Grant Amount $171,000

Time Frame July 2003 – September 2004

With funding from a Caltrans Community Based Transportation Planning Grant, Bikestation® and Los Angeles County Metropolitan Transportation Authority (Metro) developed the Los Angeles County Bike-Transit Center Implementation Plan (BTCIP). The BTCIP lays the groundwork and sets standards for creating a network of bike-transit centers with Metro transit throughout the County and provides tools that could be implemented by other cities and agencies.

Why are bike-transit centers important?

Shifting park-and-ride users to bike-and-ride users represents enormous economic, environmental, and customer benefits to Metro:

1. Moving just 100 short-distance commuters from driving a car to riding a bicycle could represent a park-and-ride capital savings of $850,000 to $2.5 million.
2. This shift would also free up valuable car-parking spaces at impacted lots for long-distance commuters.
3. Bicycle results in air quality benefits.
4. Bike-transit centers help reduce the number of vehicles on the roadway system, thereby furthering Metro’s Transportation Demand Management strategy.
5. Bike-transit centers have the potential to help capture a customer base untouched by Metro’s current facilities.

Summary of Activities

The following is a summary of the activities that were undertaken as a part of the BTCIP:

• Creation of project goals, methods, and timeline
• Formation of a Technical Advisory Committee and local sub-committees comprised of representatives from each of the communities, project partners and technical experts
• Multiple meetings with representatives of each committee, end-user demand and pricing surveys at 3 Metro stations, and a focus group in Santa Monica
• Bicycle parking survey of 15 different transit agencies and municipalities countrywide
• Preparation of L.A. County Bike-Transit Center Network Plan and Tool Kit, and Implementation Plans for the four communities involved in the project: Pasadena, Norwalk, Los Angeles (North Hollywood), and Santa Monica

Each of the participating communities now has a plan or “tool kit” for implementation of at least one bike-transit center. In addition, the tool kit was developed so that other communities in the greater L.A. area who were not selected to participate in this study could easily plan and implement their own bike-transit center(s).
The tool kit contains the following information:

1. Site and Location Analysis
2. Demand Analysis
3. Design Standards and Models
4. Site Planning
5. Access Control and Membership Management Systems
6. Operating Scenarios and Strategies
7. Marketing Guidelines
8. Pricing
9. Funding Options
10. Case Studies

For more information, contact Lynne Goldsmith at 213.922.3068, Metro Bicycle Program
# Table of Contents

## Section 1: Introduction and Executive Summary  
Introduction 2  
Executive Summary 5

## Section 2: Bike-Transit Center Tool Kit  
Purpose 12  
Site and Location Analysis 15  
Demand Analysis 19  
Design Standards and Models 23  
Access Control and Membership Management System 38  
Operating Scenarios and Strategies 41  
Marketing Guidelines 45  
Pricing 47  
Costs and Funding Options 52  
Case Studies 55

## Section 3: Implementation plans  
City of Pasadena 63  
City of Norwalk 77  
City of Santa Monica 91  
City of Los Angeles (North Hollywood) 99

## End Notes  A
SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY
SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

INTRODUCTION

Los Angeles County is home to one of the most diverse populations and collections of urban communities in the nation. With 10 million people, the county is also the nation's most populous. The county is faced with the enormous challenge of trying to sustain the transportation needs of its current population while preparing to accommodate the growth of nearly 3 million more people by 2025. During the last 50 years, the population growth was accommodated with an extensive auto-oriented system. This system brought considerable prosperity; however, further expansion into existing urban areas will likely result in serious community impacts that could compromise our quality of life.

Over the past decade, Los Angeles County has experienced a transit renaissance with the re-introduction of rail transit service. As the county’s transportation authority, Metro has developed almost 73 miles of rail transit connecting the communities of North Hollywood, Long Beach, Norwalk, Pasadena, Redondo Beach and dozens of points in between with downtown Los Angeles. In addition, Metro supported an expanding network of bus rapid transit corridors (Metro Rapid) that augment the rail system by connecting many more communities together.
In addition to transit improvements, some cities across the county are rediscovering their downtowns and boulevards by developing "smart growth" tools to promote more sustainable development, making walking, bicycling and transit more viable options to driving alone. The following pyramid is a simple representation of how sustainable transportation planning would look to portray the number of trips of each mode placing greater emphasis on walking, bicycling and transit use while using the car for special trips.

Metro has promoted the development of bicycle facilities throughout the county as part of the Long Range Transportation Plan and the Call for Projects grant process that award funds to cities for eligible bicycle projects, such as bicycle paths, on-street bike lanes and bicycle parking facilities in the Bikeway and Transportation Demand Management categories.
EXECUTIVE SUMMARY

The purpose of this project is to lay the groundwork for development of a network of bike-transit centers along Metro transit lines and throughout the County of Los Angeles; thereby reducing vehicular emissions and congestion, improving mobility and enhancing the livability of Los Angeles County.

What is a Bike-Transit Center?
A bike-transit center is a facility that provides at least twenty (20) fee-based, secure bicycle parking spaces adjacent to a transit stop in an effort to encourage bike-to-transit connections. Services that a bike-transit center offer can range from access controlled bicycle rack enclosures, bicycle lockers or a full-service facility offering bike parking, repairs, sales, rentals and/or restrooms, among other functions.

A Bike-Transit Center Network is a group of bike-transit centers that can be accessed at multiple sites, tied together by a uniform access system, administration, and identity. The first such center of its type in the US is the Bikestation® in Long Beach anchored by the Metro Blue Line and the Long Beach Transit Mall.

PUBLIC TRANSPORTATION CONNECTIONS
- Metro Blue Line light rail
- Long Beach Transit bus service
- Regional bus service
- Local shuttle service

SERVICES
- Attended bicycle parking for 150 bicycles
- Automated bicycle lockers for 8 bicycles
- Vehicle-sharing: hybrid/electric cars, standard/electric bikes and scooters
- Bicycle repairs
- Bicycle rentals
- Parts & accessory sales
- Computer kiosk
- Restroom
- Changing room
- Electric vehicle charging stations
- Free air for bicycle tires
- Transit information
- Food & beverage sales
- Solar panel installation
- Community events

OPERATIONS
Private vendor contracted by the City of Long Beach

Bikestation® Long Beach
The first facility of its kind in the U.S., Bikestation Long Beach is a freestanding facility strategically located on the First Street Transit Mall, a nexus for light rail, buses, pedestrians, and a local shuttle that services neighborhoods and key attractions. Nearby, more than 30 miles of dedicated shoreline and river bicycle paths, as well as Class II lanes, connect to other parts of the city.
SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

Why Bike-Transit Centers?

Encouraging Los Angeles residents, workers and visitors to ride bicycles for short distances to transit instead of driving, offers numerous benefits to the region’s transportation system and our environment. While recognizing that a one-size-fits-all solution will no longer solve the transportation challenge, bike-transit centers are another tool to improve mobility and access for our transit customers. Several studies document that the healthiest, most energy efficient and most sustainable modes of transportation are walking and bicycling.

The emerging countywide transit network provides greater mobility across the county for longer trips, and greater opportunities for a network of bike-transit centers. Transit alone is not practical for some trips due to the “first and last mile challenge.” This is when an origin or destination is beyond the comfortable walking distance from the transit station/hub. The merging of bicycling and transit provides a seamless solution that bridges the gap and increases the potential of many more transit customers who now choose to drive. Initially, the bike-transit center concept would benefit transit customers who live or work up to three miles from a transit station/hub and currently drive. As the bike-transit centers concept matures over time its versatility and use would expand.

Driving to some transit stations is becoming more difficult and expensive to accommodate with car parking costs typically ranging from $10,000 (surface) to $40,000 (multi-level, subterranean) per space. Metro is starting to charge for car parking at higher demand stations. Metro would also like to encourage transit customers who live close by to access the station using alternative means. Studies show that effective public transit depends on people being able to walk and bicycle comfortably and safely to and from stations and stops, which also reduces the need for car parking. Without secure convenient bicycle parking at transit stations/hubs, transit customers are unlikely to use a bicycle instead of a car -- hence the bike-transit center concept.

Shifting park-and-ride users to bike-and-ride users represents economic, environmental, and customer benefits to Metro:

1. Moving just 100 short-distance transit customers from driving a car to riding a bicycle could represent a park-and-ride capital savings of $850,000 to $2.5 million and would free up valuable car-parking spaces at impacted lots for transit customers coming from longer distances.

2. Bicycling to transit results in air quality and energy consumption benefits as it eliminates the “cold start” and “soft soak” phenomenon of combustion engines that contribute to smog.

3. Bike-transit centers help reduce the number of vehicles on the roadway system, thereby furthering Metro’s Transportation Demand Management strategy.

4. Bike-transit centers have the potential to help capture a customer base untouched by Metro’s current transit facilities.

Additionally, the bike-transit center would enhance the transit facility and its presence in the community.
Target Markets

Previous studies conducted by the Metro Bike Program found that the population of paid locker renters consisted of transit customers who desired a premium bicycle parking service and would drive if not given this option. The potential group of locker renters can be identified as the "discretionary" transit customer in that they have the choice to drive a car or to bicycle to their travel destination.

The bike-transit center concept targets:

- Discretionary transit customers who live or work up to three miles from a transit station/hub and currently drive there or to their destination;
- Non-discretionary transit customers who may use bike-transit centers with improved marketing and signage;
- Neighborhood residents who normally drive and park at nearby destinations.

Stakeholder Recommendations for Metro

Over a 12 month period, the multi-disciplinary Technical Advisory Committee developed the following recommendations for Metro and its partners (See Section 2):

- Consider bike-transit centers in conjunction with joint development, transit oriented development, and other development at locations where bike-parking demand can be demonstrated and/or where automobile-parking demand is high.
- Consider bike-transit centers in the design of park and ride lots.
- Develop a point criteria for the Call for Projects creating an incentive for the development of bike-transit center infrastructure along high transit ridership corridors and at stations or transit hubs.
- Evaluate emerging technologies for uniform access control and membership management systems, and select a preferred system for bicycle parking facilities being added to the system.
- Implement a consistent color, signage and identification scheme for all bike-transit centers while recognizing local elements.
- Use consistent design concepts for future bike-transit centers.
- Select an operating scenario that will simplify administration and facilitate multi-lingual and customer-friendly access.
- Support bike-transit centers by ongoing marketing and public relations programs.
- Develop a flexible bike parking pricing structure that encourages efficient and effective use of Metro bicycle parking facilities to encourage more bicycle use.
- Pursue creative financing, as well as traditional methods, for funding bike-transit center capital investment and operating costs.
SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

Project Background
Metro Rail and the emerging Metro Rapid bus network hold great promise for providing residents, workers and visitors with greater mobility options in reaching their destinations without driving. With funding from a Caltrans Community Based Transportation Planning Grant, Bikestation® and Metro developed the Los Angeles County Bike-Transit Center Implementation Plan (BTCIP) to support that effort.

The purpose of the BTCIP is to:

- Support the growth of the countywide transit system with a high quality interface between bicycling and transit stations,
- Provide safe and secure bicycle parking facilities at the major transit hubs,
- Augment the parking capacity at high demand stations and/or transit hubs with bicycle parking facilities, and
- Ease the “first and last mile challenge” by extending the reach to and from the transit station/hub.

The BTCIP provides the following:

- Creates standards and a process that can be used by Metro, cities and other agencies to develop bike-transit centers in other locations, and
- Develops bike-transit center implementation plans for 4 communities involved in the project -- Pasadena, Norwalk, Los Angeles (North Hollywood), and Santa Monica.

Project Process
A summary of the activities that were undertaken over the last 12 months as a part of the BTCIP is as follows:

- Creation of project goals, methods, and timeline.
- Formation of a Technical Advisory Committee and local sub-committees comprised of representatives from each of the communities, project partners and technical experts.
- Multiple meetings with representatives of each committee, end-user demand and user pricing surveys at 3 Metro stations (Memorial Park-Pasadena, Norwalk and North Hollywood-Los Angeles), and a focus group in Santa Monica.
- Bicycle parking survey of 15 different transit agencies and municipalities countrywide.
- Preparation of L.A. County Bike-Transit Center Network Plan and Tool Kit, and Implementation Plans for the four communities involved in the project: Pasadena, Norwalk, Los Angeles (North Hollywood), and Santa Monica.
Project Sponsors
Metro and Bikestation® applied to Caltrans’ Community Based Transportation Planning Grant Program (CBTP) for funding for this project. Metro administered the grant and provided the in-kind match, while Bikestation® performed most of the work.

Project Partners
The project was conducted using a collaborative planning process with participation from agencies, advocates and community stakeholders, including representatives from transit, bicyclists, municipalities and elected officials.

Project Team
The project team was comprised of the following individuals:

-Caltrans
Fernando Castro, Project Manager

-Los Angeles County Metropolitan Transportation Authority (Metro)
Lynne Goldsmith, Project Manager
Timothy Papandreou
Avital Shavit, Intern

-Bikestation®
Mark Shandrow, Project Manager
Andréa White
Georgia Case
Tom Devane
Steve Mathis

Architecture and Design by /Studio
Fernando Vazquez, AIA
Shoko Ibaragi
Makoto Onishi

Maps by DesignsMaps.com
Anthony McDemas

Technical Advisory Committee (TAC)
To help guide the Project Team, a Technical Advisory Committee was created with representatives from each of the communities, project partners and technical experts. The following is a list of TAC members:

Liz Armijo-Holbrook, Metro San Gabriel Valley Sector
Michelle Banks-Ordone, Los Angeles Community Redevelopment Agency
Matthew Benjamin, Los Angeles County Bicycle Coalition
Chris Buntine, Calstart
Ron Clifford, City or Norwalk
Joanna Cucchi, Metro Central Area Team
Christopher Davis, City of Norwalk
Walt Davis, Metro San Gabriel Valley Area Team
Richard Dilluvio, City of Pasadena
Richard Fine, Flexcar
Joseph Fuentes, City of Norwalk
Philip Ganezer, Metro San Fernando Valley Area Team
Ellen Gelbard, City of Santa Monica
Valerie Harrison, Metro Westside Sector
Dave Hershenson, Metro Gateway Sector
Rufina Juarez, Metro San Gabriel Valley Area Team
Judith Masuda, City of Pasadena
Michelle Mowery, Bicycle Coordinator, City of Los Angeles DOT
Kathy McCune, Metro South Bay Area Team
Suah Pak, Metro Gateway Area Team
Matt Peak, Calstart
Eric Rapp, Metro San Fernando Valley Sector
Dan Rios, Los Angeles Community Redevelopment Agency
Eric Shen, City of Pasadena

Many of the TAC members also participated in the Local Subcommittees.
SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT

PURPOSE

The purpose of the Bike-Transit Center Tool Kit is to establish a set of baseline research, location, design and operation recommendations for bike-transit centers to create a unified network of bicycle-parking facilities throughout Metro’s transportation system. The guidelines were created in such a way as to allow for flexibility and site-specific requirements.

This section will provide analysis and/or recommendations in the following areas:

1. Site and Location Analysis
2. Demand Analysis
3. Design Standards and Models
4. Site Planning
5. Access Control and Membership Management System
6. Operating Scenarios and Strategies
7. Marketing Guidelines
8. Pricing
9. Funding Options
10. Case Studies
The most common type of bicycle parking facilities in use today are bicycle racks. Bicycle racks allow the user to lock his/her bicycle to the rack with the use of their own lock for free. These racks are relatively inexpensive and come in a seemingly unlimited range of styles from simple inverted U-racks to more ornate artistic racks. All provide a basic level of security, which is limited to the strength of the user’s lock and the overall security of the location. Currently, the Metro Rail system has bicycle racks at almost every rail station and provides bicycle lockers where space is available. All Metro Rapid buses and almost all other transit buses in the county are equipped with bicycle racks.

When additional security is required, fee based bicycle lockers or a bike-transit center is the next step. The difference between bicycle lockers and a bike-transit center is the number of bicycle-parking spaces and the use of an access control system. A bike-transit center is a facility that provides at least twenty (20) fee-based, secure bicycle parking spaces adjacent to a transit stop in an effort to encourage bike-to-transit connections. Services that a bike-transit center can offer range from bicycle lockers to full-service bike-parking and bicycle repairs, sales, rentals and/or restrooms, among other functions. Lockers are available for as little as two bike-parking spaces whereas bike-transit centers do not make economic sense with less than 20 spaces.

