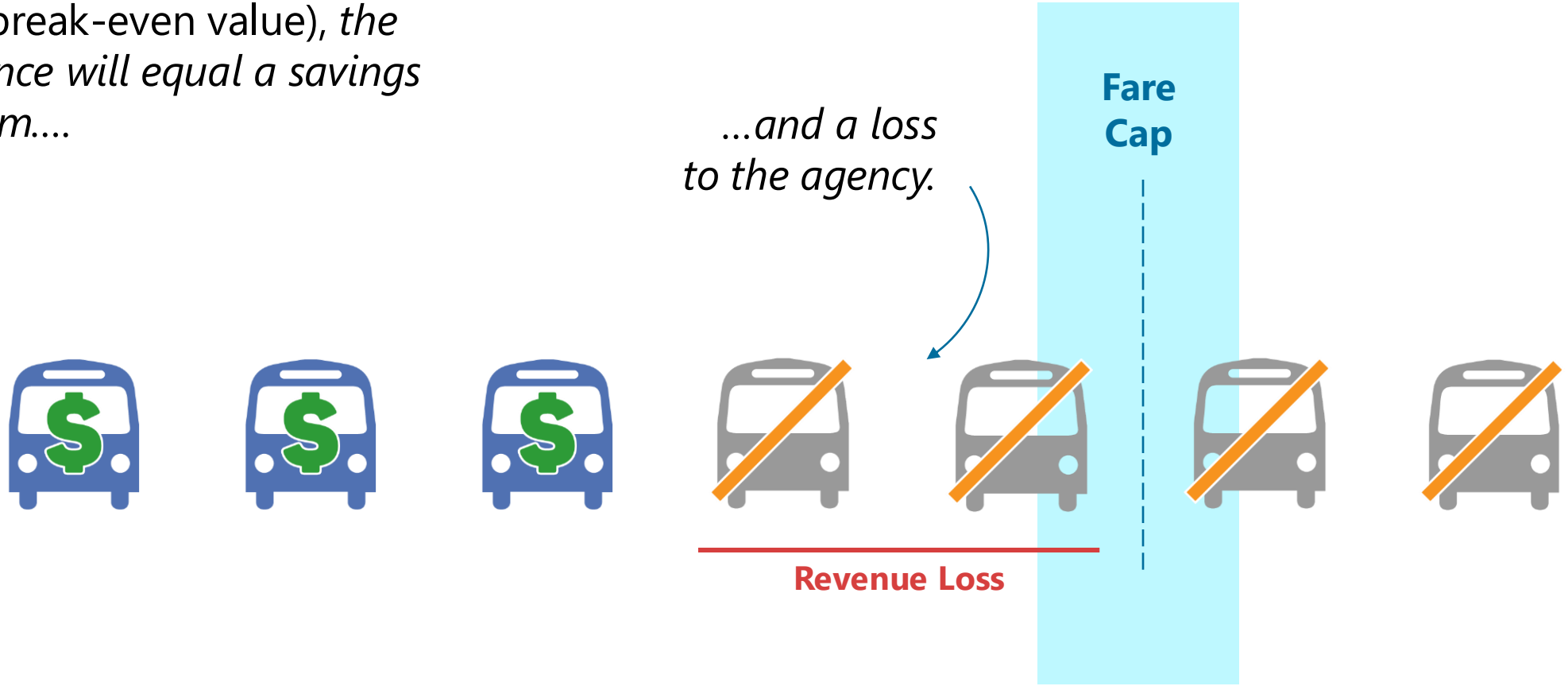
Impact on Period Pass Riders

Period pass holders **pay upfront for trips they may not end up taking**.



Impact on Period Pass Riders

If period pass holders take **fewer trips than the value of the pass** (their break-even value), *the difference will equal a savings for them….*



Potential Loss of Fare Revenue is a Concern, but…

Transit agencies should consider these potential revenue challenges with the tradeoff of addressing fare equity and promoting ridership.

