

# Bikes on the RiverLINE

## 4 year Status Report



Prepared By the Bicycle Coalition of Greater Philadelphia  
[www.bicyclecoalition.org](http://www.bicyclecoalition.org)

In March of 2004 NJ TRANSIT launched the RiverLINE Light Rail Service between Camden and Trenton, this 21<sup>st</sup> century transit line offers exceptional bike access to the trains. This was due to the design of very simple and easy to board high level platforms, and rail cars that were designed easily to accommodate bicycles, wheelchairs and strollers. The response among bicyclists was beyond all expectations, the latest survey by the bicycle Coalition of Greater Philadelphia estimates that 5% of the passengers brings their bicycle aboard. This is believed to be far higher than any other transit line in the Greater Philadelphia Region and the State of New Jersey.

This service however is not without it's problems A recent surge in regular ridership is testing the capacity of the system, indeed the ridership levels on the RiverLINE are matching levels on the long established SEPTA R7 line just across the Delaware River in Pennsylvania. As a result minor glitches with the bike access system become glaring problems when the crowds swell to standing room only. Some passengers have taken note and some passengers have been seen circulating a petition to ban bicycles on trains during rush hours.

But for many the service has become essential, anecdotal observations and various conversations with bicyclists indicate that the overwhelming majority of the bicycle trips being taken are for utilitarian purposes and has enabled people to access jobs and other services. Although Burlington County and New Jersey Transit have enhanced connecting suburban bus service, coverage remains sporadic. Transit service for the most part ranges from hourly to rush hour only. BurLINK buses do not run in the evening or on weekends. Bicycles are filling the gap for non-vehicular trips beyond walking distance from the station.

We hope that this report will provide an overall snapshot of a transit line that has embraced bicycle access and that its finding will be used to improve bicycle accommodation for the RiverLINE and transit vehicles nationwide.



Rider Exiting Train

## **The Trains and the Stations**

### **The On Board Racks**

Each RiverLINE Rail Car includes two passenger compartments is designed to hold 6 bicycles with three hanging bike racks in each compartment. For the most part NJ TRANSIT operates one car trains. During some high usage times two car trains holding 12 bicycles are used, the use of the two car trains is constrained by a lack of additional rail cars.

Racks consist of two elements. The front wheel is hung onto a hook and the rear wheel is placed in a wheel well. The three racks are staggered to keep the handlebars from tangling with the handlebars of the adjacent bike.

When bikes are placed on the racks straight they tend to sway, regular users have developed a technique of stabilizing the bikes by turning the front tire to the right, which causes the bike to lean right. The bike in the right side rack then locks on to the windscreen, the adjacent bicycle then rests on to the next bike to the right.

Two of the three bottom wheel wells are attached to folding seats. In theory these seats are there to handle overflow crowds but in fact they used quite often at other times especially on weekends.



Children like to sit there as well as people who like to put their feet up or store luggage. Regular commuters seem to be sensitive to the use of the bike racks and will usually respect the bicycle storage space unless the train is crowded.

There are other spacing issues of concern, the left hand rack is quite close to the front row seats, again right turning the tire can keep the bike away from passengers, but it is still a deterrent for cyclists to use the left hand rack. The center rack is quite high and hard to reach, especially for people who do not have good upper body strength, in fact lowering all the racks a few inches would go a long way in making them easier to use.



Close clearance between the left hand rack and the front seat deters rack usage

It wasn't noted in the observations but it appears that rack usage increases when there are at least two open racks and the front seats are not occupied. There also appears to be a sizable minority of people who don't bother with the racks at all.

Bicyclists not using the racks tend to sit in the folding seats in the center vestibule holding their bike close in.

### **The Station Platforms**

All RiverLINE stations are accessible to persons with disabilities with gradual ramps to the high platforms. The trains have a large center vestibule which when not crowded offer easy roll on access for bikes.

### **Bike Parking**

Many stations have wave racks adjacent to the platforms with the capacity to hold 3 to 4 bikes. These bikes are not under any sort of cover, meaning that when it rains the bikes get wet. The racks also appear to be out of the view of station surveillance cameras.

Bike rack usage at stations is below capacity and some stations such as Pennsauken the racks are hardly used at all. It was observed at Burlington Town Center and Palmyra that several bikes were locked to the platform railings.