The primary difference, and one of the greatest benefits, of a bike-transit center network versus a simple locker system is that a bike-transit center offers users greater travel flexibility. This is accomplished with the use of technology that allows members to park their bicycle at any bike-transit center within the transportation system. This is a major advantage over traditional lockers, which limit a user to one locker at a particular transit station. It is generally understood that providing residents, workers and visitors with a more flexible transportation system will contribute to increased public transit usage and a reduction in vehicle miles traveled.

Three options for bike-transit centers were developed for this plan: lockers, secure rack enclosures and full-service facilities. Each has their own specific needs for space, security, construction and operations, which are discussed in detail later in this section.
SITE AND LOCATION ANALYSIS

The following discussion provides clear instructions and baseline requirements to assist local area planners and system users in determining the feasibility of bike-transit center locations and specific sites at those locations. Determining a bike-transit center site is a highly qualitative and organic process that requires revisiting assumptions to arrive at a best-case solution.

Location - Location is defined as the general area that a bike-transit center facility is being considered within a community on a macro level. The location could be a parking lot, an intersection, or an existing or planned transit station, for example.

Site - Site is a term used to refer to the precise space that a bike-transit center facility will occupy at a particular location on a micro level. The site could be the southwest corner or northwest corner of an existing parking lot. The evaluation could include numerous locations with several sites at each location.

Facility Footprint/Size

A general understanding of how many bike-parking spaces the facility needs to provide and which programming components would complement the site is important to gauge prior to identifying any specific locations. Understanding the footprint size early in the process can be very useful and help avoid certain pitfalls. Bike-transit centers can range from 400 square feet to over 3,000 square feet. The following chart details some basic size needs for different bike parking systems:

<table>
<thead>
<tr>
<th>Bicycle Parking System</th>
<th>Approx. space for 10 bikes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double-tiered parking system</td>
<td>100 square feet</td>
</tr>
<tr>
<td>Single-tiered parking system</td>
<td>200 square feet</td>
</tr>
<tr>
<td>Bicycle lockers</td>
<td>270 square feet</td>
</tr>
</tbody>
</table>

An additional benefit of a bike-transit center is that users can have access to other services that might make their commute easier and/or encourage them to use transit and a bicycle more often. Many of these services can be provided at minimum costs, but have a real impact on the success of the facility. Additional services also help to promote the facility as a destination and community activity center. The following chart details recommendations on space needs for some possible services:
Location Selection
After a rough footprint size is identified, the next step is to start qualifying different locations using the following. The criteria have been divided into two different categories: Requirements and Recommendations. Requirements are criteria that need to be met before a bike-transit center is considered feasible. Recommendations are criteria that provide added benefit, but are not necessarily project stoppers and can be corrected within a reasonable time frame and budget.

### Location Criteria Requirements

**ACCESS TO TRANSIT**
Is this location adjacent to any major transit corridors and/or routes (less than 100 yards)?

**DEMAND**
Is there a reason that bicycle-parking racks would not satisfy the bike-parking demand for this location? Reasons could include the need for high-density parking, secure parking, high theft neighborhood, etc. A minimum of 8 users should exist.

**LAND OWNERSHIP**
Is this location owned by a public agency such as a municipality, county, state or transit? The high cost of Southern California real estate dictates the need to focus on land or space that is within the public domain, preferably owned by the local transit agency or municipality. Free rental space is an important element to financial feasibility. For privately owned sites, the Project Team can further evaluate whether or not it is worth the added costs and effort. Is the location available?

**ZONING**
Can a project be developed at this location without any zoning or code changes?

---

<table>
<thead>
<tr>
<th>Service/Amenity</th>
<th>Approximate Space Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air for bicycle tires</td>
<td>10 square feet</td>
</tr>
<tr>
<td>Bicycle rentals</td>
<td>Storage can be included in “secure bike parking”, but also need a highly visible location to display bikes (approximately 100 square feet)</td>
</tr>
<tr>
<td>Bicycle repair</td>
<td>Minimum of 200 square feet</td>
</tr>
<tr>
<td>Bicycle retail sales</td>
<td>Minimum of 500 square feet with high customer visibility</td>
</tr>
<tr>
<td>Car-sharing</td>
<td>Car parking space—approximately 160 square feet</td>
</tr>
<tr>
<td>Changing room</td>
<td>Minimum of 50 square feet for a unisex changing room or 100 square feet for male and female changing rooms</td>
</tr>
<tr>
<td>Computer kiosk</td>
<td>10 square feet</td>
</tr>
<tr>
<td>Electric vehicle charging</td>
<td>Depends on the type of vehicles</td>
</tr>
<tr>
<td>Food service</td>
<td>Minimum of 100 square feet, plus possible sink and refrigeration requirements</td>
</tr>
<tr>
<td>Office</td>
<td>Minimum of 50 square feet</td>
</tr>
<tr>
<td>Restaurant/sit-down cafe</td>
<td>Minimum of 1,500 square feet plus local code requirements for kitchen and restroom facilities</td>
</tr>
<tr>
<td>Restroom</td>
<td>Minimum of 50 square feet for a unisex handicap accessible restroom or 100 square feet for male and female handicap accessible restrooms</td>
</tr>
<tr>
<td>Shower*</td>
<td>Minimum of 50 square feet for a unisex handicapped accessible shower or 100 square feet for male and female handicapped accessible showers</td>
</tr>
<tr>
<td>Transit information</td>
<td>10 square feet</td>
</tr>
<tr>
<td>Water fountain</td>
<td>10 square feet</td>
</tr>
</tbody>
</table>

* High operating costs, maintenance costs and security concerns.
Site Selection

Once a location has been identified and most of the feasibility issues have been addressed the next step is to find a suitable site at the location for a bike-transit center. Many times when locations are being analyzed, a site is already under consideration, but this is not always the case. In addition to location criteria, the following site-specific criteria need to be evaluated for each potential site.

**LOCATION CRITERIA RECOMMENDATIONS**

**ACCESS**
Bicycle Access
Can safe bicycle access be accommodated at this location? Do any major barriers exist to riding a bicycle? Barriers could include highways, freeway ramps, underpasses, etc. How well does this location connect to existing or planned bicycle paths?

**EMPLOYMENT**
Is this location within reasonable walking distance (~1/2 mile) from employment or shopping districts/destinations?

**CONNECTIVITY**
How well does this location link destinations, employment, or housing to public transportation?

**DEMAND**
Is there evidence of existing bicycling activity? Are bicycles already being parked at this location? If so, how many? If not, why? Are there a lack of parking spaces or simply a lack of demand? How would a bike-transit facility increase bicycle trips to this location? Is secure bike-parking required here or are free bike racks sufficient?

**PROXIMITY**
Is this location within proximity to a significant amount of residential units/neighborhoods? Is this location within proximity to employment destinations? How would you rate the proximity of this location to educational institutions, such as high schools or colleges? What future development is planned for this area? Is this location the beginning or end of a transit line?

**VISIBILITY**
How would you rate the visibility of this location from surrounding areas and onstreet bicycle and pedestrian thoroughfares?

**SITE SELECTION CRITERIA**

**INFRASTRUCTURE**

- **Long-term, Secure Parking**
  Is space available for the required facility?

- **Development Potential**
  Does the project fit within the current zoning ordinances? Would a variance be necessary? Is electrical power available at or near the site? Is telephone service available at or near the site? Can the site be developed or does it require major site preparations? Site preparations could include leveling, providing adequate drainage, modifying pedestrian and bicycle access routes, moving existing structures, etc. Are the major site preparations cost-effective? What future growth is planned for this area?

- **Safety & Security Issues**
  What is the perceived level of safety for this site? Does adequate lighting exist, or does additional lighting need to be installed?

- **Timeframe**
  Are there impediments to moving the project forward (i.e., land ownership, funding, political buy-in, etc.)?
DEMAND ANALYSIS

In comparison to the amount of work conducted by urban planners to predict automobile traffic, very little effort has been put into evaluating demand for bicycle usage, let alone bike parking. With the limited amount of data on bicycle usage available, the Project Team evaluated two approaches for predicting demand for parking at bike-transit centers: growth based on travel patterns from existing bike-transit centers on the west coast and surveys.

One of the best methods of predicting bike-transit center demand is by evaluating existing facilities that share similar characteristics. Comparisons were made of three bike-transit centers currently in operation in California and a fourth in Seattle. An analysis of follow-up studies conducted for the Long Beach, Seattle and Berkeley facilities showed that about 25% of the regular users were new bike-to-transit customers. Each facility has, on average, between 45 and 90 bike parking users each weekday. It typically takes up to two or three years of operations to achieve this level of use.

Usage growth at existing bike-transit centers is usually steady and predictable. When a facility first opens, usage tends to be very limited and almost insignificant for the first 12-months of operation. It takes time to convert users from driving a car to riding a bicycle. As the public begins to understand the bike-transit center concept and marketing efforts take hold, usage tends to climb rapidly during the second 12-months and continues to grow as more people become aware of the facility. As years go by, it is important that marketing and incentive campaigns are continually updated and implemented in order to capture new users and alter transportation habits. Anecdotally, the Long Beach facility took several years to reach capacity and this was a result of strong marketing and outreach efforts. Conversely, the Berkeley bike-transit center hit capacity after about the first year because of its location within a BART station and the transit minded population. Local culture and location play a strong role in determining the project’s success.

Another issue observed at Bikestations® is that bicycling as a transportation mode tends to be very seasonal with usage rising in the summer and spring and dropping during the fall and winter. This can be attributed to weather, and more importantly, to the number of day light hours available during commute periods. When clocks are set forward an hour to accommodate for day-light savings time in April ridership to Bikestations® starts to increase, and conversely, when clocks are set back in October ridership drops off.

Summary of Bikestation® Follow-Up Studies

Mode Shift: Car to Bike-to-Transit*

Bikestation® Long Beach: 18% said that if Bikestation® did not exist they would have driven to their destination instead of biking.

Bikestation® Seattle: 39% of users drove by themselves prior to the opening of Bikestation®.

Bikestation® Berkeley: 20% respondents said they might travel by auto if the Bikestation® did not exist.

* Information secured from three different follow-up studies conducted by Nathan Larraine, King County Metro and BART.
Monthly Bicycle Parks per Bikestation®
Sept. 2000 to Sept. 2002

- Long Beach
- Palo Alto
- Berkeley
Survey
To gain a better insight into the local Los Angeles County user base, over 1,500 surveys were distributed on cars parked at three different Metro Rail park-and-ride lots: Sierra Madre Villa Metro Gold Line Station, Norwalk Metro Green Line Station and North Hollywood Metro Red Line Station. From survey results, approximately a quarter of the respondents indicated that they would ride a bicycle to the transit station instead of driving their car if secure bicycle parking were available. Many of the respondents also indicated that they lived within 3 miles of the transit stations, which is an easy bicycle ride for most. Both of these criteria indicate a strong market for bike-transit centers. The surveys are discussed in greater detail in the Implementation Plans.

Target Markets
Previous studies conducted by the Metro Bike Program found that the population of paid locker renters consisted of a group of transit customers who desired a premium bicycle parking service and would drive if not given this option. The potential group of locker renters can be identified as the “discretionary” transit customer in that they have the choice to drive a car or to bicycle to their travel destination. The bike-transit center concept would target transit customers who live or work up to three miles from a transit station/hub and currently drive there or to their destination. Non-discretionary transit customers may be an untapped market group, but have yet to demonstrate any significant level of bicycle locker usage. Improved marketing and signage of bicycle parking facilities at stations may increase utilization. In addition, neighborhood residents who would normally drive could use the bike-transit center as a final parking destination.
DESIGN STANDARDS AND MODELS

The purpose of this section is to present Design Standards that can be implemented by different agencies on varying timelines. From a practical approach, the Design Standards will provide basic operational criteria so that architects and planners will be able to provide the best and most functional facility. From a quality of life perspective, bike-transit centers need to be designed to be an integral part of an effective public transportation system. Bike-transit centers are civic facilities and their aesthetics need to convey who and what we are as a culture and help define our values. Bike-transit centers need to make a statement about the importance of clean, zero emission transportation and the value of the public transportation system.

Project Recommendation:
Consider Bike-Transit Centers in conjunction with joint development, transit oriented development, and other development at locations where bike parking demand can be demonstrated and/or where automobile parking demand is high.

The following examples illustrate the power of strong design in creating a sense of place and value:

- Bike shed by Fukui Shuhei Endo. Japan.
- Bus shelter. Germany.
- Bilbao subway entrance. Spain.
Types of Facilities
To address the needs for secure bicycle-parking the Project Team grouped facilities into three categories for easier distinction and definition: lockers, secure rack enclosures, and full-service. Recognizing that a one size fits all solution will not work; each of the three facilities has its own unique application to fit the particular circumstances. Concepts for each facility were designed and can be found on the following pages.

Project Recommendation:
Use consistent design concepts for future bike-transit centers.

Lockers
Lockers provide users with an individual locker storage space where they can store their bicycle and belongings. Lockers can either be assigned to one particular user or can have a revolving system that provides for secure bike parking on a first-come, first-serve basis called shared-use. Lockers are typically used in environments where:

- Security is an issue;
- Bicycle parking demand is between 20 and 50 spaces;
- Minimum of 540 square feet is available.

Secure Rack Enclosures
Secure rack enclosures are unattended structures that can be either freestanding or located within a parking garage or building that provides access to bicycle-parking spaces with an access control system. Secure rack enclosures are less secure than bicycle lockers, but provide a significantly higher density of bicycle parking. Secure rack enclosures are typically recommended in environments where:

- Security is not a major issue;
- Bicycle parking demand is between 20 and 50 spaces;
- Power and data are available;
- Minimum of 400 square feet is available.

Full-Service
A full service bike-transit facility can be unattended with an access control system or attended and offering secure bicycle-parking and other amenities such as bicycle repairs, rentals, retail sales and transit information. The facility can also conduct outreach and marketing efforts and become a full-service transit facility with on-site staff.

Full service facilities are recommended where:

- Security is an issue;
- Bicycle parking demand is between 50 and greater spaces;
- Power and data are available;
- Minimum of 800 square feet is available.

See the following pages for examples of each type of facility.
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT

Locker: Accordian Plan
14 Bike Parking Spaces
Appr. Square/Footage Needs: 490

 Locker: Accordian Elevation

 Locker: Straight Plan
24 Bike Parking Spaces
Appr. Square/Footage Needs: 560

 Locker: Circle Plan
32 Bike Parking Spaces
Appr. Square/Footage Needs: 1,200

1/2" = 1" for adjustment
Secure Rack Enclosure: Inverted U Racks within a Structure

- Double Row Inverted U Racks
- 36 Bike Parking Spaces
- Appr. Square/Footage Needs: 620

**T Steel Sections welded to Base**

**3/8" Dia. 1/2" Stg. Ctrs.**
5 Holes PSI 52% O/A

**Painted 3/8" Dia. Perforated Metal Welded to T Steel sections**
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT

Secure Rack Enclosure Concept: Double-Tier Racks within a Structure
Double and Single Row Options

Double Row Racks
54 Bike Parking Spaces
Appr. Square/Footage Needs: 700

Single Row Racks
30 Bike Parking Spaces
Appr. Square/Footage Needs: 560

T Steel Sections welded to Base

3/8" Dia. 1/2" Stg. Ctrs. 5 Holes PSI 52% O/A
Painted 3/8" Dia. Perforated Metal Welded to T Steel sections
Secure Rack Enclosure Concept: Inverted U with a Glass Roof

Secure Rack Enclosure Plan
36 Bike Parking Spaces
Appr. Square/Footage Needs: 620

T Steel Sections welded to Base

3/8" Dia. 1/2" Stg. Ctrs.
5 Holes PSI 52% O/A
Painted 3/8" Dia. Perforated Metal Welded to T Steel sections

BIKEPARK

Secure Rack Enclosure Elevation-Front

BIKEPARK

Secure Rack Enclosure Elevation-Side

BIKEPARK
Urban Design

As discussed in great detail in the Site and Location Analysis Section of this document, a strong site is of paramount importance in building a bike-transit center. The site and location needs to offer strong connectivity to transit and/or employment or commercial destinations. The facility needs to be located in a site that encourages increased walking and bicycling around the immediate location. The most preferred site, but also the hardest to secure, is located immediately adjacent to pedestrian thoroughfares or transit oriented development projects where there is significant pedestrian activity tied to transit. This creates multiple types of users who can access the bike-transit center’s services for different reasons.

