CITY OF MERCED
Development Services

TO: Bicycle Advisory Commission
FROM: Kim Nutt, Planning Technician II
DATE: August 28, 2012
SUBJECT: Development of Design Standards – Bicycle Parking

ACTION REQUIRED: None (for your information)

DISCUSSION:

On December 14, 2010, the Bicycle Advisory Commission (BAC) considered and approved a number of required elements that they wished to have the City of Merced include in developing a new Engineering Design Standard for bicycle parking, with "Phase 1" being the recommendations for short-term bicycle parking (bike racks) (Attachment A). Phase 2 was to ask the BAC for its recommendation regarding long-term bicycle parking, such as bike lockers.

Planning staff had compiled and forwarded the recommendations to the Engineering Department; however, since that time, Development Services Department and other departments were undergoing staff reductions, as well as dealing with several high-priority engineering projects, and have not been able to work on it.

Planning and Engineering staff are now teaming up to see the new Standard to a finished state. It will join other Standards that have also needed updating for City Council adoption. A timeframe, unfortunately, is not available at this time, but work *is* progressing. The BAC will be provided an opportunity to review and comment on the draft Standard. Work on the Standard for long-term parking, which was to have been Phase 2, will probably be included in the draft, in the interest of time-savings.

Attachments:

A. December 14, 2010, BAC-recommended required elements for short-term bike racks

DESIGN AND SITE PLANNING REQUIREMENTS FOR SHORT- AND LONG-TERM BIKE PARKING:

<u>Short –Term Parking - Bike Racks</u>:

1. The City of Merced requires that bike racks are designed to:
   a. Support the bicycle on a horizontal plane in at least two places, to prevent it from falling over, and to prevent the front wheel from tipping or flopping over.
   b. Support bicycles without a diamond-shaped frame or a horizontal top tube (e.g., a women's or step-through frame).
   c. Allow locking of the frame and one or both wheels with a U-lock.
      i. Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle.
      ii. Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle.
   d. Resist cutting, rusting, and bending/deformation and are constructed of durable materials with scratch- and vandal-proof finishes, and few, if any, moving parts.
      i. Minimum 1½-inch Schedule 40 or 80 (preferred) steel, with a powder-coated (requires more maintenance) or thermoplastic-coated (preferred) finish to match surrounding street furniture or building colors. If uncolored, rack shall be of stainless steel with a smooth, finished appearance.
      ii. Square tubing, to resist cutting/crimping of tubing by metal cutters
      iii. Acceptable moving part(s): permanently-attached cable(s) with eyelets; or chain.
2. Acceptable rack designs: Inverted-U single rack and series (on rails or individually mounted); Post and Ring; and Undulating. The front wheel may also be stabilized with a "wheelwell secured" rack design, which provides a well or cradle for the tire. Not permitted: "wheelbending" racks that provide no support for the bicycle frame. All rack designs shall accommodate both conventional bicycle types as well as non-traditional types such as recumbent, adult tricycles, folding bikes, tandems, and others.
3. Inverted U racks shall be a minimum of 32 inches high, and 24 inches wide, and may be circular in shape, if desired (square tubing still required).
4. Innovation and artistic expression in rack design is permitted and encouraged, provided the rack design fulfills the basic requirements of security (locking frame and at least one wheel and anchored to the ground) and stability (supporting the bicycle in at least two places along a horizontal plane), and that obstacles, hazards, or obstructions for pedestrians and/or persons with disabilities are not created. Such innovative rack designs must be individually approved by the City Engineer to ensure compliance with these requirements.
5. Rack Placement and Site Planning
   a. Racks shall be placed along the "desire line" from adjacent bikeways (e.g, the path that cyclists are most likely to travel) convenient to the cyclist's destination and no more than 100 feet from the door *(staff note: meets CALGreen Code mandatory minimum requirements)*.
   b. Rack shall be located in a high-traffic area with passive surveillance or eyes on the street.
   c. A minimum of 2 feet of clearance is required around the rack for users to be able to access and securely lock bike from the side.

