THE GUIDE TO RUNNING A SMALL-CITY BIKE SHARE

HOW TO PLAN, LAUNCH AND RUN A SUCCESSFUL SMALL-CITY SYSTEM
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ABOUT ZAGSTER

Zagster is the leading provider of private and public-private bike-sharing systems in the United States, operating more than 150 programs in more than 30 states. Our municipal partners include several cities honored by the League of American Bicyclists for being among the most bike-friendly in the country.

Zagster’s efficient business model allows the company to successfully deploy safe, scalable systems in multiple markets, including cities, suburbs, universities, commercial campuses and residential properties. Zagster’s mission: to make biking the most loved form of transportation.
A decade ago, there were two-dozen bike shares worldwide. Today, there are more than 1,000. This includes around 100 municipal programs in the U.S. — a number poised to soon double, according to a 2016 report by the Pew Charitable Trusts.

That’s because bike sharing, with its myriad benefits, has spread beyond big cities to communities of all sizes. And in the process, smaller communities have redefined bike sharing to suit their needs and means.

Although bike sharing in smaller communities comes with unique challenges, that doesn’t mean it’s by definition more difficult. This guide will walk you through the necessary considerations to plan a bike share tailored to the small-city environment, in just seven simple steps.
THE 7 STEPS TO SMALL-CITY BIKE SHARING

1 DEFINE YOUR VISION
Why do you want bike sharing?
What problems are you trying to solve, or what goals are you trying to achieve?

2 DESIGN A GREAT RIDER EXPERIENCE
Evaluate which type of bike share works for you.
Determine key details like availability, pricing, and use cases.

3 OUTLINE YOUR DESIRED SYSTEM
Estimate ridership and demand to set scope and scale.
Identify potential station locations.

4 EVALUATE COSTS AND RESPONSIBILITIES
Assess means and limitations.
Understand capital and recurring costs, and determine who will staff key roles.

5 IDENTIFY FUNDING OPPORTUNITIES
Determine availability and limits of public resources.
Determine whether to seek external funding or sponsorship.

6 DEVELOP A LAUNCH AND EDUCATION STRATEGY
Harness community support.
Ensure riders know the program exists and how to use it.

7 PLAN FOR THE FUTURE
Envision where bike sharing can go.
Identify potential areas for expansion.
1. DEFINE YOUR VISION

The first step toward bike sharing is the most important — and the most intuitive: Determining what you hope to achieve with bike sharing.
GOALS
For smaller cities, bike sharing often aims to serve a broad range of purposes. Goals bike sharing can achieve include but are not limited to:

- Forming last-mile connections
- Boosting sustainability
- Reducing pollution
- Reducing congestion
- Alleviating parking demand
- Reducing transit strain
- Increasing mobility options
- Promoting active lifestyles
- Fostering a cycling culture
- Encouraging tourism
- Aiding access to greenspace

KEY PERFORMANCE INDICATORS
Once you’ve identified goals, you’ll want to outline measurable metrics for success. These can include any of the following:

- Adoption
- Ridership
- Repeat ridership
- Market penetration (trips per bike and/or trips per resident)
- Change in personal vehicle usage/ownership
- Emissions offset
- Calories burned

Keep in mind that some metrics are easier to assess than others. (i.e. ridership data is definitive; caloric and environmental impacts require estimation.)

At this stage, it’s also important to assess potential roadblocks. Is the climate conducive to cycling? Is there adequate political will to achieve big things? Are there any legal or procedural hurdles, such as securing physical station space?

None of these obstacles are insurmountable, and preparing for them early will give you a better chance at success later.
2. DESIGN A GREAT RIDER EXPERIENCE

Now that you know why you want bike sharing, it’s time to shape a system to ensure success.
COST
Establishing an effective pricing structure tailored to your community is imperative to ensuring strong usage.

Will you offer memberships, pay-per-ride usage, or a combo of both? How much will memberships and rides cost? Will there be discounted options to promote financial equity? (i.e. Chicago offers memberships at ¼ the standard price for users who qualify as low-income.)

ENROLLMENT/PAYMENT
Many systems only accept payments via credit or debit cards for simplicity and security reasons, though this can cut out people who lack either form of payment.

Will you allow cash transactions at brick and mortar locations, like bike shops, or enable payments via digital services?

TRIP FORMAT
How long, and how far, can users ride per checkout? Are trips primarily for commuting, errands, recreation, or some other use? Understanding when, how and where you anticipate riders will use the system is an important first step before sketching your system’s shape.

Consider how station placement can impact your goals. Two examples: Placing bikes in transit deserts to offer greater mobility equity, or near trails to encourage recreational use.