Sensitivity to Urban and Historical Context

Some cities with a strong architectural heritage provide strict guidelines on the design of new buildings and facilities so that they compliment the existing historical architecture. As in the case of any new development, the design of a bike-transit center needs to be sensitive to any historical or local design requirements of the community.

Public Art

As much as feasible, public art components need to be incorporated into the design of a bike-transit center. Historically, bicycle facilities, mainly lockers, have been extremely unattractive, bland looking boxes that detract from the aesthetic environment. Bike-transit centers need to be vibrant, attractive structures that enhance their immediate surroundings and contribute to creating a strong pedestrian environment. One way to accomplish this is by incorporating local artists in the design process.

Described as "one of the most imaginative public art programs in the country," Metro Art has received numerous design and artistic excellence awards. Known for its interdisciplinary approach as well as the broad range of artists that have been commissioned, Metro Art is also recognized for its innovative and successful community involvement.¹ Metro’s current policy allocates one half of one percent (0.5%) of rail construction costs for the creation of original art works. The agency has voluntarily chosen to commission several non-rail projects but the official policy is currently limited to rail projects. It is recommended that this policy include bike-transit facilities.
Site Planning

Accessibility

The exact placement of the bike-transit center on a site is a serious decision and takes careful thought. It is important that the facility be visible to pedestrians, bicycles, transit users and motorists to maximize public awareness of its existence. If a facility is hidden or out of direct sight, more effort will be needed on marketing efforts and increasing facility awareness.

Transit Connectivity

Bike-transit centers can be a key component of an efficient transportation system. As such, these facilities need to be well positioned to connect to public transit and within a short walking distance of public transportation stops or connectors. Providing easy and safe access between key transit routes is essential to establish the best location.
Exterior Lighting
Lighting in public environments contributes to increased personal and property safety as well as a greater aesthetic appeal. The area immediately surrounding the bike-transit center needs to have adequate lighting to provide users with a safe and comfortable environment.
Exterior Security
Along with good visibility from major thoroughfares, the exterior and immediate surrounding areas of the bike-transit center need to have good lines of sight. This will increase the security of the area. Blind spots within or around the facility need to be minimized as much as possible and pedestrians and bicyclists need entrances in and out of the area.
Architectural Design

Code Compliance
The bike-transit center needs to be designed and constructed to comply with all local planning and building codes.

Space Planning and Security Objectives
The facility needs to minimize blind spots or unprotected areas for the users. Entrances need to be developed in the proximity of other public facilities and within view from the main streets around it. The entire interior of the facility needs to be visible from the outside.

Color/Branding
An important element in creating an identifiable and unified network of bike-transit centers is maintaining consistent color and branding of the individual facilities. Even if facilities are operated and managed by different agencies, a unified look can still be achieved while also offering the organizations’ logo placement. The preferred color is yellow with the words “BIKEPARK” painted in large black letters (Futura Bold font).

Project Recommendation:
Implement a consistent color, signage and identification scheme for all bike-transit centers while recognizing local elements.
Interior Lighting
Like exterior lighting, interior lighting is an important component of a bike-transit center, especially for a secure rack enclosure or full service facility. The lighting inside the facility needs to be as bright as possible and ensure sure that there are no blind or dark spots that compromise security.
Signage and Wayfinding

Signage and wayfinding are important elements for both marketing and directing users. Signage needs to be placed on and around the facility directing users to and from the bike-transit center.

Signage Masthead and Wayfinding Concepts

- BIKEPARK

Other Transportation Logo

Directional Signage
ACCESS CONTROL AND MEMBERSHIP MANAGEMENT SYSTEM

One of the most challenging aspects of launching and operating a network of bike-transit centers is selecting and operating an access control and membership management system.

Access control is any mechanism by which a system grants or revokes the right to access data or perform some action. In the case of a bike-transit center, access control refers to user’s ability to access secure bicycle-parking. There is a wide spectrum of access control mechanisms that can accomplish this, from something as simple as a user’s own padlock to a more complicated computer network system with a universal fare card.

Membership management is the system implemented by an organization to manage its members, including maintaining contact information, distributing access control mechanisms, processing payments, and activating or canceling memberships. Similar to access control systems, the membership management system can be as simple as an excel spreadsheet or as complicated as a web-based SQL-server database.

Historically, transit agencies and municipalities have had some sort of membership management system to help keep track of locker users/members. The first question that needs to be addressed is: Is a membership system really necessary? Transit customers are not required to register before boarding a train, nor are customers who use park-and-ride lots required to give their name and address. Yet, to use a bicycle locker almost anywhere in the United States one is required to register and provide his/her name, address and contact number. In European cities, where the demand for bicycle parking is strong due to their compact, bicycle oriented nature, systems are in use that allow bicyclists to access secure bicycle parking with the use of an ATM or credit card. No registration or membership is required. Many transit agencies defend this practice by claiming that, first, they need to know who is using their lockers, and second, if something were to happen to the bicycle they need be able to contact the owner.

This argument makes some sense in a system where lockers and bike parking are operated under a reserved system, but just adds additional operating costs for a shared system.

When analyzing the type of access control system to implement, it is extremely important to consider how the membership management system will integrate and how this interacts with the pricing (see Pricing). For example, if users are charged on a per use basis, the access control system needs to be able to track usage and relay this information to the membership system to either debit the user’s account or generate a bill.

Types of Access Control Systems

The bicycle parking industry is in its infancy here in the United States. At the time of this writing, there were only three vendors marketing an electronic bicycle locker system that provided an integrated membership management and access control system: eLock Technologies LLC, Clancy Systems and Bikestation®.

eLock Technologies, LLC has several bicycle lockers in use, including a pilot program with Metro. The eLocker is a bike locker with an electronic lock mechanism accessed using an electronic key (iButton key). The user touches the iButton key to the receiver of any available locker to access the locker and place their bicycle inside. The same iButton key must be used to reopen the locker and retrieve the bicycle. An LED light flashes when the locker is in use. The eLockers are shared use and are available on a first-come first-serve basis. An individual key can lock only one locker at a time. The eLockers are powered by a 12-volt battery pack that last approximately one year. The system also allows for the use for a smart card instead of the iButton key. The average cost for one bicycle locker is around $1,500 per space.

Clancy Systems is promoting a bicycle locker technology that was originally developed for car parking and the Call-A-Bike program in Germany. The system is still in the development phase and pricing has not yet been determined. The system is membership based and requires a monthly service fee with usage billed at the end of each month. To use a locker, a member telephones into an automated system and chooses the parking facility and park-
ing space desired (this information is posted at the facility numerically). The user then enters the amount of time desired and receives a code that the system has automatically generated. The user can then utilize the code to open the locker door electronically via a keypad located on a Clancy Systems device at the facility. Power is required, which could either be supplied through existing lines, or if none exist, be provided by a battery, which would power a bank of 16 lockers for about 6 months.

Bikestation®, the operator of Bikestation® Long Beach and Seattle, assembled an off-the-shelf access control system with a custom web-based membership system. The system uses a proximity device for facility entry. Because the system utilizes off-the-shelf technology, maintenance and upgrades are routine and the system is incredibly reliable, but acquisition costs are high. The average cost is about $15,000 for one installation, which is capable of running up to 32 lockers and/or one secure rack enclosure for over 100 bicycles.

Since the availability of a bike-transit center access control and membership system is somewhat limited, it is highly likely that a system will need to be specially developed for the Los Angeles Bike-Transit Center Network that will provide the functionality and reliability that users and operators require. With this undertaking, several issues need to be considered when selecting an access control and membership management system.

Pricing
How will the pricing program be structured? Will members have the option of paying per use and/or a flat fee? Will reserved and/or shared use parking be available?

Data Transmission
How is data from the bike-transit centers going to be transmitted to the membership system? Is this going to be done through a local area network, a wireless system or manual system?

Power
If a bike-transit center is going to have an electronic or digital system, where is the power going to come from to operate the systems? Is A/C power within close proximity? What about battery and solar applications?

Reliability
From the customer’s perspective, reliability is probably the single most important factor in regular use of a bike-transit center. Are there going to be system failures that prevent the customer from parking or retrieving his/her bicycle? If so, how often and what is the immediate remedy?

Capital Cost
Costs need to always be taken into consideration when choosing a system. Hopefully, the higher capital costs of implementing a bike-transit center system that uses technology will translate into lower operating costs and higher utilization. The selected system will have a profound impact on capital and operating costs, from the costs of the locking mechanism to the infrastructure required to operate the system.

Administration and Management
Who is going to operate and manage the system? Is there technical assistance to provide for maintenance and administration of the technical components?

Project Recommendation:
Evaluate emerging technologies for uniform access control and membership management systems and select a preferred system for bicycle parking facilities being added to the system.
OPERATING SCENARIOS AND STRATEGIES

In analyzing the operation and maintenance of a bike-transit center, three primary options are available for consideration: public agency operation, private operation, or a combination of both, typically known as a public/private partnership. The following section will explain the advantages and disadvantages of each approach.

Prior to reviewing the various operating scenarios, it is first important to outline what exactly are the responsibilities of operating a bike-transit center. The responsibilities can be divided into five major categories: marketing, membership management, facility maintenance and cleaning, and day-to-day operations, and agency interaction.

Operating Departments
Marketing
In order to encourage the utilization of a bike-transit center’s services, the facility must be marketed. Marketing is the process or technique of promoting, selling, and distributing a product or service. Marketing activities can be as simple as posting a large sign above the facility or as complex as implementing a regional public relations and advertising campaign with incentive campaigns. Either way, marketing can play a pivotal role in the success of a project.

Membership Management
Membership management is the process of registering users for a bike-transit center and then servicing these users. Tasks include initial membership registration, collecting fees, dealing with customer complaints or inquiries, tracking facility usage, and educating members on facility services. Membership management can include supporting a computer database and registration system or a paper tracking mechanism.

Facility Maintenance and Cleaning
Keeping a bike-transit center, which is essentially a public facility, clean and free of debris is a constant endeavor. Since most facilities are located outdoors and exposed to the elements, removing air born pollutants, graffiti, and trash require constant supervision. Similar to any business, it is extremely important that customers feel that the facility is well maintained and clean in order to project an image of security and professionalism. There is also the issue of maintaining any mechanical or electrical devices, such as automatic locks and other electronics.

Agency Interaction
Since most bike-transit centers are located on public land and receive some sort of public subsidy, interacting with funding partners on behalf of the facility can be a very important job. Many times bike-transit center operators are required to generate reports for sponsors, submit funding applications and/or manage grants.

Private Operation
In private operation, the private sector takes on all the responsibility of constructing, operating and managing a bike-parking facility. This could either be by a for-profit enterprise, such as a bicycle shop, or a non-profit organization, like a bicycle advocacy organization. However, as evidenced by the existence of only a handful of privately funded bike-transit facilities in the United States (see Case Studies for further description) private operation is a very unlikely, and usually unsustainable venture.

There are three main reasons that bike-transit centers tend not to be privately operated: land costs, connection to public transit, and lack of a profitable business model. For bike-transit centers to be successful, they need to be located in urban environments within close proximity to transit and/or major employment or business destinations. The land in these areas tends to be very scarce and thus extremely expensive. Whether a private operator purchases or leases land, the costs tend to be prohibitive. Furthermore, at this point, providing secure bicycle-parking does not generate a substantial revenue stream that would encourage the private sector to enter the market place. If it did, it would stand to reason that there would be hundreds of bike-transit facilities across the United States. The market still has a long way to go before the private sector will be interested in entering this business.
Advantages of Private Operation
One of the greatest advantages of private operation is that all of the underly-
ing responsibilities and costs associated with provision of secure-bicycle park-
ing would be transferred to the private sector. If a financially sustainable mar-
et were to exist for bike-transit centers in Los Angeles County, competition among various operators would also foster increased customer service and options.

Disadvantages of Private Operation
Private operators would provide services at the strongest market locations from a revenue perspective, and implement pricing structures that might not necessarily coincide with the goals and objectives of the overall transportation system.

Public Operation
Similar to police and fire departments and other public services, attended bicycle parking can be integrated into the operations of an existing public agency such as Metro. Considering the public-benefit nature of a bike-transit center, providing and operating secure bicycle parking by a public agency would arguably fit within the public sector’s mission.

Advantages to Public Operation
One of the most important advantages to public operation is the acknowl-
edgment that bicycles are part of the transportation system and a service to transit customers and, therefore, need to be supported by the public sector. Removing the responsibility of providing secure bicycle parking from the public sector may further marginalize bicycles as a transportation mode. Additionally, the planning required to make public transportation work seam-
lessly across numerous cities and counties requires cooperation among various different public agencies.

Disadvantages to Public Operation
Operation of a bike-transit center by a public agency requires multi-departmental cooperation, the institutionalization of program management and the coordination of maintenance and procurement.

Implementation of Public Operations
To assemble and launch a public bike-transit facility, a public agency must first conduct the Site and Location Analysis, secure funding and operate the facil-
ity upon opening.

Public/Private Partnership
A public/private partnership is a strategic and mutually beneficial relationship between a public agency and a private enterprise to accomplish a specific objective, in this case, operating a bike-transit facility.

Advantages to Public/Private Partnership
The most significant advantages to a public/private partnership are cost, risk sharing and project synergism. By partnering with a private organization, the public agency can take advantage of reducing their time commitment and operational oversight on the project while benefiting from the private sector’s operating skills and business savvy. Additionally, if a financial incentive is built into the relationship, the private operator may be more inclined to fulfill the mission of the project (generating increased bicycle trips) while also generating increased revenue.

The synergism that can exist between a public and private venture will be strongest when each partner is responsible for areas of the project in which they are most competent. For example, public agencies have experience administering complex funding agreements and grants, which are required for these types of projects, whereas private businesses tend not to have this experience. The private sector usually has the skills necessary to manage hourly wage employees, track inventory and interact with customers on a reg-
ular basis. Furthermore, public agencies can tap into their existing regional marketing and outreach programs and the private sector can implement grassroots campaigns with ease. Clearly delineating the tasks responsible by each party will increase the project’s success rate.

Partnering with a smaller private entity to provide for the operations of a bike-
transit center can also increase the quality of service that the facility provides because of prioritization and streamlining. With a large public organization that provides hundreds of different services, providing bike parking can
become a complex human resources web. For example, interviews with Metro staff indicate that managing the organization’s 170 or so bicycle lockers require the involvement of six different departments: customer service to process payment; planning to manage new locker placement; security to check locker status; maintenance to clean and fix the lockers; marketing to promote usage; and procurement to purchase new lockers. Most, if not all, of these departments have a number of other responsibilities and priorities, thus the bicycle locker program receives minimal attention. Working with a smaller private entity that can focus on providing bike parking as one of four or five major objectives will increase customer service and help streamline the process. This streamlining also could reduce operating costs.

### Disadvantages to Public/Private Partnership

Some major challenges to a public/private partnership are control, expectations and performance for the bike-transit center. Like any project, it is extremely important that all parties understand their role, as well as the goals and objectives for the project. It is important that clear goals and objectives are drafted with a corresponding outline of the incentives, positive and negative, to encourage meeting established benchmarks.

### Implementation of Public/Private Operations

The implementation of a public/private bike-transit center can take two different approaches. First, the public agency can develop the project and then put the operations of the facility out to public bid through a request for proposals (RFP) and secure an operator. Or, the public agency can first secure an operator and then develop the project in partnership with the operator. Depending upon the situation, either technique has the ability to function well.

---

**Project Recommendation:**

Select an operating scenario that will simplify administration, facilitate bi-lingual and customer-friendly access.
MARKETING GUIDELINES

Because bike-transit center are a relatively new concept in the United States, it will require diligent marketing efforts in order to be as successful as possible. With the exception of bike advocates and a handful of city staff, most people will not initially understand what a bike-transit center is, how it works, or how it can benefit the community. Overcoming these barriers and showing how the bike-transit center relates to similar facilities around the U.S. will be a significant public relations challenge.

