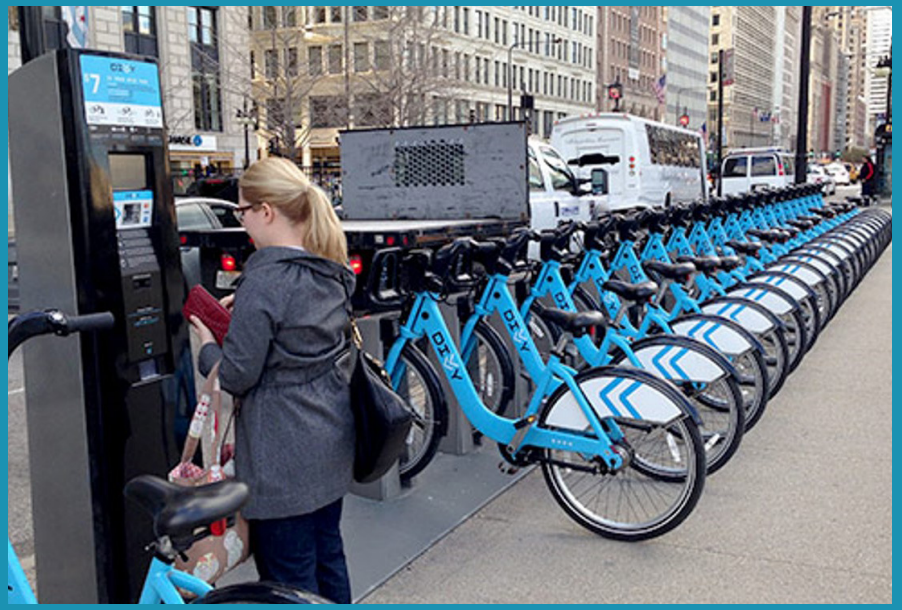
Docked Bike Share Systems

What is a Docked Bike Share System?

Also referred to as "smart dock" systems, this bike share system type is based on powered stations with docks that securely lock a bike and kiosks for user payment transactions and information. At the kiosk, casual users can purchase a short-term membership on demand. Bike share bikes must be retrieved from and returned to a station. Because the equipment is relatively expensive, most U.S. cities use federal transportation grants and large corporate sponsorship deals to cover the capital and operations costs.

Defining Features: Because bicycles within a dock-based system must be secured at a station, station density and visibility are critical to success , rebalancing is a major element of operations, and users enjoy reliability. The local government has control over bike locations, level of service, and pricing because the systems are largely city or agency-owned.



Docked Bike Share station with a payment kiosk in the City of Chicago.

Feasibility in Rialto

Pros

- Station placement gives the city **control** over bike locations and **parking in the public right-of-way.**
- Contracting establishes **service level standards** including: pricing, maintenance, customer service, usage data, bike quality, and safety.
- Bike locations are **predictable** for users, which is particularly valuable for commuters and transit riders.
- Stations create a **physical presence** for the bike share system and **advertise** to new users.
- Status as "infrastructure," can establish a more l**ong-lasting system**.

Estimated Cost

Typical station with 8-10 bikes: $35,000 to $55,000
Operating fees: $2,000-$2,500 per bike per year.

Cons

- Stations with docks mean **higher system costs** than dockless or hybrid options.
- More **upfront work** is required to plan and design station locations.
- Station placement may require **permits and negotiation** with adjacent land owners.
- Reliance on sponsorship and grants can be **difficult to sustain.**
- **Lack of flexibility** limits the geographic reach and access to destinations for users.
- **Difficult and expensive** to upgrade system, as **technology** evolves.

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Dockless Bike or Electric Scooter Share Systems

What is Dockless Bike or Scooter Share?

Dockless bike and electric scooter share systems are a fleet of self-locking bikes or scooters without any fixed stations, docks, or kiosks. Users retrieve or park bikes or e-scooters anywhere within the service area using a smart phone app. They offer an appealing level of flexibility and are generally permitted to operate in cities rather than procured.

Defining Features: Compared to hybrid and docked, dockless systems provide more flexibility for users, but less city control over bike locations, pricing, and level of service. Because they are privately funded and operated, dockless bike and scooter share systems programs are offered in locations where there is sufficient market demand.

Dockless bike share bikes parked in a designated dockless parking zone.