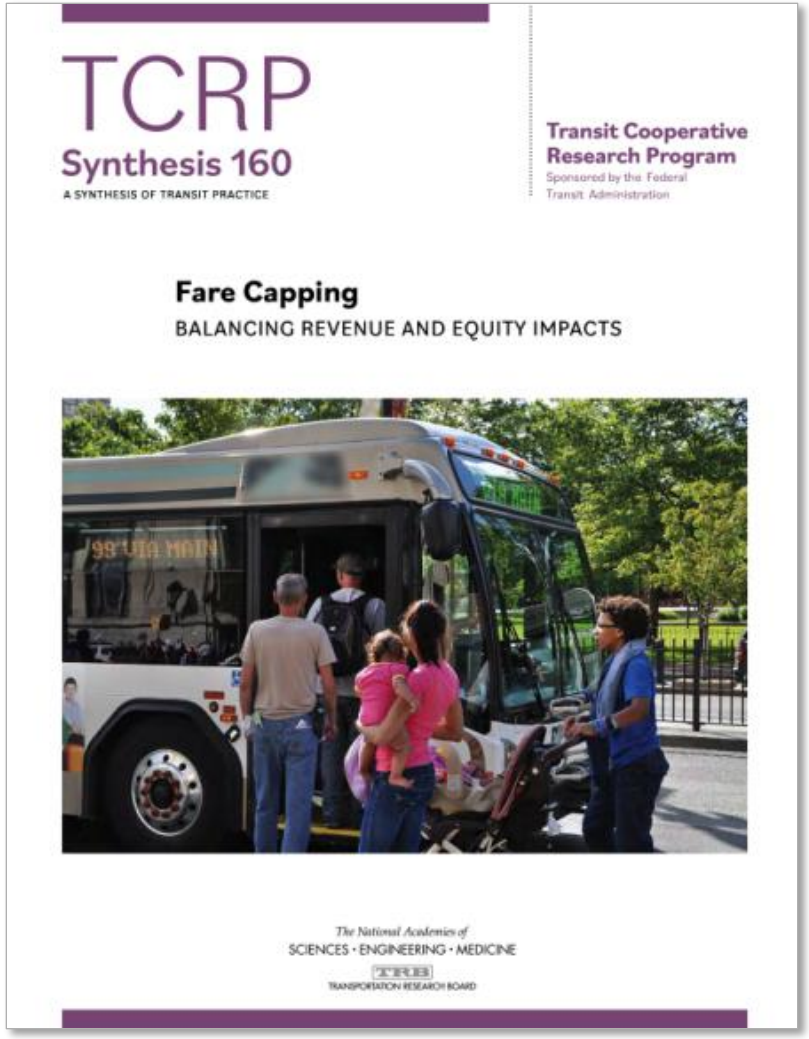
- In effect, some portion of this lost revenue may have come at a social cost, generated by those who could only afford to pay per trip, resulting in **lower-income riders paying disproportionately more** for service.
- A transit agency can make their system **more equitable** and deliver on a commitment to the social good by making **best value fare products available to all riders**.
- Pursuing fare capping as part of a larger set of fare price changes may provide an **opportunity to introduce the benefits of the capping mechanism** while maximizing potential revenue.
- Fare capping encourages **more frequent use** and appeals to choice **riders seeking value**.