Some of the specific marketing tasks and programs that are recommended are:

- Creation of a press kit;
- Development of signage;
- A grand opening celebration and public relations campaign;
- Creation of a bike-transit center brochure and other marketing materials;
- Public outreach campaign prior to and after the facility’s opening, e.g. coordinate presentations as well as participate with local community groups, neighborhood associations, employers and businesses;
- Ongoing awareness campaigns with information distributed to local residents, businesses, transit users, bike shops and retail shops;
- Advertisements placed in local and regional papers;
- Other marketing programs, such as incentive programs;
- Annual community Bike-to-Work Day event;
- Community and employer fairs/events;
- Fundraising and special projects as needed;
- Information on the bike-transit center needs to be readily available on the websites of the city, Metro, and any other partners, as well as at all transit stations and information centers.

Special Events

The production of a variety of community events will be necessary to generate facility use and participation. The first event needs to be a grand opening celebration to allow residents, media and public officials to tour the facility. Opening day activities can include musical performances and bicycle demonstrations as well as proclamations and presentations by dignitaries. This event will be an important first step in helping the city and local residents to recognize the role that bicycle transportation can play in enhancing the city’s image while providing its citizens with a convenient transportation amenity.

After opening, the bike-transit center operator need to consider hosting regular events like workshops/seminars, National Bike Month, and/or cosponsoring a high-profile local event. These events can be a very cost-effective way to encourage new customers and to promote the facility.

Project Recommendation:
Support Bike-Transit Centers by ongoing marketing and public relations programs.
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT
Pricing

Pricing structure for this project will be integral in determining the success of the bike-transit centers. An holistic approach that accounts for the needs of diverse stakeholders, goals of the facilities, and nature of bicycle parking and transportation in general creates a complex pricing environment that must be considered carefully.

Pricing Perception
The novelty of the concept of paid secure bicycle parking in the U.S. market contributes to an ambiguity in pricing of current facilities and presents many challenges for pricing new ones. As a starting reference point, the Project Team conducted surveys of actual users of the North Hollywood Metro Red Line station, the Sierra Madre Metro Gold Line station, and the Norwalk Metro Green Line station to determine perceptions of different pricing scenarios for secure bicycle parking.

Of the 168 total survey respondents from 3 surveys, 41 (24%) indicated a willingness to bicycle to the station. Clearly, that doesn’t translate into a market of 24% of the population, as it is much easier to indicate a willingness to do something than to actually do it. But given the percentage of trips in Los Angeles County that are made by bicycle (2.4%), this represents a significant potential market. From these numbers, we can also extrapolate that two thirds of bicyclists and potential bicyclists feel that secure bicycle parking is worth paying for, but the most that the majority would be willing to pay would fall between $10 per month and $1 per day (with a some willing to pay nothing, many of whom cited the Metro rail system’s prevalence of free car parking). The significance of this survey is that average pricing for current Metro bicycle parking facilities is $25 per year.

This would imply that there is, at the least, not a case of overpricing in the current structure. Furthermore, with added security and ease of use, many bicyclists are willing to pay significantly more than what is currently being charged.

To date, it appears that many of the pricing strategies and structures adopted by various bicycle parking programs have been rooted in very little real research and analysis. Based upon a May 2004 telephone survey of over 15 major transit agencies, virtually all agencies polled have had significant difficulty balancing the various and sometimes competing goals of their bicycle parking programs, which is a necessary task in determining pricing structures. One interesting point is that usage does not seem to correlate strongly with price. See the following page for results.

A final note about pricing perception: even in a scenario in which the goal is to encourage as many bicycle/transit trips as possible, price does not need to be free. Much research has been done on the psychological effects of pricing, and one of the outcomes is that we value more that for which we have to pay, even a nominal charge. In bicycle parking, this translates into a higher level of appreciation for the supplier of the service, as well as lower levels of abuse of the facilities (a major problem in cases of “public” facilities).
### Sample Bicycle Locker Charges and Utilization in United States

<table>
<thead>
<tr>
<th>Agency</th>
<th>City, State</th>
<th>Date surveyed</th>
<th>Cost</th>
<th>Per</th>
<th>Annualized</th>
<th>Admin fee</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Area Rapid Transit (BART)</td>
<td>Bay Area, CA</td>
<td>May 2004</td>
<td>$30.00</td>
<td>year</td>
<td>$30.00</td>
<td>$25.00</td>
<td>20-100%</td>
</tr>
<tr>
<td>Bikestation</td>
<td>Long Beach, Seattle, Palo Alto, Berkeley</td>
<td>May 2004</td>
<td>$96.00</td>
<td>year</td>
<td>$96.00</td>
<td>$20.00</td>
<td>40-120%</td>
</tr>
<tr>
<td>Caltrain</td>
<td>San Francisco Bay area, CA</td>
<td>May 2004</td>
<td>$33.00</td>
<td>6 months</td>
<td>$66.00</td>
<td>$25.00</td>
<td>20-100%</td>
</tr>
<tr>
<td>Southwest Ohio Regional Transit Authority</td>
<td>Cincinnati, OH</td>
<td>May 2004</td>
<td>$0.00</td>
<td>6 months</td>
<td>$0.00</td>
<td>$0.00</td>
<td>no info</td>
</tr>
<tr>
<td>Dallas Area Rapid Transit (DART)</td>
<td>Dallas, TX</td>
<td>May 2004</td>
<td>$45.00</td>
<td>year</td>
<td>$45.00</td>
<td>$15.00</td>
<td>20%</td>
</tr>
<tr>
<td>Los Angeles County Metropolitan Transit Agency (LACMTA)</td>
<td>Los Angeles, CA</td>
<td>May 2004</td>
<td>$25.00</td>
<td>year</td>
<td>$25.00</td>
<td>$50.00</td>
<td>40%</td>
</tr>
<tr>
<td>Los Angeles Dept. of Transportation (LADOT)</td>
<td>City of Los Angeles</td>
<td>May 2004</td>
<td>$0.00</td>
<td>year</td>
<td>$0.00</td>
<td>$10.00</td>
<td>90%</td>
</tr>
<tr>
<td>Maryland Mass Transit Admin.</td>
<td>Maryland</td>
<td>May 2004</td>
<td>$25.00</td>
<td>quarter</td>
<td>$100.00</td>
<td>$25.00</td>
<td>no info</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$70.00</td>
<td>year</td>
<td>$70.00</td>
<td>$25.00</td>
<td></td>
</tr>
<tr>
<td>Miami-Dade Transit (MDT)</td>
<td>Miami, FL</td>
<td>May 2004</td>
<td>$70.00</td>
<td>year</td>
<td>$70.00</td>
<td>$10.00</td>
<td>80%</td>
</tr>
<tr>
<td>City of Portland</td>
<td>Portland, Oregon</td>
<td>May 2004</td>
<td>$10.00</td>
<td>month</td>
<td>$120.00</td>
<td>$40.00</td>
<td>no info</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$25.00</td>
<td>quarter</td>
<td>$100.00</td>
<td>$40.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$45.00</td>
<td>6 months</td>
<td>$90.00</td>
<td>$40.00</td>
<td></td>
</tr>
<tr>
<td>RTD</td>
<td>Denver, CO</td>
<td>May 2004</td>
<td>$0.00</td>
<td>year</td>
<td>$0.00</td>
<td>$25.00</td>
<td>95%</td>
</tr>
<tr>
<td>City of San Francisco</td>
<td>San Francisco, CA</td>
<td>May 2004</td>
<td>$25.00</td>
<td>quarter</td>
<td>$100.00</td>
<td>$25.00</td>
<td>no info</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May 2004</td>
<td>$45.00</td>
<td>6 months</td>
<td>$90.00</td>
<td>$25.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>May 2004</td>
<td>$75.00</td>
<td>year</td>
<td>$75.00</td>
<td>$25.00</td>
<td></td>
</tr>
<tr>
<td>SANDAG</td>
<td>San Diego, CA</td>
<td>May 2004</td>
<td>$0.00</td>
<td>year</td>
<td>$0.00</td>
<td>$25.00</td>
<td>70%</td>
</tr>
<tr>
<td>Santa Cruz RDA/Metro</td>
<td>Santa Cruz, CA</td>
<td>May 2004</td>
<td>$5.00</td>
<td>month</td>
<td>$60.00</td>
<td>$10.00</td>
<td>100%</td>
</tr>
<tr>
<td>Tri-Met</td>
<td>Portland, OR</td>
<td>May 2004</td>
<td>$0.00</td>
<td>year</td>
<td>$0.00</td>
<td>$50.00</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td>Tucson, AZ</td>
<td>May 2004</td>
<td>$2.00</td>
<td>month</td>
<td>$24.00</td>
<td>$7.50</td>
<td></td>
</tr>
<tr>
<td>UC Davis</td>
<td>Davis, CA</td>
<td>May 2004</td>
<td>$20.00</td>
<td>quarter</td>
<td>$80.00</td>
<td>$20.00</td>
<td>no info</td>
</tr>
<tr>
<td>Washington DC Metro (WMATA)</td>
<td>Washington, DC</td>
<td>May 2004</td>
<td>$45.00</td>
<td>6 months</td>
<td>$90.00</td>
<td>$10.00</td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>May 2004</td>
<td>$70.00</td>
<td>year</td>
<td>$70.00</td>
<td>$10.00</td>
<td></td>
</tr>
</tbody>
</table>

| **Mean price**                             |                              | **$36.77**    | **$21.44** |
| **High**                                    |                              | **$120.00**   | **$50.00** |
| **Low**                                     |                              | **$0.00**     | **$0.00** |
Options to Secure Bicycle Parking
Substitutions for secure bicycle parking fall into two categories: 1. Alternative modes of transportation that do not include the bicycle, and 2. Unsecured parking (fence, bike racks, etc.). People may choose to take their cars, a bus, taxi, train, or walk instead of bicycling. Of course, the undesirable outcome is the use of the single-occupancy vehicle (SOV). When bicycling is the only choice and secure bicycle parking is not available, a tree, fence, signpost, or bike rack can be used to physically lock the bicycle to a stationary object. Unfortunately, in these cases, bicyclists encounter significant risk to their personal property by leaving them vulnerable to theft. Theft is a major deterrent to bicycle use, especially in a city such as Los Angeles, where 30,000 to 40,000 bicycles are reported stolen every year at a 3% recovery rate. Additionally, the transit customer may choose to take their bicycle on to the train. The current bike on train rules do not allow bikes during peak hours and do not have an area allocated for bicycles that may impede access for some people considering bicycling to the station.

In what seems to bolster this argument, the most frequent reason cited for lack of willingness to pay for secure bike parking by respondents to the Metro surveys conducted for this project was free car parking. One respondent replied, “Cars park free, so should bikes,” with many others expressing opinions in the same vein.

Car parking that is “free” and convenient will not encourage bicycle-to-transit, which, given the burgeoning population of the Los Angeles area, will require the construction of ever-larger and more expensive parking structures. In addition, according to the Metro’s Short-Range Transportation Plan: “Over the next six years, the increase in demand on the (highway) transportation system and resulting congestion will exceed any capacity that will be available, particularly given the current State budget. [Demand management] supports and enhances many of our capital-intensive programs by giving travelers incentives to find alternatives to driving alone.” In other words, encouraging bicycle travel meets both the goals of reducing costs for Metro and managing demand on the Los Angeles roadway system.

Car Parking: Availability, Pricing, and its effects on Bicycle Use and Pricing
One of the biggest determinants of transportation mode choice is the availability of plentiful, inexpensive car parking. When one can count on driving to the transit station, paying little or no fee, and parking within easy walking distance of the platform, there is little incentive for a transit customer to bicycle to the station. Because we are such an auto-dominated society, potential bicycle riders already face significant barriers to bicycling: unsafe or inconvenient routes, inadequate parking facilities, etc. Inexpensive, convenient car parking is just another disincentive to bike-to-transit. Besides the additional cost, the extra administration that one goes through to have access to secure bicycle parking (contacting the operating agency, providing information, waiting for a key or code) is a strong psychological barrier.

According to a 1997 study by the Transit Cooperative Research Program, “The impacts of changing auto-related costs (primarily through tolls or parking rates) can be substantial...researchers have determined that the availability of “free” (auto) parking has the biggest impact on mode choice, ...changing (auto) parking prices will have significant effects.”

Competition
Currently, few alternative options exist for secure bicycle parking within desirable walking distance of the transit station. Typically, lack of competition would indicate an ability to command higher prices, however, offsetting this factor are the above-mentioned substitutions for secure bicycle parking such as driving a car, using a fencepost, etc.

Shared Use vs. Reserved Parking Fees
Like auto parking, parking options for bicycles fall into two categories: shared use and reserved. Shared use parking has become feasible through advanced technology in which any person with an access key or card can use any open parking spot. This contrasts with traditional bicycle locker parking, which operates on a one-key, one-user basis.

The advantages of the traditional system are: ease of understanding, lower capital costs, and certainty of your locker’s availability whenever needed. Disadvantages include misuse of the locker, inefficient use of the locker, and high administrative costs in the event of a lost key or changing locks.
The advantages of the shared-use parking system are: more efficient use of parking space and lower membership administrative costs. Disadvantages include uncertain availability (spaces may be full), unfamiliar technology to many, and higher capital costs.

Like reserved auto parking, reserved bicycle parking can command higher fees due to certainty of availability and location. For many reasons, however, transit agencies around the country are looking to technology to solve some of the inherent disadvantages of traditional keyed lockers. Particularly important on that list is lowering operating costs and making more efficient use of available parking spaces. Nonetheless, some people will be deterred from using a shared system because of the uncertainty (unless there is a significant quantity of parking), so one possible compromise is to maintain a ratio of reserved parking spaces for those who wish to pay the premium while creating a shared-use system for others for whom certainty is not the deciding factor or who wish to pay a lower fee.

Flat Fee vs. Time Elapse
The flat fee system is the usual pricing structure for bicycle parking. It is generally easy to understand; however, it is not the best system to achieve the goals of efficiency and usership reporting.

One of Metro's stated objectives in its short-range transportation plan is to implement a system-wide Universal Fare Card for transit. According to the Plan, "The Universal Fare System will eliminate the need for cash, passes, and tokens on Metro and municipal buses and trains. The fare media, a wallet-sized Smart Card imbedded with a computer chip, can be programmed to store cash for use on public transit or other goods and services through partnerships with entities near bus and rail stations (e.g., schools, parking lots, retailers). It will improve revenue and ridership data collection and reporting through a central data collection system that will help with financial control and service planning." Metro’s goal is to implement the Universal Fare Card system on Metro’s system by end of 2004 and on municipal operator systems by the end of 2005.

This system is very compatible with a shared-use system of secure bicycle parking, and has the potential to streamline administration as well as making usage more efficient, due to the ability to charge per increment of time that the bicycle is parked. As well, it allows for better reporting and a shared-use network, whereby the user could park at any transit station with compatible technology.

The Universal Fare Card system is not the only possibility for time-elapsed fee charging. See the Access Control and Membership Management section for a full description of charging options.

**Project Recommendation:**
Develop a flexible bike parking pricing structure that encourages efficient and effective use of Metro bicycle parking facilities to encourage more bicycle use.
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT

COSTS AND FUNDING OPTIONS

The costs to build and operate a bike-transit center can be broken down into two categories: capital funds and operating funds. Since each bike-transit center facility is unique to its community and location, costs tend to vary greatly. However, to help establish a baseline cost system for capital needs the following chart can be used for preliminary analysis:

<table>
<thead>
<tr>
<th>Type</th>
<th>Low per space ($)</th>
<th>High per space ($)</th>
<th>Average for 30 spaces ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lockers</td>
<td>1,500</td>
<td>2,000</td>
<td>52,500</td>
</tr>
<tr>
<td>Secure Rack Enclosures</td>
<td>2,500</td>
<td>4,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Full Service</td>
<td>3,000</td>
<td>5,000</td>
<td>120,000</td>
</tr>
</tbody>
</table>

* excludes site preparation costs and any additional services beyond bike parking.