ACCESSIBILITY
To achieve maximum physical equity, will you offer alternative bikes, such as handcycles, as part of or in addition to the bike-share program? Some providers enable seamless integration of alternative bikes; others do not, requiring parallel systems to achieve the same goal.

Will you offer electric bikes as part of, or in addition to, a bike-share program?
BIKE SHARE TYPES
The aforementioned factors will determine what type of bike share best suits your needs. There are four main options you may consider:

**Ad-hoc**
Bike sharing’s first incarnation, these systems distribute free bikes with no designated stations — and no locks. Though sometimes successful in closed environments, like corporate campuses, this format is prone to abuse and misuse due to the lack of oversight and security.

**Bike Library**
Though not technically bike shares because they lack automation, bike libraries — in which users check out bikes from staffed physical locations with set hours — can be a viable middle ground between ad-hoc’s anarchy and more robust systems’ order.

**Kiosk (third generation)**
The standard for big-city systems, this model features docking stations with integrated locks and a user experience powered by automated kiosks. Advantages include hardware hardiness and maximum security. However, the requisite density (A typical model requires riders to return bikes to stations every 30 minutes, which necessitates more stations clustered closer together.)

**Flexible bike sharing (fourth generation)**
The latest iteration, this model features lightweight infrastructure and bikes — not stations — with integrated locks (pictured, left). These systems require lower capital investments and allow for more flexible usage because riders can lock bikes anywhere mid-ride instead of only at designated kiosks.
INFRASTRUCTURE
Perceived safety is the single biggest deterrent to ridership. So in designing user experience, you must consider the existing urban environment, as well as ongoing — and potential improvements to — bike infrastructure.

A lack of infrastructure is not insurmountable. More infrastructure encourages more riding. At the same time, more ridership necessitates more infrastructure. Which is to say: This doesn’t need to be a chicken and the egg situation. Zagster’s home of Boston is a great example. Despite a lack of bike lanes, the city launched a bike share that then spurred implementation of more bike infrastructure.

The League of American Bicyclists, which bestows annual awards to bike-friendly communities, is a great resource for tools and inspiration to make your community better for bikes.
3. OUTLINE YOUR SYSTEM

To bring your vision to life, you’ll next need to calculate potential ridership to establish an impactful system scope and scale. This involves a review of existing levels of, and potential demand for, cycling.

SOME FACTORS TO CONSIDER INCLUDE:

- Existing and desired use cases of cycling in your area (commuting, recreation etc.)
- Population demographics, including age, education, and income
- Existing, planned and potential bike infrastructure

A full-scale feasibility study can provide this information. Alternatively, for the same cost you can conduct a real-life feasibility study in which you lease hardware and deploy a test system. A true feasibility study will provide the most comprehensive information, though it will be theoretical and offer no tangible value in the immediate term to the community.

If you opt to skip the study, you can estimate demand on your own using a general calculation of “uptake rate” — essentially, an assumption of the percentage of residents within the desired coverage area who will become riders. Cities that have used uptake rate to project ridership have often assumed rates between three to nine percent.
SCOPE AND SCALE
With a baseline estimate of ridership, you can now sketch an outline of system size and station placement.

Though tweaks can be made after initial launch, it is important to begin with a right-sized and well-placed fleet to accommodate usage and ensure a healthy system with a sterling reputation at the outset. If a system is too small, it won’t meet demand and could turn away riders who will be hard to win back. If a system is too large, it may not be cost-effective (too many bikes), or bikes may be spread too thin (too large of a coverage area) to enable effective usage.

For maximum efficacy, bike-share planners typically call for between 2-2.5 docking spaces per bike.

DENSITY
Traditional models call for stations every 300 meters, according to ITDP’s guidelines. That’s not feasible in smaller communities, given their lower densities and relatively limited finances. Still, you’ll ideally want stations placed so riders can reach them within a convenient 10-15-minute walk.

STATION PLACEMENT
Begin with a tight core and build outward. Denser, mixed-use areas are ideal because they see mixed usage throughout the day. (i.e. workers/commuters during the daytime, and bar/restaurant patrons at night.) In addition to aiding access to local businesses, stations in commercial centers may attract sponsorship interest from those same businesses. (More on station sponsorship later.)
Other factors to consider in outlining the system shape include:

- **Demographics** — riders tend to skew younger and college-educated, so areas ripe in near these populations (i.e. college campuses) are natural fits
- **Transit hubs** — bike sharing is perfect for last-mile trips; placement near other forms of mass transit boosts the potential impact of each service
- **Transit deserts** — if increasing mobility in underserved areas is a prime concern, bike sharing can help