Wave racks are better than poles or railings but they are not the best choice for bicycle parking, as bikes are not resting on two points of the rack, there is a tendency of the bikes to fall and for bike paint to chip. Bikes can also be parked sideways, reducing the capacity of the rack. The inverted



U racks that are common at NJ Transit Northeast Corridor and Atlantic City line stations are recommended by the Association of Bicycle and Pedestrian Professionals bicycle parking guidelines. (see attached).

With less than 20 stations averaging capacity of 3 – 4 bikes per station there is not nearly enough bike parking to reduce the number of people driving to the station, let alone reducing the onboard shortage of bike space. Data from the rest of the NJ TRANSIT rail system shows that bike parking usage at stations is more likely at stations that exceed parking lot capacity. However adding well placed, well designed racks sheltered from the elements may encourage more people to bike and ride.

### **Safe Bicycle Access to Stations**

Bicycle access to stations is critical for bicycle usage. Generally land use patterns along most of the line are conducive to bicycling to the station. Many people can bicycle along quiet residential streets to access the stations in towns such as Riverton, Burlington and Bordentown. The biggest barrier that bicyclists face is crossing US 130 which is about a mile from most of the stations. Florence Park and Ride is probably the most difficult for bicyclists to access since most of the destinations are along or beyond Route 130. Cinnaminson is also difficult to access for some as it lies along a stretch of River Road (route 543) that does not have shoulders.

County roads that lead to stations should be evaluated for bike lanes, as well as identification of hazards to bicyclists such as unsafe drainage grates (wheel grabbers) narrow shoulders and high traffic speeds.

Increasing well timed connecting bus service would help bicyclists overcome current barriers to bicycling such as crossing weather, major highways and bridges. More to the point though better transit services would provide more choices for people who must bicycle to the station. Questions about the choices between bus service and bicycle use should be asked on any bicycle rider survey that is developed.

