

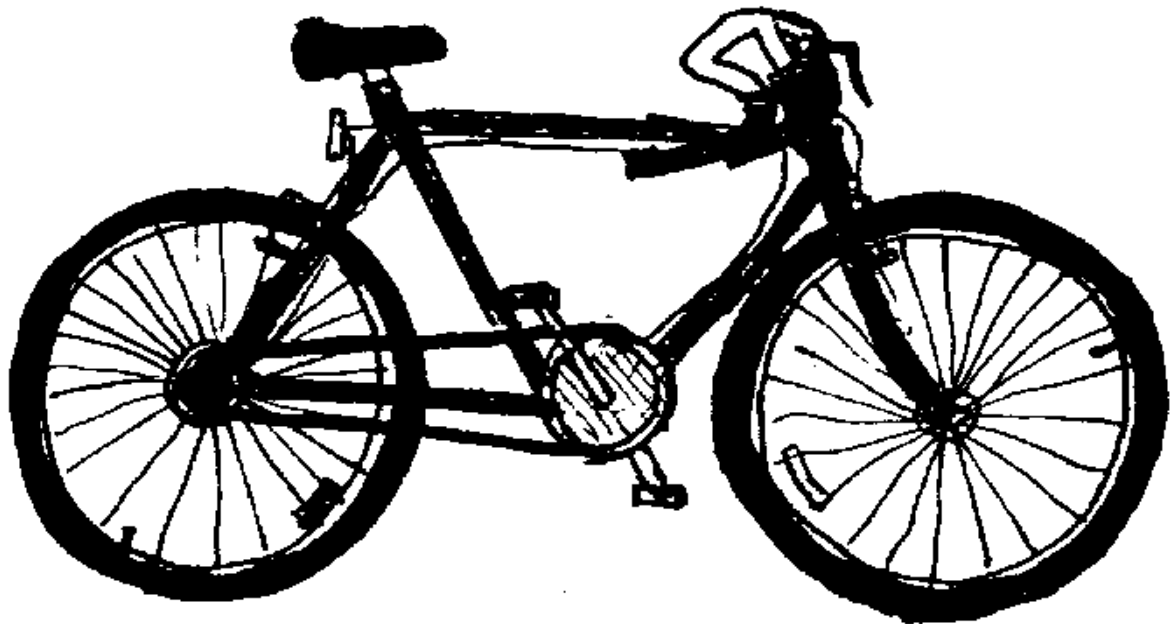
Campus Master Bicycle Plan

**To be submitted to UHLRDP
August 2005**

by

**University of Hawaii, Manoa, Bicycling
Committee**

University of Hawaii Office of Sustainability



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SUMMARY AND JUSTIFICATION:

With support from the UH Office of Sustainability, the UHMBC has prepared this document for inclusion in the UHM Long Range Development Plan. The goal is to increase bicycling as a form of safe, routine transportation to and around campus for faculty, staff, students, and members of neighboring communities. The UHMBC proposes incentives for bicycle use through the identification and construction of designated bike lanes and facilities, including showers, lockers, secure parking, and a maintenance facility. A reduced presence of automobile traffic on campus and in adjacent neighborhoods, currently estimated at 10,000 vehicles a day, cultivates a safer, less congested campus environment and responds to frustration among UHM neighbors who must accommodate large numbers of daily commuters driving to campus and/or looking for parking on residential streets. The UHMBC developed this Campus Master Bicycle Plan in coordination with a proposal submitted to and funded by the Honolulu City Council to implement a system of bike lanes and facilities that includes the Manoa Valley, Moiliili, Kaimuki, Waikiki, and Kahala communities. A bicycle master plan included and implemented in the UHM Long Range Development Plan is primarily justified for reasons of safety, but the rewards of establishing and maintaining the proposed bicycle infrastructure on the UHM campus will be an investment for and gift to future generations.

- Increase ease and safety of bicycle travel to, from, and around campus
- Increase bicycle security from theft and inclement weather
- Designate separate on-campus bicycle and pedestrian paths and develop proper signage
- Provide a regular bicycle maintenance support facility on campus
- Increase incentives for commuting by bicycle over automobile, and decrease the number of vehicles on and adjacent to campus
- Educate the campus community of environmental and health incentives associated with bicycle use

The Campus Master Bicycle Plan lays out specific PROJECTS and POLICIES that, if incorporated into the University's Long Range Development Plan and implemented, will achieve these aims. In addition, we recommend that new campus construction projects incorporate elements to enhance cycling, and that the UHMBC is consulted in this regard.

BICYCLE PROJECTS

- 1) Central Bicycle Hub
- 2) Satellite Bicycle Hubs
- 3) Network of on-road bikeways and off-road bike paths.