In addition, Section 3 further outlines costs estimates for both capital and operating.

Funds for bike-transit centers can come from a variety of sources, and the structure of funding can range from a single source to a complex compilation of partners and programs. The complexity of the funding increases the intricacy of the project, as each partner or funding source will likely be interested in a slightly different aspect of the project and have their own agenda and benchmarking requirements. This usually increases reporting requirements as well as overall administration of the project.

Each partner will also bring different strengths to the table. For example, a program may help fund a bike-transit center and also offer in-kind resources, such as expertise in graphic design or printing. Moreover, the greater the number of partners the more diverse the perspectives on the project, which helps limit risk and enhances creativity.

Although bicycling programs and projects are often under funded, there are a variety of resources to which to turn. The categories that the Project Team has broken out are public and private funds.

Funding from the public sector for bike-transit centers comes primarily from two agencies: Metro and Caltrans. Every two years, Metro issues a Call for Projects, which is a competitive funding program that distributes most federal and state funds for bicycle and pedestrian projects. A couple of the federal funding sources distributed by the Call for Projects include Congestion Mitigation and Quality Improvement Program (CMAQ) and Transportation Enhancement Activities (TEA). The other major public funding agency is Caltrans, which distributes funds from the Bicycle Transportation Account every spring.

**Project Recommendation:**
Pursue creative financing, as well as traditional methods, for funding for capital investment and operating costs.

The following is a partial list of other funding sources, public and private.
State Funding

Environmental Enhancement and Mitigation Program (EEMP)
Description: This program provides funds to undertake environmental enhancement and mitigation projects that are directly or indirectly related to the environmental impact of modifying existing transportation facilities, or for the design, construction or expansion of new transportation facilities.

Eligible Applicants: Non-profit agencies, and local, state and federal governments.

Petroleum Violation Escrow Account (PVEA)
Description: Funds from the PVEA are intended to result in energy savings or displacement of non-renewable energy. This account has been depleted since its inception and few new projects are undertaken.

Eligible Applicants: Cities, counties, transit operators and Caltrans.

Regional Improvement Program (RIP)
Description: State funding for a variety of transportation projects such as transit stations and bicycle and pedestrian facilities.

Eligible Applicants: Cities, counties, transit operators, Caltrans

Regional/Local Funding

Developer Impact Fees, which are charged to developers to offset the public costs that are an inherent part of new development; and Bicycle Registration Fees, which accumulate and can be used for bicycle programs or projects.

Private Funding

There are a variety of private funding resources, including foundations, individual giving, employee incentives, advertising on the facilities, and corporate sponsorships. In addition to the usual nationwide sources which fund environmental/social justice/sustainability programs, such as the Robert Woods Johnson Foundation, there are a plethora of private funders that focus strictly upon or give preferences to programs or projects that fall within a certain city/community or state.

Corporate sponsorships can either provide passive funding because of a philosophical commitment to the project or program or may be an active partner with a mission that is either highly similar or very complementary to the bike-transit center, such as car-sharing, advancing the status or technology of alternative transportation, bicycle retail sales, repair, and rental, etc.
CASE STUDIES

Bikestation® Long Beach, Long Beach, CA

Opened: 1996
Operator: Bikestation®
Sponsors: City of Long Beach, Calstart, Long Beach Redevelopment
Services: Valet parking/business hours, technology lockers for 24/7 member access, retail, repairs, air, café, bike and car sharing, guided tours, seminars, internet access, bicycle registration, transit and tourism information.
Capital Cost: ~$300,000
Oper. Subsidy: $4,000/month
Parking Spaces: 83
Avg. Daily Parks: 35
Status: Located at the 1st St. Transit Mall, a light rail and bus hub, Bikestation® Long Beach continues to operate as designed and is an architectural icon for the City of Long Beach.

Bikestation® Berkeley, Berkeley, CA

Opened: 1999
Operator: Bicycle-Friendly Berkeley Coalition
Sponsors: Bay Area Rapid Transit (BART)
Services: Valet parking/business hours, light repairs, retail, car sharing, transit and tourism information
Capital Cost: $50,000
Oper. Subsidy: $5,000/month
Parking Spaces: 77
Avg. Daily Parks: 75
Status: Overwhelming success is driving the operator and sponsor to explore ideas for expansion and 24/7 access.
## Bikestation® Embarcadero, San Francisco, CA

| Opening: | Oct. 2004 |
| Operator: | TBD |
| Sponsors: | Bikestation®, Bay Area Rapid Transit (BART) |
| Services: | 24/7 secure bicycle parking, minor repairs, limited retail, transit information, other services TBD |
| Capital Cost: | ~$150,000 |
| Oper. Subsidy: | $3,000/month, free rent |
| Parking Spaces: | appr. 130 |
| Avg. Daily Parks: | 25 |
| Status: | Underutilized facility, originally opened as valet bicycle parking during business hours. In the process of conversion to Bikestation® membership and secure access system. Possible link to Bikestation® Berkeley facility when that facility upgrades, creating first shared-use bicycle parking network in the United States. |

## Bikestation® Palo Alto, Palo Alto, CA

| Opened: | 1999 |
| Operator: | Palo Alto Bicycles |
| Sponsors: | City of Palo Alto, Bay Area Air Quality Management |
| Services: | Valet bicycle parking/business hours, retail, repairs, bike-sharing, transit information and bike-on-train passes, refreshment and snack sales. |
| Capital Cost: | ~$125,000 |
| Oper. Subsidy: | Free rent, decreasing subsidy ~$4,000/month from City ended mid-2004 |
| Parking Spaces: | 150 |
| Avg. Daily Parks: | 75 |
| Status: | With the advent of Caltrain's Baby Bullet commuter train, bicycle parking has increased by over 20 bikes/day. The City will shortly close down the facility, which is housed in a historical train depot, for re-roofing. Currently exploring alternatives. |
Münster Radstation. Münster, Germany

Opened: 1996  
Operator: Hundt of Radstation Münster Hundt KG  
Sponsors: City of Münster, Deutch Bahn  
Services: Bike parking, bicycle rentals, repairs, retail sales, bicycle washing  
Capital Cost: ~$300,000  
Oper. Subsidy: Free rent  
Parking Spaces: 3,300  
Avg. Daily Parks: 2,000  
Status: If bike-parking revenues exceed staff expenses, then under a percentage formula, the pays some money to the City. The first two months of operation, the Radstation was reimbursed. Every month since, the Radstation has given some money back to the City.

The Bike Rack, Cherry Creek (Denver), CO

Opened: June 2004  
Operator: Campus Cycles  
Sponsors: Transportation Solutions  
Services: Secure indoor bike parking/business hours, repairs, retail, rentals, transportation information, guided bike tours, and snacks.  
Capital Cost: Unknown  
Oper. Subsidy: none  
Parking Spaces: 75  
Avg. Daily Parks: 10 (after only one month of operation)  
Status: The Bike Rack has only one month of operation to date, so it is difficult to draw any conclusions on its success. However, it is a unique model that utilizes a private for-profit entity as the operator and has no operating subsidy, making it an interesting model to observe.
### Millennium Park Bicycle Station, Chicago, IL

- **Opened:** July 2004
- **Operator:** Bike Chicago
- **Sponsors:** City of Chicago, Chicago Department of Transportation, Chicagoland Bicycle Federation, Igo Car Sharing, Cycle Safe, Breezer Bikes.
- **Services:** Valet parking/business hours, 24/7 member parking access, personal lockers, showers, retail, repairs, air, café, bike and car sharing, guided tours, seminars, internet access, bicycle registration, transit and tourism information.
- **Capital Cost:** $3.1 million
- **Oper. Subsidy:** free rent, finished space, maintenance provided by City.
- **Parking Spaces:** 300
- **Avg. Daily Parks:** 75
- **Status:** Extremely good response in the first week of business, over 75 parks/day and 100 members. Success factors: excellent location (transit hub, business district, and on a major bike way), high quality of facility, and significant marketing for Millennium Park opening.

### Pittsburgh Bike 'n Blade, Pittsburgh, PA

- **Opened:** 2004
- **Operator:** Pittsburgh Parking Authority
- **Sponsors:** City of Pittsburgh, Port Authority
- **Services:** Unattended racks (inside/outside), misting station.
- **Capital Cost:** ~$50,000
- **Oper. Subsidy:** none
- **Parking Spaces:** 24
- **Avg. Daily Parks:** unknown
- **Status:** Although originally designed as a state-of-the-art full-service bike commuter facility with a $1.2 million budget, September 11 caused the Port Authority and other agencies to withdraw support from the project. An existing building was painted and 12 bike racks and a water mister installed.
SECTION 2: BIKE-TRANSIT CENTER TOOL KIT
SECTION 3: IMPLEMENTATION PLANS
SECTION 3: IMPLEMENTATION PLANS

CITY OF PASADENA

Introduction
In the summer of 2003, the Metro Rail Gold Line opened to the public connecting Union Station in downtown Los Angeles and Sierra Madre Villa in East Pasadena via Chinatown, Highland Park, South Pasadena and Pasadena. The 13.7-mile Metro Rail Gold Line has 13 stations and is expected to carry between 26,000 and 32,000 average weekday-boarding passengers.

In March 2002, the City of Pasadena adopted the “Century of Bikes: Bicycle Master Plan for the City of Pasadena.” This plan presents a guideline for the city to provide the safe and attractive environment needed to promote bicycling as a transportation mode. The plan also provides a comprehensive inventory of the city's bicycle facilities, an outline of basic bicycle parking requirements and needs. Sited in the plan, a nationwide Harris Poll claims that 42 percent of respondents said that they had ridden a bicycle in the past year. Of this group, almost half said that they would sometimes commute to work by bicycle, or commute more often, if there were showers, lockers, and secure bicycle storage at work. From this poll, the plan’s crafters concluded that “the availability of convenient, secure bicycle parking is a critical factor in an individual’s decision whether or not to use a bicycle for transportation.”

The Pasadena Bicycle Master Plan further recognizes the importance of bicycle parking by stating that “cyclists' needs for bicycle parking range from simply a convenient piece of street furniture to storage in a bicycle locker that affords weather, theft and vandalism protection, gear storage space, and 24-hour personal access.”

The City of Pasadena has always been a community that prides itself on its high quality of life, neighborhoods and progressive city government. The opening of the Metro Gold Line and funding from Caltran’s Community Based Transportation Planning Grant Program offer a unique opportunity to mold the city’s progressive nature with their commitment to a high quality of life through bicycle, pedestrian and public transportation.

As part of this project, a diverse group of local representatives including bicyclists, city staff and non-profit groups, known as the Local Subcommittee, were brought together by the Project Team to evaluate building a bike-transit center in the City of Pasadena.

After evaluating several sites and locations, the Project Team and Local Subcommittee recommend the development of a bike-transit center adjacent to the Memorial Park Metro Gold Line Station on the Metro right-of-way. A bike-transit center at this location would continue to build upon the pedestrian-friendly accesses to Old Town Pasadena, strengthen bike-and-transport connections with the Metro Rail Station, and provide local employees and shoppers a place to securely park their bicycle around the clock. The site is also well situated for a future bicycle rental business to service the growing tourist market.

Two concepts are being proposed for the Memorial Park Bike-Transit Center. The first is a bicycle locker garden that would provide bike parking for 64 bikes. The project would also incorporate a pedestrian thoroughfare and public garden connecting the Metro Rail station with East Union Street and Colorado Boulevard. The concept uses innovating lighting techniques to illuminate the facility and up-light a canopy stretched across the entire project. The second concept takes the “pedestrian thoroughfare” a step further by incorporating a bridge-type design with a secure rack enclosure for 60 bicycles. The structure plays to the heavy curved elements of the Metro Rail Station across the street.
Local Subcommittee

The Project Team worked closely with city staff to assemble a group of individuals who could provide feedback and input as the project progressed, while understanding its conceptual nature and long-term objectives. Public participation in the City of Pasadena has historically been very high and residents tend to be organized with the bicycling population being no exception. Representatives from city government, bicycle advocates, transportation officials and a local non-profit transportation organization, Calstart, were solicited to participate in the process. The Local Subcommittee met 4 times and the meetings were always very well attended, and the discussions were lively and productive.

A general feeling among the Local Subcommittee members was that a project should be developed as soon as possible. The group recognized that focusing efforts on sites that were already in the public domain (i.e. owned by the city, Metro or Caltrans) would significantly improve the development possibilities and shorten the timeline for a bike-transit center, thus public ownership was a mandatory item.

The group felt that it was very important that if the City of Pasadena were to play an active role in the project that the bike-transit center should serve Metro Rail Stations as well as Pasadena citizens and businesses. In essence, the bike-transit center should be a community facility as well as a transit asset.

The Local Subcommittee agreed upon the following Objective Statement:

**Pasadena Objective Statement**

As part of the Caltrans/Metro Bike-Transit Center Implementation Plan project, the City of Pasadena aims to increase bicycle-transit trips, address the lack of secure bike parking at existing Gold Line Stations, and decrease the potential for bicycle vandalism by identifying optimum bike-transit center sites that will ultimately link to a network of regional facilities within Los Angeles County.

The criteria to develop a bike-transit center in Pasadena requires that the facility be:
- accessible for bicyclists and pedestrians;
- within a reasonable distance of a Gold Line Station;
- highly visible;
- publicly owned (by the city or transit agency); and
- a project that can be executed within a reasonable timeframe.

**Pasadena Local Subcommittee Members**

Project Team
Matt Benjamin, LACBC
Robin Blair, Metro
Chris Buntine, Calstart
Claudine Chen, Local Bicyclist
Ameera Chowdhry, Local Bicyclist
Joanne Cucchi, Metro
Walt Davis, Metro
Nishith Dhandha, LACBC
Rich Dilluvio, City of Pasadena
Steve Haderlein, City of Pasadena
Rufina Juarez, Metro
Judi Masuda, City of Pasadena
Helen Ortiz, Metro
Eric Shen, City of Pasadena
Site and Location Analysis
The Local Subcommittee began the analysis process for each of the stations. See map below.
City of Pasadena Site and Location Matrix
The project team and many of the Local Subcommittee Members toured the potential sites numerous times to evaluate possible bike-transit center sites and study travel behaviors. The following matrix details each of the potential sites against the Site and Location Criteria outline in Section 2 of this document.

