CITY OF NORTH MIAMI

Bike, Park and Ride
A Plan for Connecting Bicycle Parking and Transit

Prepared for

NORTH MIAMI
FLORIDA

In conjunction with

MIAMI-DADE MPO

Prepared by

Kimley-Horn and Associates, Inc.

JUNE 2009
Why Is Bicycle Parking Important?

- Accessing destinations
- Safety and security
- Extending the ride
- Encourages alternative transportation
- Requires less space than automobile parking
- Consistent with transportation demand management strategies
- Promotes sustainability
Examples of Bicycle Parking
Examples of Bicycle Parking
Examples of Bicycle Parking

Bicycle Parking at a Transit Station in France
Examples of Bicycle Parking

Central Train Station, Groningen, Netherlands
Example of a Bicycle Sharing Program

Vienna, Austria
Purpose

• Prepare a Transit-Oriented Bicycle Parking Master Plan
  • Inventory of existing bicycle parking facilities
  • Conduct a needs assessment of existing demand
  • Identify the feasibility of creating a bicycle oriented park-and-ride system at major public transit hubs

• Update the City’s Future Bicycle Network concurrently

• Develop a Bicycle Parking Master Plan that is consistent with the proposed bicycle network
Background
Existing Bicycle Parking Inventory

- 3 days of bicycle parking counts
- “Designated” and “Undesignated” bicycle parking
Existing Bicycle Parking Inventory

Undesignated Bike Parking – NE 125th Street between NE 9th Avenue and NE 10th Avenue
Existing Bicycle Parking Inventory

Designated Bike Parking – Two bikes chained to a rack at Home Depot on Biscayne Boulevard and NE 121st Street
Existing Bicycle Parking Inventory

Undesignated Bike Parking – Three bikes at a bus stop pole on Biscayne Boulevard and NE 135th Street
Code Review

- North Miami is developing new guidelines/requirements for the provision of bicycle parking in vehicular parking lots that appear to be consistent with the County’s Code

<table>
<thead>
<tr>
<th>Total Parking Spaces in a Lot</th>
<th>Required Number of Bicycle Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 to 50</td>
<td>4</td>
</tr>
<tr>
<td>51 to 100</td>
<td>8</td>
</tr>
<tr>
<td>101 to 500</td>
<td>12</td>
</tr>
<tr>
<td>501 to 1000</td>
<td>16</td>
</tr>
<tr>
<td>Over 1000</td>
<td>Four (4) additional spaces for each 500 parking spaces over 1000</td>
</tr>
</tbody>
</table>
# Best Practices Review

## Comparison of Bike Parking Standards in Cities Reviewed

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Miami-Dade County, FL</th>
<th>Boca Raton, FL</th>
<th>Tallahassee, FL</th>
<th>Gainesville, FL</th>
<th>San Luis Obispo, CA</th>
<th>Denver, CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking based on land use/zoning</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ratio based on motor vehicle parking spaces</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Separate short-term and long-term parking requirements</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Requires bicycle rack location criteria</td>
<td>Yes</td>
<td>Yes (lighting, site design, urban design)</td>
<td>Yes (lighting, site design, urban design)</td>
<td>Yes</td>
<td>Yes (lighting, site design, urban design)</td>
<td></td>
</tr>
<tr>
<td>Security Features</td>
<td>Bike storage required when more than 101 car parking spaces on site. Bike racks with &quot;U&quot; lock to lock frame and one wheel.</td>
<td>Fully enclosed lockable space for long term parking</td>
<td>Anti-theft requirements included</td>
<td>Individual locker spaces and racks required</td>
<td>Bicycle lockers required for long-term parking</td>
<td>Inverted U-type bicycle rack required. Other bicycle security criteria included</td>
</tr>
<tr>
<td>Incentives for additional bicycle parking</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes. Reduction in car parking requirements</td>
<td>No</td>
</tr>
<tr>
<td>Salient Features</td>
<td>• Location close to building entrance • Requires existing developments to comply with bicycle parking requirements</td>
<td>• Bicycle routes connecting all bicycle parking facilities, both private and public</td>
<td>• Requirements to accommodate a range of bicycle shapes and sizes</td>
<td>• Reduction in bicycle parking is allowed on a case-by-case basis if other public parking is available nearby</td>
<td>• Bicycle racks for short-term parking • Bicycle locker requirement for long-term parking • Bicycle lockers or storage space requirement of 2 bicycles per residential unit</td>
<td>• Size, color &amp; location requirement • Rack requirement within 50 feet of building entrance</td>
</tr>
</tbody>
</table>
Recommended Code Revisions