Lessons Learned

TCRP Synthesis 160

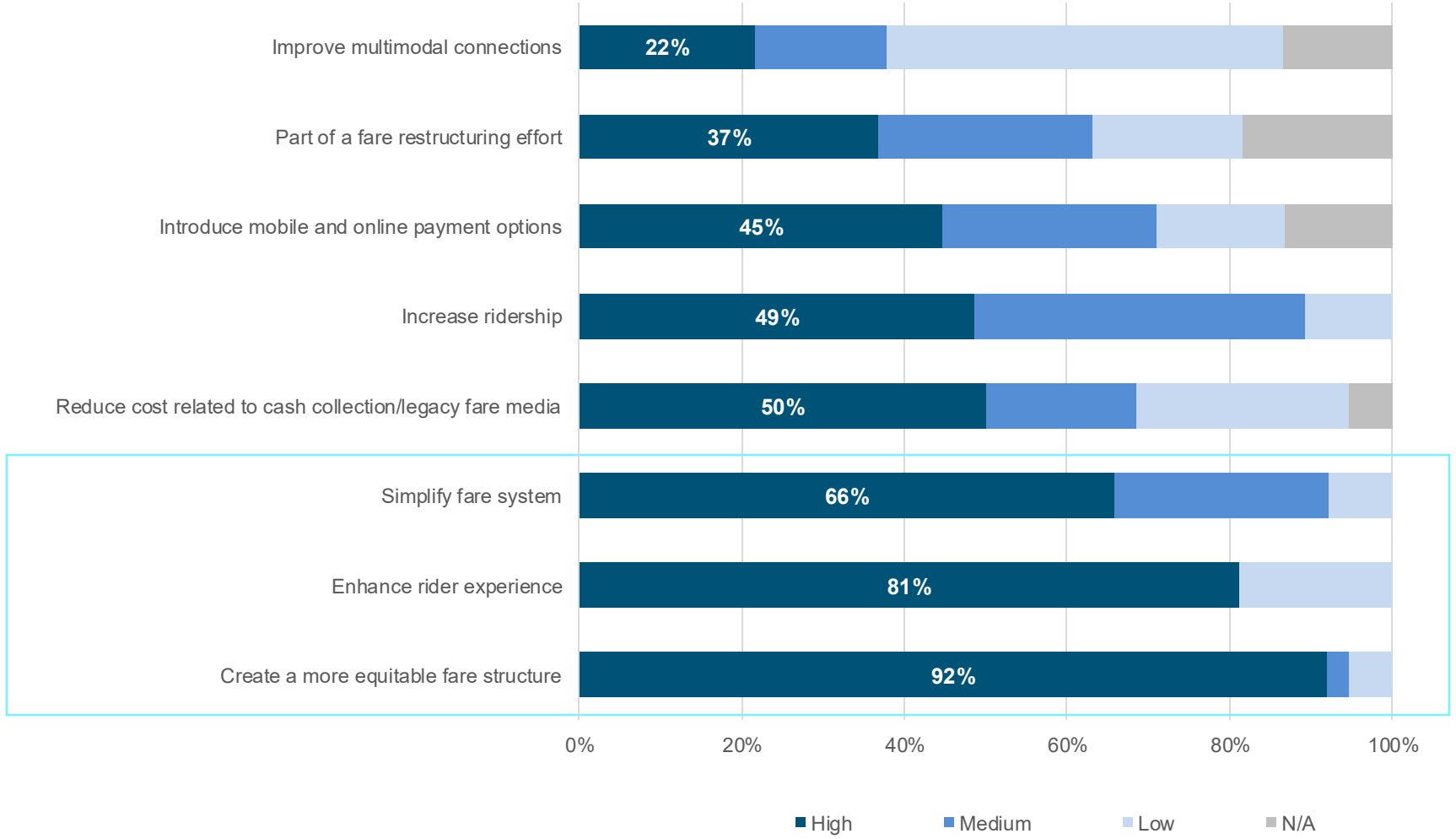
Snapshot of the current state of the practice of fare capping, from early decision making through implementation and evaluation

- Motivations, opportunities, and costs
- Technology and systems required
- How agencies educate and market to customers
- How agencies transition from one fare structure to another
- Other challenges encountered and lessons learned