ATTACHMENT A

d. There shall be a minimum space of 5½ feet for pedestrian right-of-way outside the rack footprint, and in areas of potentially heavy pedestrian traffic, there shall be a minimum of 7 feet of clearance.
e. On sidewalks 10-14 feet in width, racks shall be installed parallel to the curb so as to maintain proper pedestrian space on the sidewalk. One sidewalks greater than 14-feet-wide, or where racks are placed in the roadway, racks can be placed perpendicular to the curb. Angled parking can also be considered, in areas with more space constraints. Bike racks shall not be installed on sidewalks narrower than 10 feet, unless proper clearances can be obtained through other methods.
f. Multiple individual racks installed parallel to the curb, end to end, must be separated by a minimum of 48 inches; however, 72 inches is preferred.
g. Multiple racks placed perpendicular to the curb, side-by-side, must be separated by a minimum of 36 inches; however, 48 inches is preferred. Proper side-by-side spacing is required to avoid handlebar/rack/basket conflicts.
h. Racks shall be located a minimum of:
    i. From face of curb, so that the rack and bike cannot be inadvertently hit by the overhang of a car as it parks: 24 inches.
    ii. From obstacles such as utility boxes/grates, newspaper racks, mailboxes, sign and light poles, driveways, street/transit furniture, benches, refuse receptacles, bus shelters, etc.: 36 inches.
    iii. From red zones, loading zones, blue disabled parking zones, curb ramps, and crosswalks: 4 feet.
    iv. From fire hydrants: 5 feet.
i. Racks shall not be installed over rain water leaders or drain lines under the sidewalk.
j. Where practical, bike parking shall be identified by a sign at the visitor entrance; recommend signs D4-3 and G93C(CA) in the California Manual on Uniform Traffic Control Devices.
k. Bike racks should be in a well-illuminated area for nighttime use and weather-protected, by placing racks under existing structures or installing free-standing structures when possible.
l. Bicycle racks on or adjacent to sidewalks and plazas shall be detectable by the visually impaired and should not include tripping hazards or obstacles. A detectable device shall be added for racks that cannot be located outside the pedestrian path of travel.
m. For large developments, such as shopping centers, it is best to have greater number of smaller-capacity racks than fewer multi-capacity, larger ones. Keep in mind that cyclists tend to pass up available bike parking unless it is very close, i.e. within view of, their destination
n. Are securely anchored to the ground.
    i. Tamper-proof anchors for flange mounting or securing rail-mounted racks are required.
    ii. Insert (Table 2-4) from APBP Bike Parking Guidelines, 2nd Edition (bike rack mounting options).

6. Required number of short-term bike parking spaces:
    a. Residential
    b. Commercial
    c. Industrial
    d. Public Facility

<u>Long-Term Parking - Bike Lockers, Bike Cages, etc.</u>:

1. The City of Merced requires that bike lockers are designed to:
    a. Fully enclose the bicycle.
    b. Provide some weather protection.
    c. Resist tampering and vandalism.
        i. Locking mechanism shall employ a digital “smart” lock, such as a magnetic-stripe card, proximity cards or fobs, keypads, etc..
        ii. Reservation systems are encouraged, to enable trip planning by cyclists.
        iii. If a digital “smart” lock program is not available, a recessed internal mechanical lock using a mechanical key assigned to the user through a locker management program is acceptable.
        iv. User-provided locks are not permitted, due to ease of theft and inability to inspect the contents of the bike locker by management officials/police.
    d. Be of powdercoated fireproof metal material, see-through perforated panels. Tops may be of solid metal in unsheltered areas to protect contents from rain.
    e. Door frames shall be of high-quality secure construction with minimal gaps, to eliminate door sag and limit areas where door can be pried open.
    f. Locker doors shall open to at least 90 degrees to allow easy loading/unloading.
    g. Stacked lockers shall have a wheel track to guide the bicycle into the locker.
2. Long-Term Bike Parking Placement and Site Design:
    a. Lockers must anchor security to the ground.
    b. Parking area shall be easily accessible and clearly signed as bike parking.
    c. Controlled, higher-security access shall be provided via the following methods:
        i. Leased (keyed or smartcard) lockers
        ii. On-demand (self-lock or smartcard) lockers
        iii. Keycard/code access garage cage or bicycle room
    d. Safeguards for users such as effective lighting and visible surveillance cameras or security guards.
    e. Weather protection: free-standing shelter or indoor cage or room.
    f. Directions for use shall be clearly posted on.
    g. Information about how to sign up for lockers/rooms (leased or smartcard on-demand) shall be clearly posted.
3. Required number of long-term bike parking spaces:
    a. Residential
    b. Commercial
    c. Industrial
    d. Public Facility