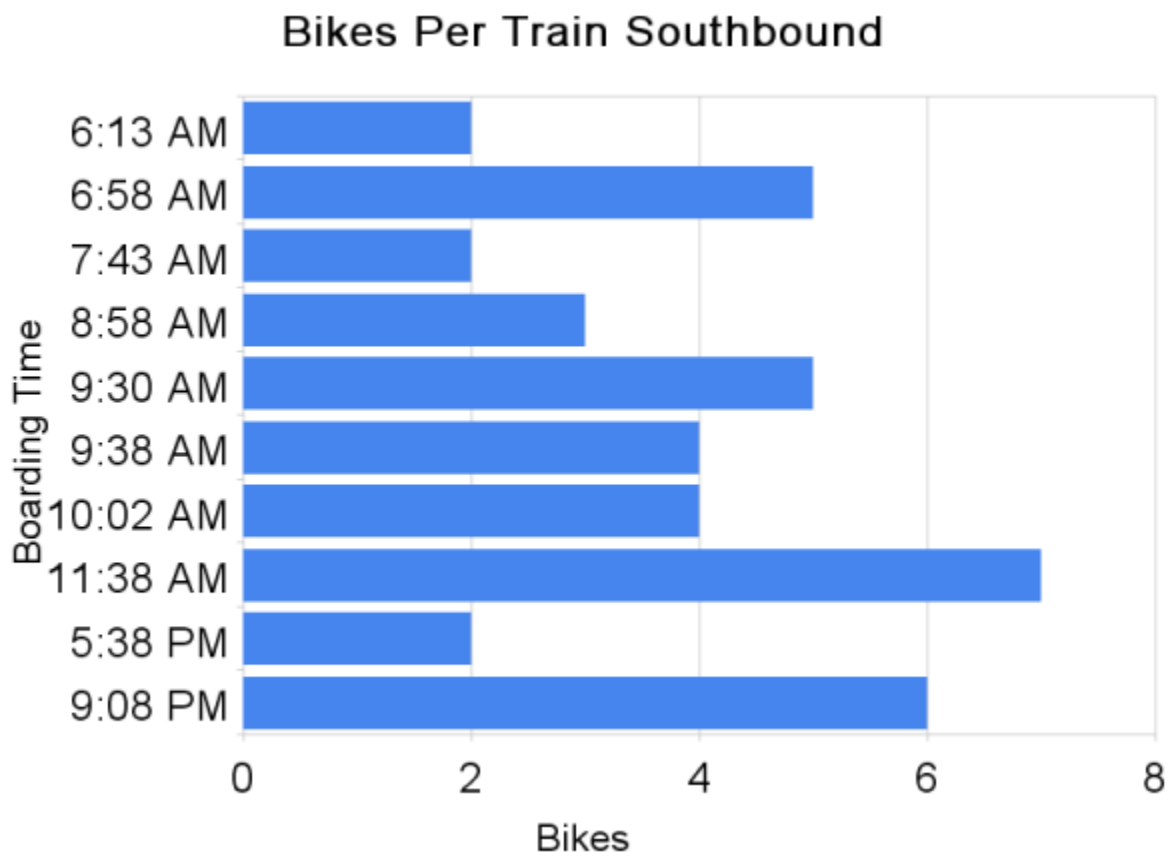


Cyclist making a bus connection at Beverly-Edgewater Park Station

### Bicycle Counts and Behavior

The one week observations of bicycle usage on the RiverLINE averaged 4.1 bikes per train. However the number is probably somewhat higher. None of the trips recorded every station stop and the average observed trip length was actually less than half the distance of the 34 mile rail line. However the majority of the observed trips were taken on the southern half of the route where most of the bike trips seem to be originating.

Mid Afternoon trips going northbound were the most frequent. 10 bikes were observed on the 2:59 PM Departure (Waterfront Entertainment Center) and 8 Bikes were observed on the 3:29 Departure. The lightest bike counts were observed going northbound during the AM rush 7-8:30. and 4:00 - 5:30 seemed to have overall lighter bicycle use. Early morning use is higher than rush hour and bike traffic seems to build after 9 AM.



Trips appeared to be relatively short, with many bicyclists get on and off at intermediate stations while the majority of non-bike passengers start or end their trips at the Walter Rand or the Trenton Transportation Centers. The average travel distance of observed cyclists was 7.5 miles (check spreadsheet). Bicyclists were observed boarding or alighting at all stations except Hamilton Ave and Florence Park Ride Station.

Popular station pairs include Trenton/Bordentown and Riverside/Walter Rand TC. The largest number of bicyclists waiting on the platform was 7 at the Walter Rand Transportation Center waiting for the 9:08 AM Weekday Departure. Only 4 of the 78 observed bicyclists were female,



helmet use was almost non-existent with only two riders carrying or wearing helmets. On bikes observed after dark none of them appeared to have lights.

Low helmet and light usage are indicators of the cyclists skill level. The interior ad card space on the RiverLINE offers an opportunity to put out a bike safety message to a captive audience.



## Recommendations

### **Mitigation of Peak Hour Conflicts**

- Encourage cyclists to use 2 car trains in schedules
- Encourage northbound Camden cyclists to use Cooper St or Aquarium Stations to avoid Walter Rand crowds
- Use interior ad cards to instructs cyclists to use the racks and for other passengers to yield the space for bikes
- Police enforce rack use during peak hours

### **Improving Bicycle Rack Function**

- Remove the folding seats, creating a dedicated bikes only space
- Retrofit racks to stabilize bicycles so they do not sway
- Lower the rack height several inches to make it easier to attach and remove bicycles from racks.
- Install a divider between the front forward seats and the racks.

### **Improve Bicycle Parking Usage at Stations**

- Replace wave racks with inverted U racks
- Place racks under cover close to the station platform
- Place racks in view of surveillance cameras
- Put up bicycle parking signage

### **Improving Safe Bike Access to Stations**

- Work with County and State DOT's to plan and implement bike lanes on busier streets
- Use interior ad cards to promote bicycle safety

### **Other Recommendations**

- Survey Bicycle Passengers
- Include Bicycle Counts in Regular Passenger Counts
- Make bicycle safety information available on trains or at stations
- Create a brochure for bike on rail passengers
- Improve connecting transit service

## **Conclusion**

Bike on rail is an overwhelming success, and usage is matching increasing ridership on the RiverLINE. But increased ridership has also resulted in more conflicts between bicyclists and other passengers. Implementing minor changes to bicycle access procedures can minimize conflicts and