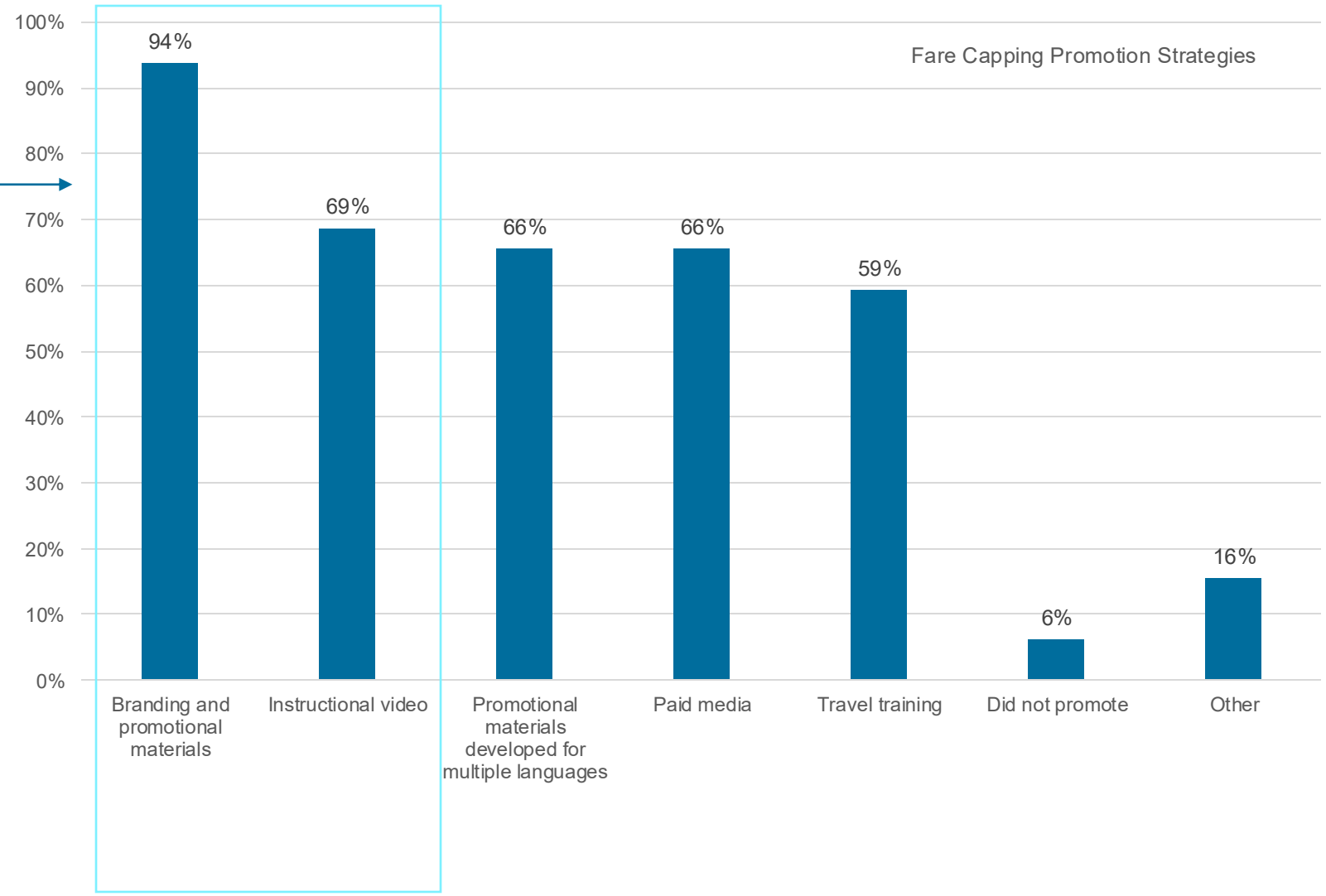
Survey: Motivations to Pursue Fare Capping

- Create a **more equitable** fare structure (92%)
- **Enhance the experience** of riders (81%)
- **Simplify** the fare system (66%)



