

### Section 3 Rockford Mass Transit District

The Rockford Mass Transit District (RMTD) is the public mass transit carrier for the Rockford Metropolitan Area, providing weekday, Saturday and Sunday fixed-route and paratransit service to the cities of Rockford and Loves Park, and the Village of Machesney Park. RMTD currently maintains a fleet of 39 full-sized buses and 26 paratransit vehicles.

Bike racks on buses are an enhancement that has been growing in popularity nationally with both public transit agencies and the general public since the passage of the Intermodal Surface Transportation Equity Act (ISTEA) in 1991. They are seen as a safe and convenient component of a multimodal transportation network, providing bicycle connections for transit passengers outside traditionally acceptable walking distances. External storage removes the on-board passenger/bicycle conflict that resulted from earlier attempts to accommodate the bicycle riding public on mass transit vehicles. After a decade of use in more climate-friendly states, bike racks now are being mounted on transit vehicles throughout the Midwest, with increasing usage and popularity.

The RMTD currently does not have a program to accommodate bicycles. Pedestrian/bike connections currently are made within the roadway network, without the benefit of dedicated facilities. Bicyclists intending to use buses as a part of their journey are required to make their own provisions for storage, usually securing bicycles to immovable street furniture. RMTD is committed to implementing a “bikes on buses” program within the next two years. RMTD supports the concept of bicycle racks, storage facilities, and other passenger amenities on the transit system. In order to arrive at this milestone, several concerns (i.e. Downtown Transfer Center geometry, vehicle storage, bike rack purchase, bus operator and maintenance staff instruction, and community education) need to be addressed.

#### 3.1 Existing Conditions

RMTD operates a full service bus transfer center and passenger terminal within the downtown area. Bus operations are confined to a counter clockwise east to north L-shaped terminal loop around the RMTD administration and bus maintenance building (See **Figure 3-1, RMTD Transfer Facility**). RMTD buses operate in 21 separate diagonal berths along both sides of the terminal. They are dispatched in a pulse operation controlled by signals. Their presence is detected by imbedded pavement loops at the head of each bus bay. In order to maximize available loading platforms, buses pull into a perpendicular concrete barrier and leave on signal by backing into the travel lane. A signal operation ensures that buses are adequately spaced to avoid vehicle conflict.

Bus passenger interchange is accommodated in the terminal from the front door of the bus. Raised passenger boarding platforms are provided with 12-foot openings, measured linearly along the side of the bus. Pedestrians are prohibited from leaving the raised platforms and entering the terminal roadways at all times.