Central Bike Hub



We propose building this facility at the current location of the Engineering Quad parking lot. The 1994 LRDP already has detailed plans to eliminate this parking lot and convert it to the Campus Center Plaza. Components of the Central Bike Hub would include

- Large area of covered bicycle parking, such as in the photograph to the left
(http://bikesonoma.org/Bike_Parking_Euro.htm).
- The site would be monitored by a security guard and cameras, and the shelter provides protection from sun and rain
- Racks which contact the bicycle at two points allowing frame and wheels to be secured
- A men's and women's locker and shower facility accessed by University ID cards for students, faculty, and staff
- Bicycle lockers available for rent for longer-term security.
- A small repair and maintenance workshop staffed part-time by a work-study student skilled in bicycle maintenance. Spare parts from abandoned bicycles recovered on campus would be available for free, and new or used higher quality parts and accessories such as lights and helmets could be sold at low cost. Monthly workshops could be held on bicycle maintenance and safety. Information and brochures on campus and Honolulu bike policies and safety tips would be distributed from this location.

Satellite Bike Hubs

Nine Satellite Bike Hubs would be distributed through the lower and main campus to provide camera-monitored, well-lit, covered bicycle parking. These nine locations will provide bicycle parking within a short walking distance to most destinations on campus, and are located in areas of high visibility, pedestrian traffic (a good thief deterrent), and adjacent to major destinations through campus. Some of these are adjacent to buildings with shower facilities. The structures can often be incorporated into existing structures by taking advantage of overhangs, etc. The locations are:

- Biomed quad - showers
- Swimming Pool - showers
- Lab School - no showers
- Marine Science - showers
- Sinclair Library - no showers
- Webster Hall - no showers
- Hamilton Library - no showers
- Music Complex - showers
- Business Administration - no showers

When space is available, we recommend using racks similar to those in the Central Bike Hub. These racks have two contact points for securing the bicycle frame and wheels. The bike racks in the Sustainability Courtyard (right; photo – Bob Chinn) currently function well for this purpose.



We recommend that some design elements be consistent among all hubs, but other elements would be context sensitive. Faculty in Architecture, Tropical Agriculture, Art, and other departments might be interested in having class projects related to the implementation of bicycle-plan infrastructure, such as site planning, pathway and planting design, roof structures, and other support elements. The location of many of these hubs is already in areas with designated bike parking lots. Exact placement of other locations should, as much as possible, use existing concrete space as opposed to clearing landscaped areas.

The Table below details how the completion of the Central and Satellite Bike Hubs will increase bike-parking capacity.

	Current Capacity	Post-construction Capacity*
Total bike parking	~3000	~4000
Covered bike parking	66	~1000
Dedicated shower facilities for bicyclists	0	5

* Building future demand-driven bike parking capacity can easily be retrofitted into existing design, and at a much lower cost than, say, an automobile parking structure.

Bikeways and Bike paths

Currently, bicyclists must navigate around a complex series of barriers such as stairs, tight corridors, and high pedestrian traffic areas in order to travel around campus. A network of on-road bikeways and off-road bike paths will be used to connect major campus entryways and bus stops with bicycle hubs, and to provide easy and safe bicycle travel through campus.

On-road bikeways

Maile Way between University and East-West Road, and East-West Road between Maile Way and Dole, are currently hazardous for bicyclists riding on the road. The narrow corridor between parked cars and car traffic puts cyclists at risk of getting hit. The only cyclist fatality on campus occurred on Maile Way when a student was pinched between traffic and parked cars. Parked cars along these two routes also reduce visibility between pedestrians and vehicle drivers, creating less safe conditions for pedestrians. Although we realize that the 137 parking spaces along these two roads are widely used, our committee has concluded that these parking spaces can be removed and recovered through the parking structures to be built according to the LRDP. This will allow bike lanes to be striped, and increase the comfort, ease, and safety of bicycle road travel on campus, as well as increase pedestrian safety.

Additionally, the following on-road bikeways will be striped with bike lanes or marked as bike routes. All bike lanes will be striped in accordance with federal AASHTO standards.

- Lower Campus Rd. to Dole St. through dorms (signed bike route)
- Lower Campus Rd. to Dole St. around ewa side of lower campus (signed bike route, and as a formal bike path makai of the kiosk)
- Along proposed road between St. Francis school and UH to Woodlawn Ave (striped bike lanes).

Off-road bike paths

We propose a series of bike paths to connect major campus entryways with bicycle hubs and bus stops, and as a means of reducing bicyclist/pedestrian conflicts. Bike paths can be run alongside pedestrian walkways and malls using conspicuous markings such as in the photograph to the right from the University of Boulder, Colorado (photo -Wally Gretz). In areas where pedestrian walkways cross bike paths, “yield to pedestrian” signs will be posted. Textured pavement, such as paver bricks, or reinforced grass could be



used to slow down bike traffic speeds on the approach to intersections with high-volume pedestrian traffic.