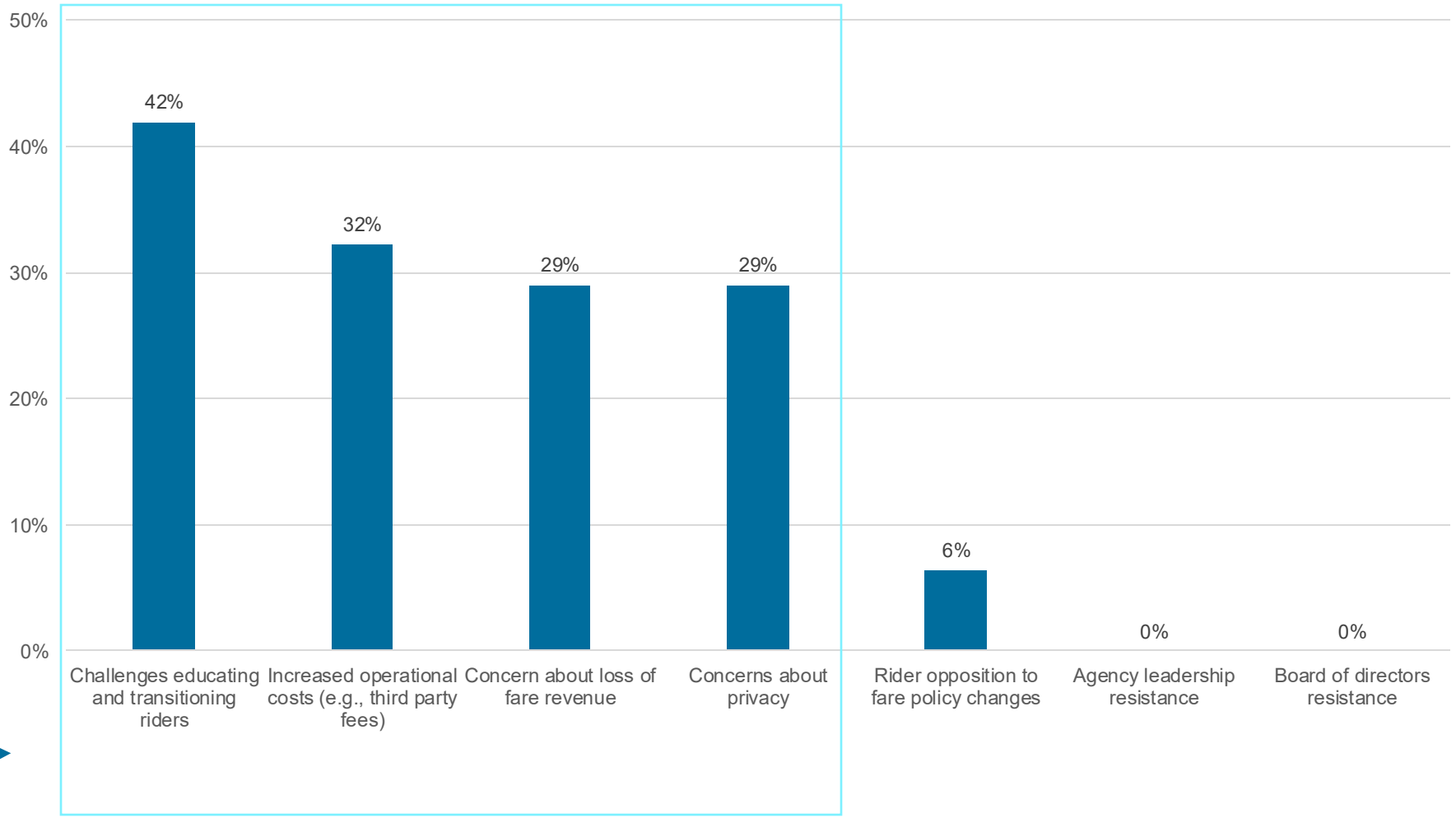
Survey: Promoting Fare Capping

- **Branding** and promotional materials (94%)
- **Instructional** video (69%)
- For some, explaining and promoting fare capping was the **most important step** in developing a fare capping program
- Other tactics included pop-up events, bus cards, and special promotions to **engage specific audiences** and customer markets