**STATION SITING**

Once you know the general locations you’d like to target, physical considerations will impact where you site stations. The National Association of City Transportation Officials lists five rules for siting, saying locations should be:

- Accessible and convenient to users
- Accessible to maintenance workers
- Designed to ensure user safety
- Built to bolster rather than impede the surrounding pedestrian environment
- Structured to fit within the “streetscape hierarchy” (i.e. stations take precedence over movable bike racks, but not fire hydrants)

Sidewalks, medians, and gated road-level corrals are all options for station placement. Where you anchor stations will depend on the physical environment of your city. For more specific suggestions and inspiration, check out NACTO’s thorough guide to station siting.
4. EVALUATE COSTS AND RESPONSIBILITIES

A firm understanding of bike sharing’s capital and recurring expenses will help you establish an operational model to support continued success.
OWNERSHIP MODELS

Costs and responsibilities will depend upon which of three general ownership models you pursue.

Publicly owned & operated

Government owns all the hardware and maintains full control of planning, building and operating the program.

- **Pros**: Single entity responsible for everything; maximum municipal control
- **Cons**: City owns all the risk, responsibility and expense; potential inefficiencies compared to experienced operator

Publicly owned & privately operated

Government owns all the hardware and assets, but a third-party runs all day-to-day operations.

- **Pros**: City retains high degree of control and asset ownership while minimizing involvement in operational minutiae
- **Cons**: Less municipal control and oversight

Privately owned & operated

Government provides land and outlines goals, but third-party owns all the hardware and assets, and runs all day-to-day operations.

- **Pros**: Little to no municipal expense, either capital or ongoing
- **Cons**: Least municipal control and oversight
Determining which model best suits your city involves a consideration of the following factors:

**CAPITAL EXPENSES**
A kiosk-based bike share typically costs about $4,000 to $5,000 per bike to launch. A flexible bike share system, with its smaller footprint and less complex infrastructure, can launch at a cost of around $2,000 to $3,000 per bike. If you lack the municipal budget needed to launch a right-sized system, can you secure grants or raise revenue from outside sources? (More on that in the next section.)

**OPERATIONAL EXPENSES**
Though hardware is the most visible aspect of bike sharing, management and operations make up the bulk of all expenses. In our experience, ongoing expenses typically account for around 60% of all costs.

These expenses include:

- **Customer service and rider support** — When riders need help with their accounts or encounter hardware issues, who gets the call? Will you communicate with riders via social media?
- **Maintenance, emergency repairs and fleet** — Frequent use necessitates frequent maintenance. Experienced mechanics must be available to regularly service bikes so the system stays safe and stable
- **Rebalancing** — If your system allows one-way trips, some stations may be more popular for pick-ups, others more common for drop-offs. Manually moving bikes to ensure even distribution can be done in many ways — vans, busses and cargo bikes are common modes. In Paris, a barge carries bikes along the river Seine
- **Marketing and promotions** — How will you inform potential users about the system? How will you encourage existing users to regularly ride?
- **Storage** — Many systems in cold-weather climates hibernate bikes throughout winter. If hibernation is required, where will you store bikes?

All of the above functions require experienced staff. In planning for each, you’ll need to determine whether you have the resources to staff these roles in-house, or if you’ll need to outsource them to contractors or a private bike-share operator.
INSURANCE
Accidents happen, so some form of liability insurance is standard for bike-share systems to protect owners, operators and riders. To mitigate the impact of theft and vandalism, you may also opt to carry insurance against destruction costs as well.

REPLACEMENTS
Technically a capital and ongoing expense, bike replacement is inevitable in any bike share. Even the most vaunted programs are liable to theft and irreparable damage. Paris, whose Velib system inspired the ongoing bike-share boom, lost 9,000 bikes in 2012 alone. (That’s not to say such extreme loss is the norm, as security and rider habits differ across systems; Minneapolis saw a 0.3 percent loss in its first year.)

Still, you’ll need to reserve hardware and cash in the event of theft and destruction — or risk running a depleted, ineffective program.
5. IDENTIFY FUNDING SOURCES

Membership and usage fees can supply a significant — yet incomplete — source of revenue. Farebox recovery rates vary widely across systems, ranging as high as 90% in Boston and Chicago. (For reference, the median farebox recovery rate for all major U.S. transit systems is around 35%, according to the Federal Transit Administration, making bike sharing a relatively cost-effective option.)
PUBLIC FUNDING
Government sources include municipal, state and federal funding.