Feasibility in Rialto

Pros

- System can be **launched more quickly** than docked or hybrid systems.
- Station planning and design is not necessary, which **saves time and money.**
- Due to **venture capital involvement**, little to no public funding is required.
- **Less city liability** for helmet laws.
- System is **highly flexible** for users.
- Can be **more affordable** for single-trip, **casual users.**

Cons

- Cities have **much less control** over dockless bike share systems compared to other system types, including the sustainability of the system.
- Dockless companies **determine where they operate** and are currently focusing on expanding into major markets and contiguous growth.
- Smaller cities **have less leverage** to **regulate** dockless companies than major markets.
- Bikes and scooters can be improperly parked and **obstruct the right-of-way.**
- Lower quality bikes may **negatively affect user experience.**
- Fleet can suffer **higher rates of vandalism and theft.**

Estimated Cost

Equipment and operations typically provided to cities at no cost. Companies are supported by venture capital and user fees.

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Hybrid Bike Share Systems

What is a Hybrid Bike Share System?

Also referred to as a "smart bike" system, this approach houses transactions on the bike rather than at a station. Stations, also called hubs, consist of branded racks for parking bike share bikes. Though stations are available, the program does not require that a bike be left at a station and it is permitted to be parked anywhere within the service area. The racks have no software or technology features (different than the dock-based "smart-docks"). Hybrid systems typically charge a fee to park outside of the stations or offer an incentive to park at the stations to encourage users to use the docks.

Defining Features: Offer the reliability and visibility of docked systems with the flexibility of dockless systems. City contracts or ownership provide control over implementation, but less ability to manage parking in the right-of-way once launched. Hybrid systems are found in cities of all sizes.

Hybrid Bike Share bike and docks in Orlando, Florida.

Feasibility in Rialto

Pros

- Sponsorship opportunities can create **community partnerships.**
- Station placement gives the city **control** over bike locations and **parking in the right-of-way.**
- Stations create a **physical presence** for the system and advertise to new users.
- Bike locations are both **predictable** and **flexible** for users.
- Users can more easily locate a **pod of bikes** for a group to ride.
- Status as "infrastructure," can establish a more **long-lasting** system.

Cons

- The hardware and software included on the bikes and the need for stations means **higher costs** than dockless systems, but lower than fully docked.
- Station placement may require **permits and negotiation** with adjacent land owners.
- Bikes or e-scooters can be improperly parked and **obstruct the right-of-way.**
- Time and funding for **rebalancing bikes**.
- **Difficult and expensive** to upgrade system as **technology** evolves.

Estimated Cost

Typical station with 8-10 bikes: $20,000 to $25,000.
Operating fees: $2,000-$2,500 per bike per year.

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Turnkey Bike Share Systems

What is a Turnkey Bike Share System?

To implement a turnkey bike share system, a city hires a company such as Zagster or VeoRide to provide "bike share as a service" for a defined amount of time. Instead of purchasing a full fleet of bikes and designing stations, a city rents equipment and contracts with the company for the full range of operations support, including: installation, operations, sponsorship, customer service, and maintenance.

Defining Features: Compared to docked, hybrid, and dockless, the full-service, turnkey model allows a city to implement bike share with limited staff capacity and capital investment, while maintaining meaningful city control. Turnkey models are common in smaller cities and campuses.

Turnkey bike share system run by VeoRide in Cedar Rapids, Iowa.

Feasibility in Rialto

Pros

- Requires limited city staff capacity to **quickly launch** and **operate** the system. Cities can determine the **appropriate level of customization**.
- System requires **minimal upfront commitment**, so it's easier for cities to try out bike share.
- Cities can select a **mixed fleet** with hybrid bikes, e-bikes, fat bikes, and/or e-scooters. Costs for **technology upgrades are built into the annual fee.**
- Service providers offer dockless bike and e-scooter **parking**.

Cons

- Cities d**o not fundamentally control the turnkey system**. They have more control than dockless, but less than hybrid or docked systems.
- **Service fees and prices for users can escalate** and be less predictable over time.
- Status as a "service" means that the system **may not be as long-lasting.** City must decide to maintain the contract every year.

Estimated Cost

Cost varies. For both operations and maintenance combined, Zagster quoted an average of $20,000 a year for two stations and ten bikes.

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