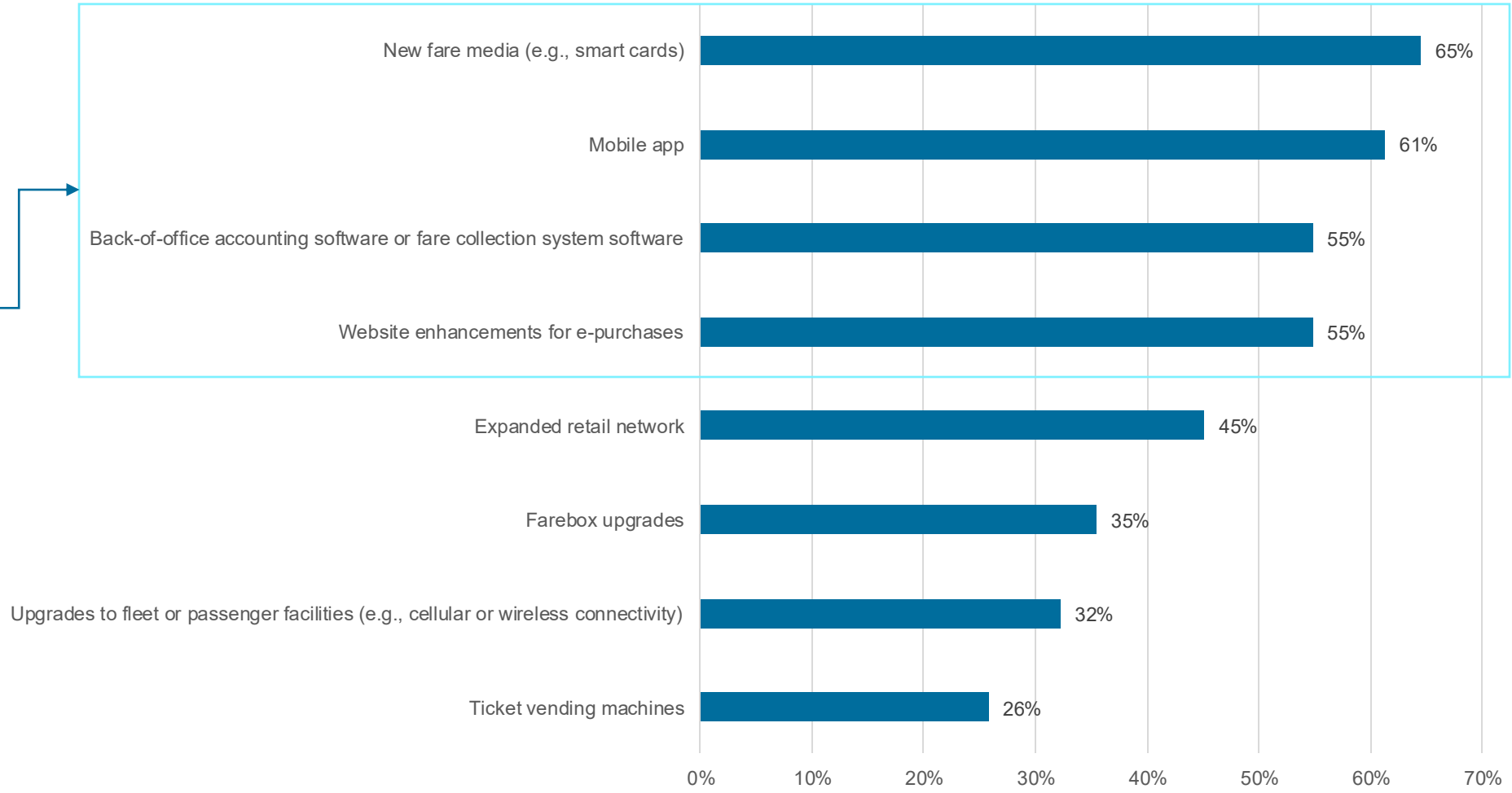
Survey: Challenges to Implementing Fare Capping