### Mandatory Site Requirements

<table>
<thead>
<tr>
<th>Access to Transit</th>
<th>Fillmore</th>
<th>Del Mar</th>
<th>Memorial</th>
<th>Lake</th>
<th>Allen</th>
<th>Sierra Madre Villa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>Racks could work at this location and are already being used.</td>
<td>Racks could work at this location but higher density parking would be desirable.</td>
<td>Racks could work at this location and are already being used. Location could benefit from higher density parking.</td>
<td>Space is extremely limited and higher density bicycle parking could fulfill the need. Perceived high theft area.</td>
<td>Racks could work at this location and are already being used.</td>
<td>Perceived high theft area and need for secure bike parking.</td>
</tr>
<tr>
<td>Land Ownership</td>
<td>Metro owned.</td>
<td>Underground parking garage owned by Metro.</td>
<td>Various public agencies own location/sites, including a large “right-of-way” owned by Metro, which is being transfered to the City of Pasadena.</td>
<td>Adjacent land owned by Caltrans.</td>
<td>Land immediately adjacent to station owned by Caltrans. Vacant lot across the street owned by private party.</td>
<td>Parking garage owned by Metro.</td>
</tr>
<tr>
<td>Zoning</td>
<td>Zoning is not an issue.</td>
<td>Zoning is not an issue.</td>
<td>Zoning is not an issue.</td>
<td>Zoning is not an issue.</td>
<td>Zoning is not an issue on Caltrans land. Zoning could be problem on adjacent residential lot.</td>
<td>Zoning is not an issue.</td>
</tr>
</tbody>
</table>
Recommended Site Requirements

<table>
<thead>
<tr>
<th>Access - Bicycle</th>
<th>Fillmore</th>
<th>Del Mar</th>
<th>Memorial</th>
<th>Lake</th>
<th>Allen</th>
<th>Sierra Madre Villa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe bicycle access to location. Signalized intersections.</td>
<td>Safe bicycle access to location. Signalized intersections.</td>
<td>Safe bicycle access to location. Signalized intersections.</td>
<td>Site is located above a major freeway (I-210) with on and off ramps immediately adjacent creating dangerous traffic intersections for bicyclists. Signalized intersections.</td>
<td>Site is located above a major freeway (I-210) with on and off ramps immediately adjacent creating dangerous traffic intersections for bicyclists. Signalized intersections.</td>
<td>Site is located to the north of a major freeway (I-210) with on and off ramps close to the site creating busy traffic intersections for bicyclists. Signalized intersections.</td>
<td>Site is located to the north of a major freeway (I-210) with on and off ramps close to the site creating busy traffic intersections for bicyclists. Signalized intersections.</td>
</tr>
<tr>
<td>Employment</td>
<td>Site is within ¼ mile from 8,705 employees.</td>
<td>Site is within ¼ mile from 14,931 employees.</td>
<td>Site is within ¼ mile from 21,252 employees.</td>
<td>Site is within ¼ mile from 12,582 employees.</td>
<td>Site is within ¼ mile from 2,491 employees.</td>
<td>Site is within ¼ mile from 4,199 employees.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Good transit connections with no major barriers.</td>
<td>Good transit connections with no major barriers.</td>
<td>Good transit connections, but site is adjacent to freeway.</td>
<td>Good transit connections, but site is adjacent to freeway.</td>
<td>Good transit connections, but site is adjacent to freeway.</td>
<td>Good transit connections, but site is adjacent to freeway.</td>
</tr>
<tr>
<td>Demand</td>
<td>3 bicycles parked on the afternoon of December 4th, 2003 with 6 bicycle spaces available.</td>
<td>1 bicycle parked on the afternoon of December 4th, 2003 with no bicycle spaces available.</td>
<td>2 bicycles parked on the afternoon of December 4th, 2003 with 10 bicycle spaces available, but they are across the street in the City parking garage.</td>
<td>0 bicycles parked on the afternoon of December 4th, 2003 with no bicycle parking.</td>
<td>3 bicycles parked on the afternoon of December 4th, 2003 with 3 bicycle spaces available.</td>
<td>2 bicycles parked on the afternoon of December 4th, 2003 with 5 bicycle spaces available.</td>
</tr>
<tr>
<td>Proximity</td>
<td>113,733 housing units within 3.5 miles of location. Future development plans: - ArtCenter Campus expansion within ½ mile from site. - Numerous light industrial projects under development in adjacent neighborhood. - Metro is currently negotiating a project that will consist of a 30,000 square foot medical office building and 160 parking spaces dedicated to transit users adjacent to site.</td>
<td>106,024 housing units within 3.5 miles from location. Future development plans: a project surrounding the station is currently under development. The new buildings will contain 347 residential apartment units, with the depot and ground floor of the new buildings containing approximately 10,000 to 11,000 square feet of retail commercial and restaurant space. Approximately 600 parking spaces will provide for exclusive use by transit riders.</td>
<td>96,712 housing units within 3.5 miles from location. No future development plans except for Metro right-of-way to be transferred to the City of Pasadena.</td>
<td>87,825 housing units within 3.5 miles from location. No future development plans.</td>
<td>88,986 housing units within 3.5 miles from location. No future development plans.</td>
<td>77,181 housing units within 3.5 miles of location. Directly to the north of the transit station a developer will build approximately 200 apartments, 200,000 to 250,000 square feet of commercial office space on approximately five acres, and a 1,000-space parking structure.</td>
</tr>
<tr>
<td>Visibility</td>
<td>Poor visibility. Location is not visible from any major thoroughfares.</td>
<td>Poor visibility. Location is not visible from any major thoroughfares.</td>
<td>Good visibility from adjacent roadways.</td>
<td>Good visibility from major thoroughfares.</td>
<td>Good visibility from major thoroughfares.</td>
<td>Average visibility from major thoroughfares. Location would need directional signage.</td>
</tr>
</tbody>
</table>
SECTION 3: IMPLEMENTATION PLANS

On December 15th, the Pasadena Local Subcommittee met to discuss prioritizing the Metro Gold Line Stations for the development of a bike-transit center. The conversation was extremely lively with many participants lobbying for one site over another. In the end, the group decided upon the following priority list for a bike-transit center.

1. Memorial Park
2. Sierra Madre Villa
3. Lake
4. Del Mar
5. Fillmore
6. Allen

Demand Analysis
It is difficult to estimate demand for bicycle parking. It is well understood among the bicycling community that if secure bike parking is providing, people will use it. However, there is a fine balance between offering enough bicycle parking and providing too much. Another consideration is the security of bicycle parking. People will not use a bicycle rack if they do not feel that the area is secure.

In European communities where bike-transit centers have been constructed, Bikestation® staff anecdotally observed that for every bicycle parked at a bike-transit center there were two bicycles parked outside the facility. This is very similar to observations at Bikestation® Long Beach and Berkeley. However, unlike other transit lines, the Metro Rail Gold Line is a new system that opened less than a year ago. Plus, almost immediately after opening, the system was closed down for almost a month because of a labor strike. Ridership is not expected to reach full capacity for many years.

Survey
In March 2004, a survey was placed on all cars parked in the Sierra Madre Metro Gold Line Station multi-level parking garage. A total of 341 surveys were distributed. Of the surveys returned, about one-third of the commuters indicated that they would ride a bicycle to or from the station if secure bike parking were available. About half of those individual also indicated that they would be willing to pay for this service.

The combination of a strong willingness to ride to transit by survey respondents and the City of Pasadena’s commitment to provide more bicycle infrastructure improvements indicates that the Metro Gold Line Stations would make good candidates for bike-transit centers.
Elevation and Site Plan Concepts

Memorial Park Gold Line Station
The Memorial Park Station is located on the northern edge of historic Old Pasadena, adjacent to Memorial Park, the Pasadena Senior Citizen’s Center, and a short walk to City Hall and Pasadena’s Central Library. The station is situated beneath the existing Holly Street Village Apartments that were constructed in 1994 in anticipation of a light rail station at this location.

After several visits by the Project Team, two potential sites were identified for a bike-transit center at Memorial Park: the Holly Street Garage and MTA right-of-way.

The Holly Street parking garage is owned by the City of Pasadena and provides parking spaces for an adjacent church, rideshare vehicles and the general public. The City of Pasadena recently installed 5 bicycle racks in the parking garage on the Holly Street entrance for use by Gold Line patrons. Several parking spaces in the northwest corner of the parking garage were identified as a possible site for a bike-transit center. These spaces would be enclosed to provide secure bicycle parking in a cage-like structure that would be accessible from Holly Street and the Gold Line Station.

Because visibility of this site, inside a parking structure, would be low, the addition of high profile signage on the exterior of the parking garage would be needed to make users aware of the facility’s presence. After further evaluating this site, the Project Team felt that the reduced visibility would seriously hamper the effectiveness of the project, and the potential for a successful project on the Metro right-of-way was significantly higher.

The Metro Right-of-Way is currently being transferred to the City of Pasadena with an anticipated transfer date of late 2004. There has been some community discussion on the best use for the land with ideas ranging from a surface parking lot to outdoor patio seating. At this point; however, a final decision on the exact use of the land has not been made and will likely require a lengthy public input process. Regardless, the Project Team felt that developing concepts for a bike-transit center at this site could help push the idea forward and generate discussion in the public domain.

Based on preliminary demand analysis and future development opportunities, the project team decided that two concepts for Memorial Park would be created: one for bicycle lockers and the other for a secure rack enclosure.
Metro Right-of-Way across from Memorial Park Metro Gold Line Station
Concept 1: Bicycle Locker Garden
The first concept developed for the Metro right-of-way site is a bicycle locker garden. The idea calls for placing four pods of sixteen wedge-shaped bicycle lockers, for a total of 68 parking spaces, along a pedestrian walkway. The walkway will then be surrounded by vegetation and greenery to create a park like setting. Lighting is placed throughout the project, including along the walls of adjacent buildings. Above the walkway, a semi-transparent fabric is stretched across the entire site to provide shade during the day and a reflective screen for lighting at night.
SECTION 3: IMPLEMENTATION PLANS

**Concept 2: Bridge**
The second concept developed for the Metro right-of-way site is a bicycle parking enclosure with an ornamental bridge element. Since this site can serve as a connecting corridor between the Memorial Park Metro Gold Line Station and Colorado Avenue, the concept calls for solidifying this notion with a physical structure: a bridge. Similar to Concept 1, vegetation and greenery play a large part in the space to create a park-like setting that encourages pedestrian activity. The secure rack enclosure is capable of storing 60 bicycles with double-tier parking racks.
Programming Needs
The Local Subcommittee expressed some interest in being able to offer a full service bike-transit facility, similar to Bikestation® Long Beach. Bikestation® Long Beach offers a range of services in addition to secure bike parking, such as vehicle sharing, bike rentals and retail sales. To provide these services, the facility requires full-time staffing during operating hours (7 am to 6 pm). The high staff costs, long hours, and low revenue stream require that the City of Long Beach provide $4,000 per month in operating subsidy in addition to securing other grants for new programming.

With the current state budget crisis and subsequent budget shortfalls on the local level, the ability to secure ongoing operating funds for full service bike-transit centers is unlikely. At this point, it is highly recommended that bike-transit centers be developed that require as little operating money as possible. The best way to accomplish this is to minimize the amount of labor required to run the facility and develop more “automated” facilities with basic core services. The following is a list of programming elements that can be provided without significant labor or a large operating subsidy:

1. Secure bike-parking;
2. Transit/community information;
3. Electric bicycle and scooter parking;
4. Space for car-sharing services;
5. Free air for bicyclists;
6. Benches;
7. Personal belonging lockers.
SECTION 3: IMPLEMENTATION PLANS

Financial Estimates
The following chart details estimates for capital and annual operating expenses for both concepts. These numbers are very preliminary estimates based on concept drawings and should not be used for actual construction or operating expenses. Operating income was not included in this pro forma, because pricing of services needs to be determined.

<table>
<thead>
<tr>
<th></th>
<th>Concept 1: Locker Garden (64 Spaces)</th>
<th>Concept 2: Bridge and Secure Rack Enclosure (60 Spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EST. CAPITAL EXPENSES</strong>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle Lockers or Racks</td>
<td>128,000</td>
<td>21,000</td>
</tr>
<tr>
<td>Canopy System</td>
<td>25,000</td>
<td>-</td>
</tr>
<tr>
<td>Bicycle Cage Structure</td>
<td>-</td>
<td>75,000</td>
</tr>
<tr>
<td>Bridge Structure</td>
<td>-</td>
<td>75,000</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>15,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Landscaping</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Signage</td>
<td>4,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Site preparation</td>
<td>25,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Electrical</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Technology</td>
<td>5,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Lighting</td>
<td>25,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td><strong>TOTAL CAPITAL COSTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>287,000</td>
<td>370,000</td>
</tr>
</tbody>
</table>

| **EST. ANNUAL OPERATING EXPENSES*** |         |                                                         |
| Membership Management @ $50 per space | 3,200    | 3,200                                                   |
| Electrical                | 3,600    | 4,200                                                   |
| Maintenance/ Cleaning     | 9,600    | 9,600                                                   |
| Repairs                   | 2,500    | 2,500                                                   |
| Marketing                 | 5,000    | 5,000                                                   |
| **TOTAL OPERATING EXPENSES** |         |                                                         |
|                        | 23,900    | 24,500                                                   |

* Estimates Only
The Pasadena General Plan calls for creating “a city where people can get around without cars.” The opening of the Metro Gold Line was a significant step in the direction of accomplishing this goal. By providing secure bicycle parking at these Metro Rail stations, the vision of a city where its citizens travel by transit, foot and bike will be that much closer.

Through an 8-month process, the Local Subcommittee evaluated several alternatives and eventually decided upon a plan that recommended the development of a bike-transit center at the Memorial Park Metro Rail Gold Line Station. The preferred site is the Metro right-of-way to the south of the train station. A bike-transit center at this site would continue to build upon the pedestrian-friendly accesss to Old Town Pasadena, strengthen bike-and-transit connections with the Metro Rail Station, and provide local employees and shoppers a place to securely park their bicycle around the clock. The site is also well situated for a future bicycle rental business to service the tourist market.

Two concepts are being proposed for the Memorial Park Bike-Transit Center. The first is a bicycle locker garden that would provide bike parking for 64 bikes. The project would also incorporate a pedestrian thoroughfare and public garden connecting the Metro station with South Union Street and Colorado Boulevard. The concept also uses innovating lighting techniques to illuminate the facility and up-light a canopy stretched across the entire project. The second concept takes the "pedestrian thoroughfare" a step further by incorporating a bridge-type design with a secure rack enclosure for 60 bicycles. The structure also plays to the heavy curved metal elements of the Metro rail line across Holly Street.

The locker garden can be a cost effective solution to activating a dead alley space and create needed bicycle parking. The secure rack enclosure and bridge concept has the ability, like Bikestation® Long Beach, to become a city icon and example of the city’s commitment toward bicycle and alternative transportation. The decision to move forward with either concept is ultimately up to the project team and their desires.

In fact, this report is really just the beginning of the process. There are several other steps that need to be followed through, such as funding and public approval. Securing funding is a significant hurdle that needs to be overcome. The City of Pasadena and Bikestation® submitted a grant application to Caltrans’ Bicycle Transportation Account for a bike-transit center in early 2004. It is hoped that this application will be funded. A decision should be made in the summer of 2004. Even though this funding source will probably only provide partial funding, the next step is to start the city and public approval process.

While awaiting a funding decision, it is recommended that Metro, in partnership with Bikestation®, submit a letter requesting a meeting with the City Manager of Pasadena, Cynthia Kurtz. The purpose of the meeting should be to solicit advice and support for the project by Ms. Kurtz. If approval is gained, Ms. Kurtz should also help detail the next steps for the project, including possible meetings with the City Engineer, Transportation Commission, Design Commission, and any other Pasadena individuals/commissions.
City of Norwalk

Introduction
The City of Norwalk is located in the midst of some of Southern California’s most accessible highways in the greater Los Angeles area, and located only 17 miles southeast of Los Angeles. The 9.35 square miles that make up the City of Norwalk have become one of the most rapidly developing and growing communities anywhere in the state of California.

The western edge of Norwalk borders one of LA County’s bicycle river trail, the San Gabriel River Trail. The river trail connects the beaches of Long Beach to the mountains of Duarte, covering over 60 miles and passing through numerous Los Angeles communities, including Norwalk and its neighbor Downey.

The City of Norwalk is also home to two major transportation hubs: the Metro Rail Green Line station and Norwalk/Santa Fe Metrolink commuter rail station.

Norwalk was selected by the Project Team to participate in the Bike-Transit Center Implementation Plan for three reasons. First, the presence of two major transportation centers, the Metro Rail Green Line and Metrolink stations, make the city a strong candidate for bike-to-transit connections. The Norwalk Metro Rail Green Line station is also the end of the line. Second, city staff are extremely receptive to being part of the project and see the value a bike-transit center will bring to the community. Finally, the presence of a large number of bicycles parked at the Metro Rail Green Line station daily (40+) make Norwalk an obvious candidate for a bike-transit center.

Representatives from the city, Metro and the Los Angeles County Bicycle Coalition were assembled to evaluate the two sites for a bike-transit center. After careful consideration and review, the group recommends the construction of a bike-transit center at the Norwalk Metro Rail Green Line Station. The station has strong transit connections between a light rail, regional and local bus services. The station’s park-and-ride lot, which can accommodate over 2,000 cars, is routinely filled to capacity with cars parked in illegal spots and overflowing into the community. On any given day, 30 bicycles are scattered around the station, attached to racks, railings, and lights. There is an obvious shortage of parking, both bicycle and automobile.

To help improve access to the station, the Local Subcommittee recommends opening the gate between Foster Road and the Metro station to pedestrian and bicycle traffic only. Opening this gate will allow bike and ped connections between the station and the entire southern area around the station, including the San Gabriel River Trail and Downey. It is first important to gain support of the adjacent neighborhood and address any concerns that might arise, including the possible addition of more security at the station.