2. Quantity of bicycle parking spaces required
   a. For all land uses except the ones listed under 2b, the following bicycle parking requirements shall apply:

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<tr>
<th>Total Parking Spaces in Lot</th>
<th>Required Number of Bicycle Parking Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 25</td>
<td>2</td>
</tr>
<tr>
<td>26 to 50</td>
<td>4</td>
</tr>
<tr>
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</tr>
<tr>
<td>101 to 500</td>
<td>12</td>
</tr>
<tr>
<td>501 to 1,000</td>
<td>16</td>
</tr>
<tr>
<td>over 1,000</td>
<td>four (4) additional spaces for every 500 parking spaces over 1,000</td>
</tr>
</tbody>
</table>

   b. For the uses listed under this subsection the following bicycle parking requirements shall apply:

   - Elementary schools, Middle schools, Senior high schools, vocational or trade schools, colleges, public, private or parochial – 100 percent of the required number of motor vehicle parking
   - Dormitories, fraternities and sororities – 50 percent of the required number of motor vehicle parking
   - Public or private transportation facilities – 20 percent of the required number of motor vehicle parking
   - Sports and Recreation Facilities (parks, playgrounds, bowling alleys, racquetball, tennis and similar court facilities) – 20 percent of the required number of motor vehicle parking
Updated Future Bicycle Network Map

Figure 6
Updated Future Bicycle Network

Legend
- Primary Routes
- Secondary Routes
- Existing Off-Street Paths
- Local Routes
- City Boundary

City of North Miami
Bicycle Parking and Transit Feasibility Study

Kinley-Horn and Associates, Inc.
Bicycle Boulevards

- Bicycle Boulevards
  - A hybrid bicycle facility that uses various methods and forms to improve **bicycle safety, convenience and connectivity** to make bicycling a preferred option through a variety of improvements
  - Bicycle boulevards enhance “share the road” facilities
Bicycle Boulevards

• Bicycle Boulevards
  – Unique signing
  – Pavement markings
  – “Reverse” the Stop Signs
  – Combine with Traffic calming
Transit Park-and-Ride Feasibility
Transit Park-and-Ride Feasibility

Figure 5
Proposed Bicycle Park-and-Ride Locations

- Potential FEC Corridor Stations
- Proposed Bicycle/Transit Connections
  - Bus Stop
  - NOMI Bus Route
  - MDT Bus Route

0 0.375 0.75 1.5 Miles
Implementation Strategies

• Short-Term Bicycle Parking (on-street)
  – Within the Central Business District (Downtown North Miami)
  – Along major roadway corridors with heavy retail and office
  – At proposed transit-bicycle park-and-ride locations

• Short-Term and Long-Term Bicycle Parking (site-specific)
  – At public buildings and facilities
  – At all parks and recreational facilities
  – At future rail transit station
Implementation Strategies

• Preferred Short-Term Bicycle Parking
  – Inverted-U
  – Post-and-ring

Inverted-U rack (2 parking spaces)  Post-and-ring rack (2 parking spaces)
Implementation Strategies

- Bicycle-Transit Park-and-Ride Examples

On-street bicycle parking near bus stops
Implementation Strategies

- On-street bicycle parking “corrals”
Implementation Strategies

• Preferred Long-Term Bicycle Parking
  – Bike rooms
  – Bike lockers

Bike Rooms

Bike Lockers
Installation Mistakes to Avoid

- Examples of Bad Bike Rack Design
  - Installed too close to obstacles
  - Only one point of contact between the bicycle and rack
  - The rack only supports one bicycle wheel

Serpentine rack too close to obstacles

The “Wheel Bender”
Implementation Strategies

- Estimated Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated Quantity</th>
<th>Unit Cost</th>
<th>Estimated Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Racks</td>
<td>146</td>
<td>$300</td>
<td>$43,800</td>
</tr>
<tr>
<td>Bicycle Lockers</td>
<td>10</td>
<td>$4,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Signage</td>
<td>100</td>
<td>$300</td>
<td>$30,000</td>
</tr>
<tr>
<td>Advertising Costs / Brochures</td>
<td>(20%)</td>
<td></td>
<td>$22,760</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$136,560</strong></td>
</tr>
</tbody>
</table>
Thank You

• Upcoming Steps
  – Submit Final Report
  – Present to City Council

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