Locally, this can mean earmarking funds from the overall budget of a relevant agency, like a transportation department, or steering revenue from specific charges like parking permits. Alternatively, general revenue from taxes, or funding set aside for a broader sustainability or transportation initiative, can support bike sharing.

On the state and federal level, there are many grants available for bike sharing. The Department of Transportation, Federal Transit Administration and Federal Highway Administration all offer discretionary grants, though they carry some restrictions on how they can be used and can take months or years to secure.

TITLE SPONSORSHIP

A common revenue stream in big-city systems, this model involves selling naming and/or branding rights to a private organization. New York City’s Citi Bike, sponsored by CitiBank, at a price of $41 million over five years, is a notable example. Smaller cities have had some success with this model, though their smaller market sizes inhibits their ability to secure hefty commitments from single organizations.

COLLABORATIVE SPONSORSHIP

An emerging model suited more to smaller, tight-knit communities, this brings together disparate businesses and organizations to jointly fund programs. Sponsors fund stations and/or bikes in exchange for physical and digital advertising space, plus the goodwill of association with a positive community development. Sponsoring organizations may also receive preferential station placement (i.e. a coffee shop requesting a station nearby to spur more foot traffic.)
6. DEVELOP A LAUNCH AND EDUCATION STRATEGY

Early success is paramount to a bike share’s long-term health. A strong start creates a positive public impression, encouraging more people to ride. Conversely, a subpar start creates a negative impression and can contribute to a death spiral of low ridership and distrust in the system.
PUBLIC RELATIONS
Crafting strong, uniform messaging and actively distributing this information — in the form of a press release, and through direct contact with journalists — will help ensure word gets out the way you want.

A high-profile launch event attended by key stakeholders and notable officials amplifies coverage while also engaging at the system’s outset. A ribbon cutting followed by an inaugural ride puts riders on bikes on day one.

RIDER RELATIONS
An effective field marketing campaign informs potential users about a system, teaches them how to use it correctly, and encourages them to ride.

These efforts can include:

- **Digital materials** — Standalone website, landing page on existing municipal site, email newsletter
- **Print materials** — Posters, flyers, brochures, community newspaper
- **Social media** — Existing accounts for any relevant agency (mayor, transportation department, parks department etc.); spreading the word across multiple channels ensures maximum reach
- **Promotions** — Membership drives, special discounted enrollments, partnerships with local businesses or industry retailers (i.e. helmet rebates)
- **Community events** — Bike-in movies, demo stands at farmers markets; any creative outreach event or partnership can raise the bike share’s profile and reputation

Real-life engagement to promote biking in general — and bike sharing in particular — can take many forms. For example, Fort Worth, Texas, has held “rolling town halls” in which residents and the mayor biked around sharing ideas for community improvement.
7. PLAN FOR THE FUTURE

Bike shares aren’t static. Yet while it’s impossible to forecast how a system will fare until you have real-life data, it’s wise to outline your future vision for bike sharing so you can make a deliberate effort toward that goal.

GROWTH
Identify potential areas for growth and expansion. This is especially important if you intend to begin with a pilot program, as you’ll need a phasing plan to effectively build out from an initial footprint.

SYSTEM UPDATES
Understand when and how your system will upgrade to new hardware and software. Some providers include regular updates in their operating agreements.

If you opt for a purchase-and-run model, understand the timeline for, and cost of, updating the system on your own. Failure on this front can result in an outdated system that no longer meets users’ expectations.

Anticipating the future will also prepare you to build off success and respond swiftly to challenges.
When designed well, small-city bike shares are powerful tools to address a wide range of transportation needs. And though systems scaled to these environments are a relatively new development, planning (and launching and operating) such systems need not be intimidating. With the right guidance, it can be as easy as riding a bike.
WANT TO LEARN MORE?

Zagster’s consultants are experienced in planning and launching systems tailored to small cities. For more information on designing a bike share to suit your community’s needs, contact us:

www.zagster.com
hello@zagster.com
844-924-7837

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RESOURCES AND READING
   • NACTO: Transit Farebox Recovery and US and International Transit Subsidization
   • U.S. Department of Transportation: Frequently asked Questions and Answers concerning Bike Sharing Relative to the United States Department of Transportation
   • U.S. Department of Transportation / Federal Highway Administration: Bike Sharing in the United States: State of the Practice and Guide to Implementation
   • The Institute for Transportation and Development Policy: The Bike-Share Planning Guide
   • The Pew Charitable Trusts: Despite Popularity, Bike Share Programs Often Need Subsidies
   • Streetsblog: Theft and Vandalism Just Not a Problem For American Bike-Sharing
   • NACTO: Bike-share station siting guide
   • Quick Guide to the Bicycle Friendly Community Report Card