Major paths include:

- Correa Mall from East-West Rd. to Central Bike Hub
- East-West/McCarthy Mall from University at Metcalf St. to East-West Road through Central Bike Hub. Along McCarthy Mall, the bike path would be constructed to run across the grass between the Monkeypod planters and the makai foot path.
- Dole St. to Maile Wy. along Legacy Path through Central Bike hub

Minor paths include:

- University Ave. from Express-A bus stop to Legacy Path, skirting around the Bachmann Hall parking lot, and mauka of Andrews Amphitheater.
- Lower campus from Varsity entrance to kiosk at Dole St. entrance of Lower Campus Rd.
- East-West Rd. through Marine Science Satellite hub to Dole St.
- East-West/McCarthy Mall at Dean Hall to Maile Wy.

BICYCLE POLICIES

We feel that while promoting bicycling, we must first take into account pedestrian safety. The construction of separate bicycle paths will reduce negative interactions, but on a high density campus, it is inevitable that bicycle travel will threaten pedestrian safety and comfort. We recommend that proper signage and enforcement be implemented to ease these conflicts.



Currently, there exist “No Riding On Walkway” signs along major pedestrian corridors such as McCarthy Mall. We recommend a more meaningful message such as the one in the photograph below (courtesy Dan Smith) from the University of Idaho which says, “Shared Walkway, Bike At Walk Speed When Pedestrians Are Present”. Other messages, such as “Shared Sidewalk Bikes Yield” from the University Oregon, can also be used. Ticketing of riders who disobey these types of messages is appropriate and manageable for enforcement officers.

PRIORITIZATION AND FUNDING

Phase 1: now-2006

- Install interim bike maintenance center at Leisure Center; funded by a donation of space by the Leisure Center and basic supplies purchased through the Office of Sustainability
- Hire work-study student to perform bicycle maintenance and education; request funding through the Parking and Transportation.
- Construct Satellite Hub at Webster Hall; funded through existing budgets of Facilities and Parking and Transportation
- Change bicycle signage; funded through existing budgets of Facilities and Parking and Transportation

Phase 2: 2006-2008

- Remove car parking and stripe bike lanes along East West Rd. and Maile Wy.; funded by raising parking structure fees
- Create bike paths along McCarthy Mall, Correa Rd. and from Varney Circle to University Ave. as the latter two roads are converted to pedestrian malls; funded by raising parking structure fees
- Roof additional Satellite Bike Hubs as funds become available through the office of Facilities

Phase 3: 2008-2010

- Construct Central Bike Hub in conjunction with closing off the Engineering Quad to automobiles; request 20% funding from the University and City and County of Honolulu – will apply for 80% federal TE matching funds.
- Construct remaining bike paths as funds become available through Parking and Transportation
- Roof remaining Satellite Bike Hubs as funds become available through Facilities

CONCLUSION

The UHMBC prepared this Bicycle Master Plan to create a safe bicycle infrastructure with the objective of increasing ridership by members of the campus and adjacent communities. The consultation process provided input from key stakeholder groups from within the UH System, as well as interested and impacted constituents in neighboring communities. A successfully implemented plan will generate significant changes on and off campus by increasing the appeal of bicycle commutes and decreasing dependence on automobiles and the negative impacts of air and noise pollution, traffic congestion, and safety hazards. However, immediate action is required from the UH Administration in the form of financial and administrative support. The short term costs associated with implementation of this plan are comparatively modest in consideration of the long term benefits. The urgency to implement these changes in the near future is even more important as a result of increases in student enrollment at UHM, let alone the rising cost of gasoline. This plan provides the UH administration with a clear vision of campus improvements that are cost effective since success of a bicycle campaign is virtually guaranteed. A survey (see <http://survey.jeffmcneill.com>) has been drafted to assess bicycling as a form of transportation for the UH Manoa community before, during, and after implementation of this plan.

This plan is being put forward in concert with other efforts to increase bicycle transport and decrease automobile use. The attached supporting document details the plan, adopted this year by the Honolulu City Council, to create a safe network of bikeways leading to and from campus. As our campus becomes more bicycle friendly, we will work with and encourage Mid-Pacific Institute, St. Francis School, and the surrounding communities to promote bicycling safety and infrastructure. Additionally, the UH Parking Operations and Transportation Services is developing proposals to increase automobile parking fees on campus and to provide unlimited access to TheBus with a valid student ID, paid for by a nominal increase in student fees, as means to further decrease automobile use.

Finally, we hope that all future UH Manoa projects, including those off of the main campus, incorporate design elements that take into consideration the needs of bicyclists such as safe parking and shower facilities. The UH Manoa Bicycling Committee will always be available for consultation, through the UH Office of Sustainability, with regards to new construction projects.