Two concepts are being proposed for the Norwalk Metro Rail Green Line station: a bicycle locker garden and a secure rack enclosure. The locker garden will provide bicycle parking for 48 bicycles and include an overhead canopy to provide much needed shade for users and the lockers. In time, the Norwalk station could be one of the top bike-and-transit stations in the Metro system and the provision of adequate and ample bicycle parking will be a necessary component to accomplishing servicing this need. The second concept being proposed is a secure rack enclosure that can accommodate upwards of 90 bicycles with a high capacity bicycle storage system with the possibility of providing additional parking in the future. Again, the installation of an awning will provide shade for facility users.
SECTION 3: IMPLEMENTATION PLANS

Local Subcommittee
Relying on city staff recommendations, the Project Team assembled a Norwalk Local Subcommittee that was comprised of individuals from the city, Metro and Los Angeles County Bicycle Coalition. The group met a total of five times over the course of the project. Meetings included a site visit and an update presentation to the City Manager, Ernie Garcia.

Objective Statement
After the first site visit on November 19th, the Local Subcommittee decided that the best location for a bike-transit center in the City of Norwalk was the Metro Green Line Station. The Metrolink was considered a good sight as well, but there was a severe shortage of available land and bicycle access to the site was challenging. Other issues contributed to this decision and are discussed in greater depth further in the report. With the location selected, the Local Subcommittee drafted an Objective Statement to help focus the project and outline the specific goals of a facility.

Norwalk Objective Statement
As part of the Bike-Transit Center Implementation Plan, the city of Norwalk aims to develop a bike-transit center at the Metro Green Line Station for the purpose of:

- increasing bicycle-transit trips;
- promoting clean alternatives to driving to the Station;
- reducing vehicle miles traveled;
- improving upon the functionality and aesthetics of bike facilities and amenities at the Station;
- improving the plaza’s ambiance;
- improving access for cyclists and pedestrians to the Station;
- raising public awareness about the options and convenience of cycling and walking to transit.

Norwalk Local Subcommittee Members
- Rozanne Adanto, City of Norwalk
- Matt Benjamin, LACBC
- Lisette Bice, City of Norwalk
- Ron Clifford, City of Norwalk
- Chris Davis, City of Norwalk
- Joseph Fuentes, City of Norwalk
- Dave Hershenson, Metro
- Sharad Mulchand, Metro
- Suah Pak, Metro
Site and Location Analysis

Two sites were selected for analysis: the Norwalk/Santa Fe Metrolink Station and the Metro Green Line Station.
SECTION 3: IMPLEMENTATION PLANS

City of Norwalk Site and Location Matrix

The City of Norwalk has two strong locations for a bike-transit center: the Norwalk Metro Green Line Station and the Norwalk/Santa Fe Springs Metrolink Station. Both stations have a combination of rail and bus connections.

The Metro Green Line Station is the end of the line for the Green Line, which is a light rail train that runs alongside the I-105 between the City of Norwalk and Redondo Beach, including a stop for Los Angeles International Airport, and connection with the Metro Rail Blue Line. The Green Line Station is also a major bus transfer station with buses from Metro, Long Beach Transit and Norwalk Transit fanning out across the region. An extremely large surface park-and-ride lot surrounds the station with parking for over 2,050 cars. Resting between the I-605 and I-105, the station has excellent freeway access with dedicated off ramps into the park-and-ride lot, but lacks adequate bicycle and pedestrian access.

Approximately 6 miles east of the Norwalk Station along Imperial Highway is the Norwalk/Santa Fe Springs Metrolink Station. Two different commuter rail lines, the Orange County and 91 Line, serve this train station. Each line begins at Union Station in downtown Los Angeles and travels to either Oceanside or Riverside collecting commuters with approximately 48 trains per day stopping in Norwalk. The station is extremely popular with parking spaces filling beyond capacity early in the morning. A new multi-level parking garage was just constructed adjacent to the site. On the east side of the tracks, Santa Fe Springs provide additional parking. For commuters who do not arrive at the station in time to get a parking space, overflow parking and shuttle service is available at City Hall.

In the end, the Metro Green Line Station was selected as the preferred location for a bike-transit center because of the existing bicycling population, availability of land, and multiple transit connections.
## Section 3: Implementation Plans

### Metro Green Line Station

<table>
<thead>
<tr>
<th>MANDATORY REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro Green Line</td>
</tr>
<tr>
<td>Metro Buses</td>
</tr>
<tr>
<td>111 Florence Av.</td>
</tr>
<tr>
<td>115 Manchester Av./Firestone Bl.</td>
</tr>
<tr>
<td>121 Imperial/Wilmington Metro Rail Station-Imperial Hwy.-Norwalk/Santa Fe Springs Metrolink Station</td>
</tr>
<tr>
<td>135 Rosecrans Av.</td>
</tr>
<tr>
<td>270 Monrovia-El Monte-Norwalk</td>
</tr>
<tr>
<td>315 LAX City Bus Center-Manchester Av./Firestone Bl. Limited</td>
</tr>
<tr>
<td>460 LA-Knott’s Berry Farm-Fullerton-Disneyland Express</td>
</tr>
<tr>
<td>Long Beach Transit</td>
</tr>
<tr>
<td>172 Pacific Coast Hwy./Palo Verde Av.</td>
</tr>
<tr>
<td>173 Pacific Coast Hwy./Studebaker Rd.</td>
</tr>
<tr>
<td>Norwalk Transit</td>
</tr>
<tr>
<td>2 Metro Green Line-Norwalk Civic Center</td>
</tr>
<tr>
<td>4 Norwalk-Santa Fe Springs Metrolink Station via Imperial Hwy.</td>
</tr>
<tr>
<td>5 Rosecrans Av.-La Mirada</td>
</tr>
</tbody>
</table>

### Access to Transit

<table>
<thead>
<tr>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 racks and 8 locker spaces.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans owns and leases it to Metro.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoning is not an issue.</td>
</tr>
</tbody>
</table>

### Access — Bicycle

Access is extremely restricted to one access point along Hoxie Avenue from Imperial Highway. Numerous highway on and off ramps contribute to a high vehicle traffic area. No east and west bike lanes on Imperial Highway. Excellent potential for safe and convenient bicycle access via Foster Road; however, entry gate is closed. Station is very close to San Gabriel River Bike Trail and a pedestrian/bicycle bridge across the San Gabriel River to Downey. Limited bicycle access via Imperial Highway.

### Access — Pedestrian

Access is extremely restricted to one access point along Hoxie Avenue from Imperial Highway. Numerous highway on and off ramps contribute to a high vehicle traffic area. Long walking distances exist. Restricted pedestrian access from Imperial Highway.

### Connectivity

Links to the Foster Road Greenbelt and within ¼ mile of the San Gabriel River Trail and an access bridge to the City of Downey via Foster Road, a safe bike route. However, the access gate to the Station is currently closed and locked. No immediate connections with bike paths or trails exist.

### Proximity

Convenient to area neighborhoods, but access is restricted. No immediate retail or employment destinations within walking distance of site. Site is primarily a park and ride with transit stations. Accessible to Bechtel Corp., Los Angeles County Hall of Records, Verizon, FBI and several major engineering firms, although separated by large parking lots. No adjacent retail or residential areas.

### Visibility

For transit riders, visibility is very good. No line of sight for individuals who do not patronize station. Station is tucked back away from major vehicle thoroughfare. For transit riders, visibility is good. Site is immediately off of Imperial Highway, so potential to erect a sign will substantially increase visibility.

### Metroline Station

<table>
<thead>
<tr>
<th>MANDATORY REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MetroLink</td>
</tr>
<tr>
<td>Orange County Line</td>
</tr>
<tr>
<td>91 Line</td>
</tr>
<tr>
<td>Norwalk Transit</td>
</tr>
<tr>
<td>3 Bloomfield/Metrolink Station</td>
</tr>
<tr>
<td>4 Norwalk-Santa Fe Springs Metrolink Station via Imperial Hwy.</td>
</tr>
<tr>
<td>5 Rosecrans Av.-La Mirada</td>
</tr>
<tr>
<td>Santa Fe Springs</td>
</tr>
<tr>
<td>MetroExpress</td>
</tr>
</tbody>
</table>

### Land Ownership

Caltrans owns and leases it to Metro. The station occupies land in two municipalities, the City of Norwalk and Santa Fe Springs, with each owning the land in their city.

### Zoning

Zoning is not an issue.
SECTION 3: IMPLEMENTATION PLANS

Demand Analysis
Once the Local Subcommittee decided that the Norwalk Green Line Station was the preferred choice between the two locations, the following demand analysis was conducted to evaluate the number of bike parking spaces necessary.

On an average weekday, over 30 bicycles are parked at the Metro Green Line Station. Bicycles are typically attached haphazardly to railings, lights posts and bicycle racks. Because the station is the end of a line, commuters travel from a surrounding neighborhoods and a wide range of surrounding communities to commute into Los Angeles. The station has car parking to accommodate 2,050 vehicles. Since the recent surge in gasoline prices, the parking lot is filled to capacity each weekday.

Survey
In March 2004, the Project Team distributed a survey on the windshields of automobiles that were parked at the station that day. Surveys were also distributed to bicyclists by the Los Angeles County Bicycle Coalition at the station on February 24th for a separate but parallel study of bicycle transportation. Respondents had the option of either mailing in the survey postage paid to Metro or completing the survey on-line at www.bikestation.org.

Approximately a quarter the survey respondents indicated that they would ride a bicycle to or from the station if secure bicycle parking was available. About two-thirds of those also indicated that they would be willing to pay between a $1 a day and $10 per month for secure bike parking.

The survey results and the number of bikes and cars parked at the Norwalk Metro Green Line station indicated that the site would be a strong candidate for a bike-transit center. A facility should be built that can accommodate a minimum of 40 bicycles with the potential for expansion to over 90.

Bike Racks at Norwalk Metro Green Line Station
Access
Access to the Metro Green Line Station via bicycle, foot, bus or automobile is limited to the northern entrance along Hoxie Avenue. This seriously limits pedestrians’ and bicyclists’ ability to get to the station conveniently from any other direction than the north adding distance to nearby commutes. One possible solution, as several survey respondents indicated, is to open the gate between Foster Road and the station parking lot to bicycle and pedestrian traffic. In fact, there is even evidence that people are already climbing over and under the fence to access the station. Opening the gate would allow commuters to walk or ride their bicycle from areas south, east and west of the station, greatly increasing overall access (see maps below).

Several Local Subcommittee Members were involved in community affairs when the 105/605 interchange was constructed and recalled that the neighborhood residents adjacent to the Metro station were extremely active and vocal against the whole project. In order to open the gate, the Local Subcommittee recommended that the City Manager be consulted to assess the current state of affairs and that a meeting be held with the community to address any of their concerns.

Current Pedestrian and Bicycle Access to Norwalk Metro Green Line Station

Proposed Pedestrian and Bicycle Access to Norwalk Metro Green Line Station with the Opening of Foster Road Gate
SECTION 3: IMPLEMENTATION PLANS

Elevation and Site Plan Concepts

After looking at several different sites in the parking lot of the Norwalk Metro Green Line Station, the Local Subcommittee decided upon a site located in the northeast corner, where bicycle lockers are currently located.
Concept 1: Bicycle Locker Garden
The first concept for the Norwalk Metro Green Line Station is a locker garden made up of three circular locker pods, each containing 16 bike parking spaces. A total of 48 lockers would be provided and covered by an awning that would not only provide shade but also serve as signage for the facility. The addition of gardens and greenery would help create a more inviting and pedestrian-friendly environment.
Concept 2: Secure Rack Enclosure

Since the Norwalk Metro Green Line Station has a high probability of generating over 100 bicycle trips per day, the Project Team wanted to provide an option that could accommodate a high number of bicycles. The highest density bike parking facility suitable for this site is a secure rack enclosure. The following drawings illustrate a secure rack enclosure that can accommodate up to 90 bicycles in the space of six car parking spaces. The concept also calls for the installation of adequate lighting and a garden.
Financial Estimates

The following chart details estimates for capital and annual operating expenses for both concepts. These numbers are preliminary estimates based on concept drawings and should not be used for actual construction or operating expenses. Operating income was not included in this pro forma, because pricing of services needs to be determined. See Section 2 of this report.

<table>
<thead>
<tr>
<th>EST. CAPITAL EXPENSES*</th>
<th>Concept 1: Locker Garden (48 Spaces)</th>
<th>Concept 2: Secure Rack Enclosure (90 Spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Lockers or Racks</td>
<td>96,000</td>
<td>31,500</td>
</tr>
<tr>
<td>Canopy System</td>
<td>25,000</td>
<td>-</td>
</tr>
<tr>
<td>Bicycle Cage Structure</td>
<td>-</td>
<td>75,000</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>15,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Landscaping</td>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Signage</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Site preparation</td>
<td>5,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Technology</td>
<td>5,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Electrical</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Lighting</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td><strong>TOTAL CAPITAL COSTS</strong></td>
<td>206,000</td>
<td>231,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EST. ANNUAL OPERATING EXPENSES*</th>
<th>Concept 1: Locker Garden (48 Spaces)</th>
<th>Concept 2: Secure Rack Enclosure (90 Spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership Management @ $50 per space</td>
<td>2,400</td>
<td>4,500</td>
</tr>
<tr>
<td>Electrical</td>
<td>1,800</td>
<td>2,400</td>
</tr>
<tr>
<td>Maintenance/ Cleaning</td>
<td>9,600</td>
<td>9,600</td>
</tr>
<tr>
<td>Repairs</td>
<td>2,500</td>
<td>2,500</td>
</tr>
<tr>
<td>Marketing</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td>21,300</td>
<td>24,000</td>
</tr>
</tbody>
</table>

* Estimates
SECTION 3: IMPLEMENTATION PLANS

Recommendations and Conclusions
The Norwalk Metro Green Line Station is an ideal location for an unattended bike-transit center. The station has a serious car and bicycle-parking shortage that a bike-transit center can help to alleviate. The site has ample space for a facility and can provide a much-needed service for the station patrons. It is highly recommended that Metro work closely with the City of Norwalk to develop a bike-transit center at this location while simultaneously working toward opening Foster Road gate.

The station has strong transit connections to a light rail line, regional and local bus services. The station’s large park-and-ride lot is routinely filled to capacity with cars parked in illegal spots and overflowing into the community. On any given day, 30 bicycles are scattered around the station, attached to racks, railings, and lights. There is an obvious shortage of parking, both bicycle and automobile. The Norwalk Metro Green Line Station is probably one of the top three sites for a bike-transit center in the entire Metro rail system because of the parking shortage.

Typically, a municipality in partnership with a transit agency, promotes the development of a bike-transit center. This is primarily the result of how funding is structured Los Angeles County. The city will be completing a bicycle master plan, which will make them eligible for BTA funds, and needs to consider applying for other grants, including Metro’s Call for Projects.

The Foster Road gate severely limits bicycle and pedestrian access to the station. With the San Gabriel River Bike Trail less than one mile from this entrance and dense residential neighborhoods surrounding the station, it stands to reason that commuters would take advantage of this new access point. Without opening this gate, a bike-transit center at the Norwalk station will not reach optimal usage. Opening the gate will require costly public outreach effort and require Metro to provide extra security at the station.
SECTION 3: IMPLEMENTATION PLANS

City of Santa Monica

Introduction and Purpose
The City of Santa Monica was selected as a participant in the Bike-Transit Center Implementation Plan Project because of its high level of transit service and ridership, the fact that the city is a popular local for bicycling, and the city’s policy focus on sustainability/community livability. Santa Monica differs from the other three cities participating in the project, since the city is not currently served by a rail line and, therefore, does not have the option of locating a bike-transit center at a rail-transit station. The city is, however, served by a variety of Metro and Santa Monica Big Blue Bus lines. Santa Monica viewed participation in the project as an opportunity to explore linkages to a future regional network of bike-transit centers and a light rail line on Exposition. The city is about to embark on a major update to its Circulation Element of the General Plan and participation in this project provided an opportunity to explore conceptual options for possible implementation at a future point in time.

The city is comprised of 8.3 square miles with a balance of vibrant commercial areas and neighboring residential districts. Santa Monica’s population of 84,000 averages out to about 10,100 persons per square mile, one of the most densely populated areas in the County. The city is 15 miles from downtown Los Angeles and bordered by the City of Los Angeles on three sides with the Pacific Ocean on the west. Within its borders are three miles of municipal beach, a municipal pier, Santa Monica College, two regional hospitals, the Third Street Promenade and several other shopping districts, each with its own character.