- **Challenges educating** and transitioning riders (42%)
- **Increased operational costs** (such as third-party fees) (32%)
- Concern about **loss of fare revenue** (29%)
- Concerns about **privacy** (29%)



Survey: Investments to Support Fare Capping

- New **fare media** (65%)
- Mobile **app** (61%)
- Back-of-office **accounting software** or fare collection system software (55%)
- **Website enhancements** for online purchases (55%)



Agency Case Studies: Purpose for Fare Capping and Lessons Learned

Agency	Purpose	Lessons Learned
Greater Dayton RTA *Dayton, OH*	▪ Equity ▪ Modernize fare payment system ▪ Simplify riding experience	▪ Having a clear purpose is important ▪ Riders face a learning curve during the transition ▪ Anticipate a revenue loss that will need long-term solution
Miami-Dade Transit *Miami-Dade County, FL*	▪ Introduce integrated fare system ▪ Expand fare cap program beyond credit and debit card users ▪ Market transit services	▪ Understanding how riders use system helps inform daily vs. monthly caps ▪ Open payment reduces the liability of stored value cards ▪ Fare capping helps market services by making the system easier to use
C-TRAN *Clark County, WA*	▪ Integrate transit fares across multiple regional providers ▪ Modernize fare payment system ▪ Improve rider experience	▪ Regional fare system has benefits for smaller and midsize systems ▪ Anticipate costs associated with administration and data processing
NFTA Metro *Buffalo, NY*	▪ Reduce onboard transactions ▪ Eliminate security concerns ▪ Increase flexibility for riders	▪ Internal coordination requires dedicated staff ▪ Implementation can take longer than expected; public outreach must be timed accordingly ▪ Developing metrics at the outset will inform decision-making and help measure revenue impacts
IndyGo *Indianapolis, IN*	▪ Equity ▪ Modernize fares as part of long-term efforts to improve services ▪ Become a more data-driven agency	▪ Inexperienced vendor will delay implementation ▪ Marketing and outreach have huge impact on adoption of new fare program ▪ Limited staff capacity can also impact success of program

Key Issue: Equity and Underbanked Riders

More equitable fare policy and pricing can be achieved through capping, but only if it is available to all riders.

- **Underbanked populations must have the ability to load value** onto a smartphone or smart card, which may require a more enhanced sales network.

- Most fare cap programs have considered points of purchase, the needs of cash riders, and paratransit implementation. **Most agencies did a Title VI analysis**, but few performed additional analysis beyond that.

Implementation Considerations

- Equity, rider experience, and simplified fare system are the greatest motivators for fare capping, but the case for fare capping is also a business one: attract more riders. Revenues or farebox recovery will never cover the total cost of service, but they are an important revenue stream for many transit systems, and **support for fare capping may require a shift in how fares are measured with respect to farebox recovery and revenue**.

- Mobile and online transactions can greatly increase credit card transactions, and **fees from credit card companies and mobile & retail vendors** can have a major impact on fare revenue.

- Transition to mobile and reloadable smart cards requires thoughtful branding, promotion, and lots of public education, especially for older riders who are less likely to transition to electronic forms of payment. **Upfront investment in education and increased customer service support** can help riders adapt to fare capping.

Next Steps

Considerations for Fare Capping

Do you have a **plan to implement** account-based fare collection?

What is your **current fare media** (paper, card, mobile, cash)?

Can your system support **real-time fare aggregation**?

How will capping impact your **farebox recovery**?

Is Fare Capping Right for You?

Electronic fare collection in place

Mobile or card fare payment supported

Desire to improve equity and simplify rider experience

Openness to tech upgrade or vendor collaboration

Potential Actions

1. Conduct a **fare policy review**
2. **Evaluate capabilities** of current technology
3. **Engage vendors** on fare capping functionality
4. **Pilot with a subset** of riders or a simplified cap
5. Consider **regional coordination** for economies of scale

THANKS!

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