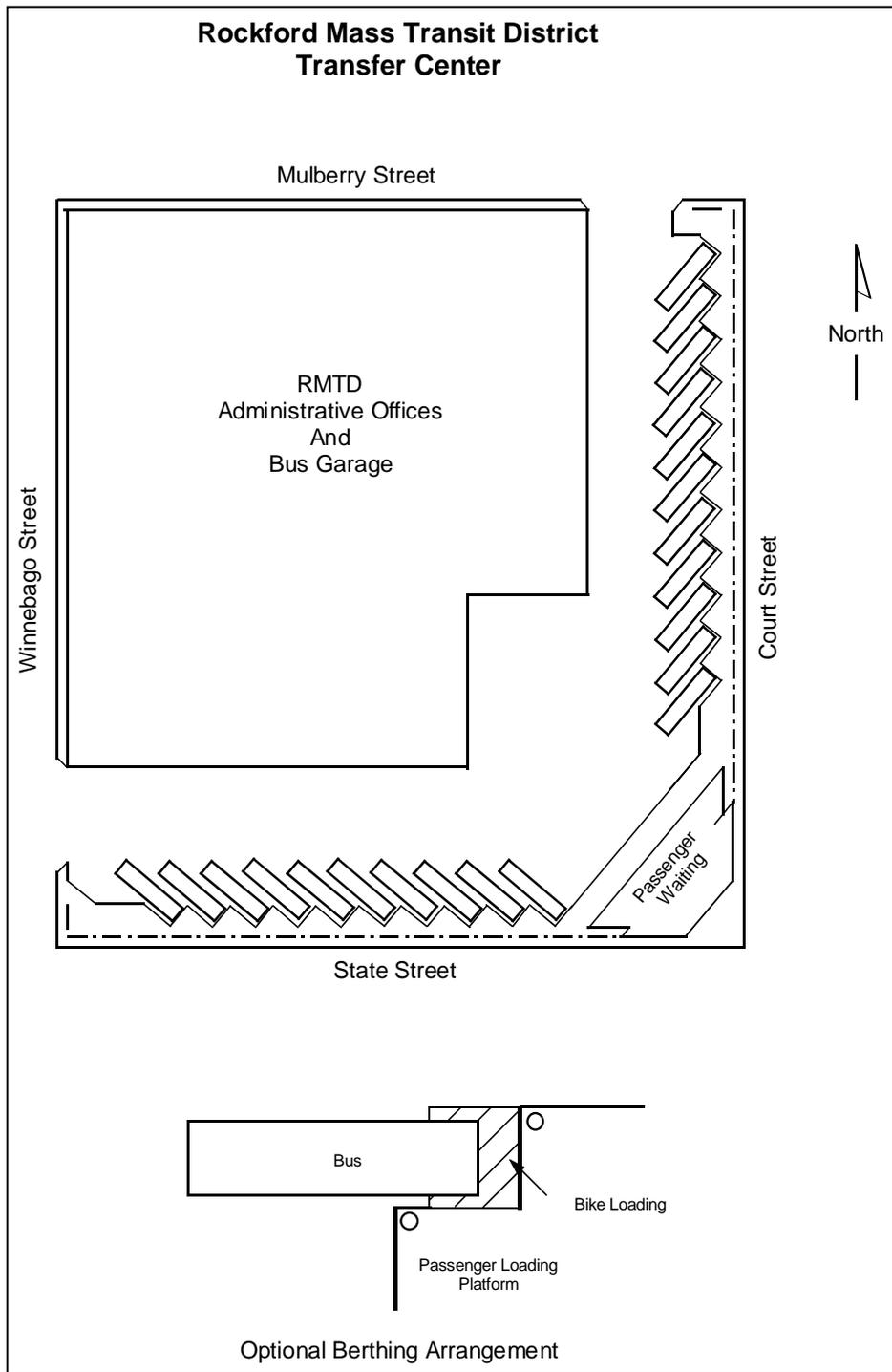


Figure 3-1  
RMTD Transfer Facility



**Diagonal Berths**

As a result of the current RMTD bus operations and geometric configuration of the terminal, pedestrian access to front-mounted bike racks would not be feasible without terminal roadway reconfiguration.

In addition to its terminal operation, RMTD maintains a central bus storage facility at its downtown headquarters building. This facility currently is operating at capacity, with limited additional space to accommodate additional vehicles or peripheral vehicle extensions, such as front-mounted bike racks.

This condition would make the

successful integration of bike racks contingent upon a space saving design presently in use in the transit industry.

### **3.2 Proposed Improvements**

In order to implement its “bikes on buses” program, the RMTD is including adjustments to its capital program that are necessary to accommodate front-mounted bike racks on its route network. They have programmed funding for the purchase of bike racks, identified additional storage capacity that will become available with the completion of the paratransit vehicle storage building described within this section, and investigated geometric changes to their transfer center.

#### Downtown Transfer Center

RMTD has begun to investigate two alternatives to incorporate the operation of front mounted bike racks in the downtown transfer center. The first alternative is to maintain the existing geometric footprint and install concrete loading platforms at the head-end of each bus bay (See **Figure 3-1, RMTD Transfer Facility**). This would require relocating the existing loop detectors further into each bay to maintain their current efficiency.

Platform extensions would provide a safe refuge for passengers to maneuver between the existing barriers and the front end of the bus to access the bike rack. The raised curb would accommodate this action without an elevation change and would act as a wheel stop to maintain the integrity of the new alignment. This accommodation for bike rack

accessibility maintains an adequate width of platform for front door boarding/alighting activity.

The second alternative is to maintain the existing pavement and to install wheel stops to provide suitable spacing from the existing front end barriers. This option would reduce the initial cost and could be accomplished by providing safe haven pavement markings at the head end of each zone. Detector loops could remain in their present location. Access to the rack would require an elevation change and invite passengers onto the asphalt surface which currently is prohibited at all times. The critical component of this option is appropriate signage and pavement markings that convey exactly where the front edge of the approaching bus will stop, and when passengers may leave the raised sidewalk.

Within the downtown transfer center, bicycle storage facilities are recommended. The bicycle storage should be visible, accessible, convenient, and easy to use. Bicycle lockers and stationary bike racks should be considered. Bicycle lockers cost approximately \$1,000 to install. These lockers can accommodate two bicycles and are protected from outdoor elements. Rents could be collected as designated by the RMTD. The lockers are more secure than open racks and serve better for long-term storage. Stationary bike racks can accommodate two bikes and cost approximately \$150 to install. The racks should support the frame of the bicycle and allow the frames and both wheels to be locked to the rack if the front wheel is removed. If possible, racks should be placed in areas protected from rain, snow, and other outdoor elements ([www.bicyclinginfo.org](http://www.bicyclinginfo.org)).