All the buses within the Big Blue Bus fleet are equipped with bike racks on the front. The buses serve fourteen routes within West Los Angeles, including one express route to Downtown Los Angeles. The Big Blue Bus carries more than 73,000 passengers daily on its fleet of 260 buses and shuttles. The City is also served by Metro Rapid Bus on Wilshire Boulevard, which is equipped with bike racks, and other local Metro lines.

The city has a major regional Class I bike facility running north-south along the beach, with other Class II and III facilities along city streets as indicated in the city’s bike map. The city recently posted “Share the Road” signs along additional streets, and the city will soon begin a design process for a Class I bikeway along the Exposition rail right-of-way, through a grant from the Metro. The city's Green Building Guidelines and Municipal Code require that new non-residential buildings provide off-street bicycle parking. The city’s coastal Mediterranean climate is conducive to bike riding, enjoying a mild climate averaging about 68 degrees. Air quality is consistently good in the coastal district that surrounds Santa Monica.

Santa Monica is served by the Santa Monica Freeway (Interstate 10), the Pacific Coast Highway/Lincoln Boulevard (Route 1) and a grid-based arterial network of roadways. Many of the city streets are heavily used and the volume of traffic presents a challenge for bicycle riders in some locations.
SECTION 3: IMPLEMENTATION PLANS

Local Subcommittee

A Local Subcommittee was formed consisting of a cross-departmental working group with representatives from:

- Planning and Community Development Department
- Big Blue Bus
- Community and Cultural Services Department
- Environmental Programs Division of the Environmental and Public Works Management Department
- Police Department.

The group met twice and continued to communicate through e-mail. The Subcommittee decided that the most appropriate outreach mechanism for the project would be a focus group of active community members that would represent a cross-section of institutions and interests. Ideas and concepts could be further developed in the Circulation Element outreach process.

Statement of Purpose

The Local Subcommittee developed the following statement of purpose and goals for the city’s participation in the project.

City of Santa Monica Statement of Purpose

City of Santa Monica is committed to participating in the planning study funded by Caltrans and conducted by Metro and Bikestation. The City’s participation is an opportunity for the City to explore and develop conceptual bike-transit center components that could be implemented by the City at some point in the future. Particular attention will be focused on linkages to transit since this is the objective of Metro. The elements developed through participation in this process will be input to the development of the City’s update of the Circulation Element of the General Plan.

Anticipated outcomes from participation in the study include:

- Development of the program components for at least two prototype bike-transit centers;
- Identification of appropriate locations;
- Development of sizing/footprint requirements;
- Identification of possible operational models.
Focus Group
On the evening of March 25th, 2004, the Project Team conducted a focus group to explore the concept of bike-transit centers in Santa Monica. The purpose of conducting a focus group within the City of Santa Monica was to garner input from strategic members of the community with a breadth of values and experiences on issues related to the development of bicycle-parking facilities that service public transit stops. The focus group participants were selected based on at least several of the following criteria: residents or employees in Santa Monica; knowledge of transportation patterns, geographic area, community issues, employment centers and potential user groups; transit rider and/or a bicyclist. The ten participants included representatives from several of the city’s largest employers including one of the hospitals, an employee from an architectural firm, cycling advocates, active residents, parents with children in local schools, a representative of one of the private schools and a representative of the Santa Monica visitors bureau.

The focus group was conducted as a two-hour session with light refreshments served at the outset. It was held in a community room at Reed Park. The evening was facilitated by two professionally trained facilitators from the Rivers, Trails, and Conservation Assistance Program of the National Park Service: Anne Dove and Jim Donovan

As the focus group members arrived, they were asked to complete a two-page survey. Once the group completed the survey, the facilitators began the discussion portion of the focus group. As a way of introduction, a Project Team member briefly described display boards that illustrated various bike-transit center examples in Long Beach, the San Francisco Bay area, Seattle and various locations in Europe. This presentation was followed by the facilitator-led portion of the meeting.

The facilitator asked the group the following six questions:

· What markets do you think bike-transit centers could serve in Santa Monica?

· If secure bicycle parking were available, where could bike trips be increased in Santa Monica: a) near public transportation and b) at other activity centers or destinations?

· What specific problems or issues exist in Santa Monica that might deter a bicycle or bike-to-transit trip; where are they?

· Can you think of any partners of collaborators that could be an asset in the development or operations of bike-transit centers in Santa Monica?

· In what ways could bike-transit centers be promoted to the community? Are there any organizations, groups or existing programs that could inspire awareness and use?

· Can you think of ways a bike-transit center could be successful in Santa Monica?

Questions were met with lively and rigorous discussion. The most prevalent themes are summarized below (see Appendix xx for questions and individual responses):

· Wayfinding, safe bicycle paths, and other bicycle amenities are needed to create a situation in which many people will be able to find or reach their destinations or a bike-transit center in the City of Santa Monica.

· Education, facilities, and prioritization of bicycling as a form of transportation could have a large impact on the number of people who would bicycle (and use bike-transit facilities)

· Major employers in the City should contribute, whether through incentive programs or bicycle facilities
SECTION 3: IMPLEMENTATION PLANS

Survey
Of the 10 focus group participants, 9 returned their surveys to the Project Team. Of those nine, 2/3 were female, 1/3 were male. Their ages ranged from 29 to 55, with an average of 43 years. No respondents made under $35,000 (household) per year; three made more than $75,000.

Some of the most interesting conclusions that can be drawn from the data compiled are:

- Although 78% of the group own bicycles, only 22% ride once a week or more.
- Of the seven people who responded to the question regarding frequency of use of public transportation, almost 50% were regular or occasional users.
- The vast majority rarely or never use the bike racks on buses or bike-on-rail.
- Only one respondent rides a bicycle as frequently as they would like to; most frequently cited impediments were: lack of routes, safety concerns, and lack of secure bicycle parking.
- Although safety was listed as a major issue, more bike education was listed as a low priority; instead respondents were more interested in infrastructure improvements such as more bikeways and wider lanes, secure bike parking, better lighting and signage, removal of road hazards, and bike-sensitive signals.
- 7 of 9 said that they would pay up to $1.00 per day for secure bicycle parking; the other two said they would not pay for secure bike parking, with one of the two responding additionally that “I think I am doing so much good by bicycling I deserve free secure parking.”

Options and Recommendations
Although Santa Monica’s interest in a bike-transit center is in the early stage of development, some general options and recommendations can be offered in answer to the specific goals of their participation.

Program Components
The location and actual site of the bike-transit facility, as well as available funding, among other variables (as discussed in Section 2 of this report) will have significant impact on what program components can be offered. Cited several times by the focus group was the need for showers/changing rooms. Also suggested was a retail component and transportation information kiosk.

The type of facility selected will also have a major impact on what program components can be offered. For example, a bicycle locker will provide very secure bicycle parking and possibly some transit information, but will not offer personal service, bike repairs, etc. A storefront or freestanding facility offers the most options, but is also the most costly. Elements that could be integrated into a storefront or freestanding facility are:

- Café
- Bicycle accessories and retail
- Extensive transit information
- Valet service
- Internet kiosk
- Car-sharing and other clean modes of transportation
- Community gathering place
- Bicycle and scooter rentals
- Lost and Found bike program
BIKE-TRANSIT CENTER IMPLEMENTATION PLAN

Appropriate Locations
The focus group felt that there were many potential locations, with the three most commonly cited:

1. Santa Monica College area
2. Downtown/Promenade area to capture both workers and tourists
3. Water Garden area (a dense office development area)

City staff offered an additional possible bike-transit center location for a shared facility with the City of Los Angeles and Caltrans on Caltrans property at the 10-Freeway on/off-ramp at Pico Boulevard and Bundy Drive. This strategic location would intercept the Big Blue Bus (BBB) express bus (Line 10) as it enters/exports the Santa Monica Freeway (I-10) for Downtown Los Angeles. It is also a busy transfer location for the BBB’s heaviest line along Pico Boulevard (Line 7) and the Bundy Line (Line 14.) This option would need to be explored with the potential partners to determine whether there is adequate and safe bicycle access to any proposed location.
Conclusion
The City of Santa Monica is committed to sustainability and has a large base of civic support, including an active bicycling community. As such, one or more bike-transit centers could be viable options within the City of Santa Monica.

The Bike-Transit Center Implementation Plan is a preliminary step in the creation of a Santa Monica bike-transit facility. The city will further explore possible options through the current update of the Circulation Element. The Circulation Element will identify the city’s goals and policy strategies over a time horizon of approximately twenty years. After policies and goals are clarified, further research and analysis of the possible locations will be required. A thorough analysis of sites, program needs, and demand will feed into the possible types of facilities. Subsequently, architectural drawings need to be secured, as will possible funding sources and operating scenarios.

Because of the commitment to community livability and well-developed transit system, the project team feels that Santa Monica is a good candidate for a bike-transit center. The city has many dispersed hubs of activity, this center would provide the core for a future network of such facilities in Santa Monica, which would enable bicycle travel to many destinations without worry of secure bicycle parking.

Such facilities should be aesthetically pleasing, possibly picking up on themes prevalent within the City of Santa Monica. Facilities such as these would encourage residents and tourists alike to live in a more sustainable way, to conduct their business in the local area, and to think of Santa Monica as a place with a pleasing array of transportation options where it is easy to live, work, or visit.
SECTION 3: IMPLEMENTATION PLANS

**City of Los Angeles (North Hollywood)**

Introduction
North Hollywood is a neighborhood in the City of Los Angeles located in the San Fernando Valley. Once a farming community, North Hollywood evolved into a convenient and affordable residential community that attracted entertainment industry workers, artists and immigrants, among others. Like many first-tier suburban communities, North Hollywood experienced years of decline in the 1960’s and 1970’s, partly as a result of freeway construction and the development of shopping malls that took traffic away from the Lankershim Boulevard corridor that had been the “main street” of the community.³

North Hollywood is presently undergoing a renaissance with the opening of art galleries, theaters, restaurants and the emergence of the “NoHo Arts District.” The area is also home to the terminus of the Metro Rail Red Line and the Metro Orange Line, a dedicated bus rapid transit line, which is currently under construction, along with a parallel Class I bicycle path.

Much work has been done over the years by Bikestation, Metro and the Los Angeles Community Redevelopment Agency (LACRA) to study the feasibility and secure funding for a bike-transit facility at the North Hollywood Metro Red Line Station. Several funding applications were produced along with a preliminary feasibility study that identified the Historic Lankershim Train Depot, across from the Metro Red Line portal, as a strong site for a bike-transit center. Unfortunately, efforts to build a project have not materialized.

Since the original funding applications were submitted several years ago, new development ideas for the Metro Red Line Station, some include the possible relocation of the Historic Lankershim Train Depot away from the station. Since this site is no longer available, the Bike-Transit Center Implementation Plan offered an opportunity to take a fresh look at the project and identify a new site for a bike-transit center at the North Hollywood Metro Red Line station.

A meeting was convened with representatives from Metro, Bikestation, LACRA and the Los Angeles Bicycle Coalition to discuss alternative strategies. After evaluating several new sites, the project group recommends the expansion of the current bicycle lockers on the site to 32 to 90 spaces with the addition of public seating to help create a more pedestrian and inviting area in the short-term. In the long-term, a comprehensive bike-transit center needs to be incorporated into any joint development plans that Metro pursues for the adjacent parking lots. The bike-transit center should provide secure bike-parking for up to 150 bicycles, bicycle retail and accessory sales, transit information, car-sharing services and changing/restrooms.
SECTION 3: IMPLEMENTATION PLANS

Demand Analysis
On an average weekday, almost 40 bicycles are parked at the North Hollywood Metro Red Line Station. Bicycles are locked to either one of the two bicycle racks providing 68 spaces or in the bicycle lockers (8 spaces), or haphazardly to posts and fences. Large numbers of vandalized bicycles were observed. Adjacent to the station entrance is a surface parking lot with spaces to accommodate up to 1,101 cars.

Survey
On April 23rd, 2004, the Project Team distributed a survey on the windshields of automobiles that were parked at the station that day. Approximately 25% of the survey respondents indicated that they would ride a bicycle to or from the station if secure bicycle parking was available. Slightly over half of those also indicated that they would be willing to pay between a $1 a day and $10 per month for secure bike parking.

The survey results and the number of bikes and cars parked at the North Hollywood Metro Red Line station indicated that the site would be a strong candidate for a bike-transit center. Additionally, with the opening of the Metro Rapid Line and Chandler Bicycle Trail, the site will continue to strengthen as a bike-transit center location.

Elevation and Site Plan Concepts
After looking at several different sites on and around the North Hollywood Metro Red Line station, in the short term, the project group decided to expand the current bicycle lockers from 12 lockers to 90 bicycle lockers with additional elements of greenery and a canopy system for shade.
SECTION 3: IMPLEMENTATION PLANS

North Hollywood Site

Lankershim Blvd. North Hollywood Metro Station

Metro Parking

Bike Lockers Location

Bus turn-around

Metro Parking

Bike Lockers Location
SECTION 3: IMPLEMENTATION PLANS

Bicycle Lockers and Pedestrian Seating

Most of the space around the portal entrance to the North Hollywood Metro Rail Red Line station is “dead” space. The concept proposed for this site is to activate this space by creating a dual purpose facility: one that provides secure bike-parking for 32 to 90 bicycles while also enhancing the pedestrian experience at the station. In addition to 2 to 6 sets of locker pods, the concept call for installing raised flower beds that add greenery and provide needed seating for idle commuters. Each area is then covered by awnings that both provide shade for the lockers, additional lighting for security and marketing opportunities for the locker program.
Financial Estimates

The following chart details estimates for capital and annual operating expenses. These numbers are preliminary estimates based on concept drawings and should not be used for actual construction or operating expenses. Operating income was not included in this pro forma, because pricing of services needs to be determined. See Section 2 of this report.

<table>
<thead>
<tr>
<th>EST. CAPITAL EXPENSES*</th>
<th>Lockers and Pedestrian Seating (90 Spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Lockers</td>
<td>180,000</td>
</tr>
<tr>
<td>Canopy System</td>
<td>25,000</td>
</tr>
<tr>
<td>Flower Beds and Seating</td>
<td>25,000</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>15,000</td>
</tr>
<tr>
<td>Landscaping</td>
<td>25,000</td>
</tr>
<tr>
<td>Signage</td>
<td>4,000</td>
</tr>
<tr>
<td>Electrical</td>
<td>5,000</td>
</tr>
<tr>
<td>Lighting</td>
<td>10,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>25,000</td>
</tr>
<tr>
<td><strong>TOTAL CAPITAL COSTS</strong></td>
<td><strong>314,000</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EST. ANNUAL OPERATING EXPENSES*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership Management @ $50 per space</td>
<td>4,500</td>
</tr>
<tr>
<td>Electrical</td>
<td>3,600</td>
</tr>
<tr>
<td>Maintenance/ Cleaning</td>
<td>9,600</td>
</tr>
<tr>
<td>Repairs</td>
<td>2,500</td>
</tr>
<tr>
<td>Marketing</td>
<td>5,000</td>
</tr>
<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
<td><strong>25,200</strong></td>
</tr>
</tbody>
</table>

* Estimates
Recommendations and Conclusions
The North Hollywood Metro Rail Red Line station is ideal location for an unattended bike-transit center. The site has ample space for a facility. In the short term, it is recommended that Metro increase the number of bicycle lockers at the station and implement a shade and station seating program as outlined in this plan. If the project proposal was to be implemented in phases, lockers could be added as demand increases.

In the long term, when Metro pursues a joint development project on the site, serious consideration should be given to construct a full-service bike-transit center with the project close to the station portal. Metro needs to continue to work closely with the Los Angeles CRA to make this project a reality and become an integral part of the NoHo Art community.
SECTION 3: IMPLEMENTATION PLANS
END NOTES

1. Metro web-site.


3. Metro web-site.


5. Crowley and Jacobson.

6. Crowley and Jacobson.

7. Crowley and Jacobson.

8. City of Norwalk web-site.