#### Paratransit Storage Facility

RMTD is planning for a new para-transit storage facility in the downtown area that will provide storage for their fleet of 26 paratransit vehicles, which will relieve the storage concerns in the existing downtown bus garage. Additional space will provide adequate vehicle spacing for bus operator inspections and front end maintenance, and will minimize damage to racks from incidental contact that results from a bumper-to-bumper parking alignment. The paratransit storage facility is projected to be available by the start of the “bikes on buses” program.

#### Bus Bicycle Racks

RMTD has committed to the installation of front-mounted bike racks on its full sized bus fleet for the beginning of the “bikes on buses” program. The next step in the process should be identifying an appropriate design and supplier.

The transit industry generally uses a retractable two-bike rack. The major suppliers of these racks are Sportworks Northwest (Woodenville, Washington) and Byk-Rak (Owasso, Michigan). Sportworks Northwest has bike racks on buses in all 50 states, including the Chicago Transit Authority, Pace, Bloomington Normal Public Transit, Greater Peoria Mass Transit District, Rock Island Metropolitan Mass Transit District, and Champaign-Urbana Mass Transit District in Illinois.



**Bike Racks on Buses**  
(Source: Sportworks)

The retractable bike rack manufactured by Sportworks extends between 5.5 and 7.5 inches from the back of the faceplate assembly in the upright, stored position. When deployed, it measures 27 inches from the back of the faceplate assembly to the forward edge of the rack.

Sportworks has furnished bike racks to the Chicago Transit Authority and is working to have bike racks integrated into the design of bus bumpers.

Bike racks on buses are becoming standard equipment on new buses. This eliminates the need to install individual units and ensures their availability at the time of vehicle delivery.

### 3.3 Public Funding

Two major funding elements are required for the initiation of the “bikes on buses” program. These are the design and improvements to the Downtown Transfer Center and the bike rack purchase.

RATS has amended the 2006 Transportation Improvement Program (TIP) to include \$40,000 for RMTD to purchase 40 bike racks. Bike racks are an eligible transit enhancement under the federal transportation bill, Safe, Accountable, Flexible, Efficient Transportation Equity Act-A Legacy for Users (SAFETEA-LU), that provides for a one percent set aside of Section 5307 funding for transit enhancement activities. This program would require \$8,000 in local and state funds to match \$32,000 in federal dollars.

A proposed redesign of the Downtown Transfer Center will include the island extensions and the relocation of embedded loops to accommodate “bikes on buses.”

### 3.4 Education

The current standard bike rack design used by transit properties is relatively simple to use, and its operation has proven to be understood easily by bus operators, maintenance personnel, and the riding public. Rules and procedures are developed by each agency, but they are relatively similar throughout the transit industry.

### Operator/Maintenance Training

A major concern with any new program adopted by a transit system is driver instruction. With the implementation of the bike rack program, a training program should be established that adequately communicates information on the operation of the new equipment and the drivers' responsibilities related to that equipment. Although bus operators will not be involved directly in the placement of bicycles on bike racks, familiarity with the proper use and operation of the bike racks is imperative for the safe and efficient operation of the transit system.

The initial concern of bus operator instruction is the effect of the extension of the bike rack in front of the bus. The design now being used extends between 5.5 and 7.5 inches in the upright position, 27 inches in the deployed position. The rack extends approximately 10 inches beyond the current turning radius. The rack does not create any identifiable vision obstructions.

Bike rack operation is communicated easily to passengers using a step-by-step approach<sup>1</sup>. Literature is readily available that describes the manner in which to approach the vehicle, how to engage the rack, how to secure the bike, and what liability is expected. Sportworks provides a short video to its clients to further illustrate the ease of operation, as well.

Transit agencies generally do not require the operator to assist and, in fact, prohibit the operator from leaving the seat to provide such help. When observing a passenger intending to use the rack, bus operators are expected to stop the bus, wait for the passenger to secure the bicycle properly, and to observe that the bicycle is secure before proceeding.

### Public Training

In addition to establishing an operator training program, education of the public is necessary to ensure the success of this program. Transit agencies have approached this issue with press releases, brochures, schedule book inserts, and web site features. They have supplied personnel to demonstrate the proper use of bike racks at community meetings and events, and have worked with bicycle organizations to communicate the proper use of bike racks.

One instruction tool used successfully by the Chicago Transit Authority (CTA) is the installation of a bike rack on a portable platform that is available for bike user events. This allows prospective users to become familiar with the procedures in a non-threatening environment.

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<sup>1</sup> Information regarding bike rack operation has been passed to the RMTD. It includes step-by-step instructions and illustrations demonstrating the proper use of the bike racks.