



KEEPING UCI MOVING

UCI TRANSPORTATION AND DISTRIBUTION SERVICES

ZotWheels Automated Bikeshare Program

University of California, Irvine

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ZotWheels



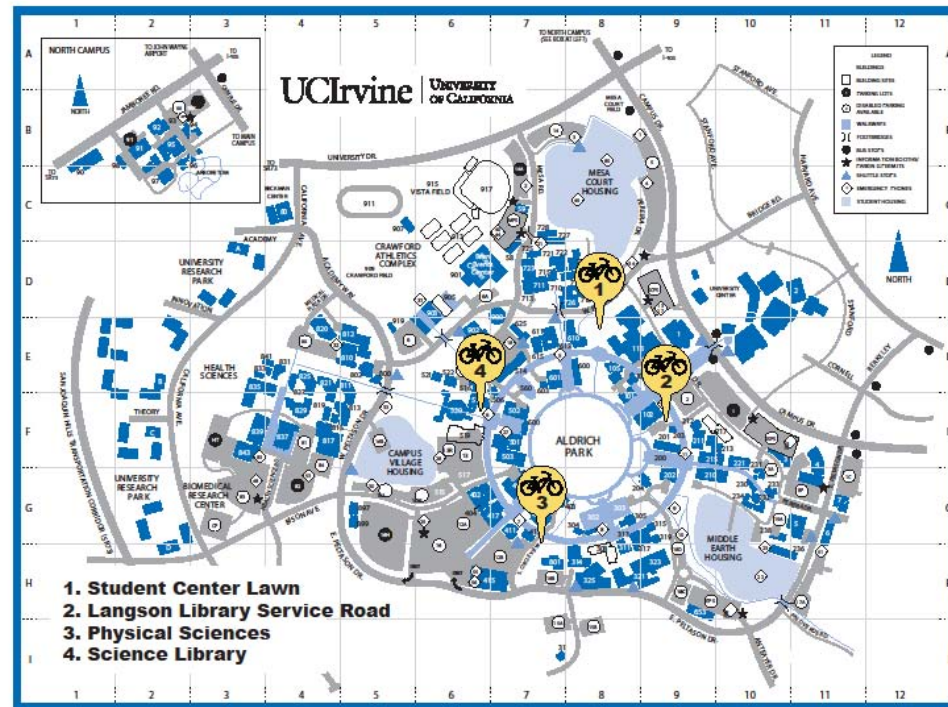
University of California, Irvine (UCI)

- Large 1500 acre urban campus with daytime population of 38,000
- TDM goal of housing 50% of its students; approximately 12,600 beds available
- 1800 faculty/staff housing units on campus
- Established bike infrastructure
- Received Silver Bike Friendly University 2011-2015
- Bike program in place to educate, encourage, enforce called BEEP

ZotWheels Locations

- Placed on bikeways at entrances to the Inner Ring where cycling is permitted

ZotWheels Station Locations



Policies, Plans and Commitments

- Transportation Services implements a variety of TDM measures to reduce traffic and emissions on and around campus
- Toolbox includes shared/zoned parking, bikeshare, carshare, incentivized bike/walk, car- and vanpool, subsidized bus and train passes, and support of campus shuttle system
- Work with local transit authority (OCTA) to link transportation center (Tustin Metrolink Station) with UCI campus
- UC Irvine 2007 Long Range Development Plan (plan for growth through 2025)
- Southern California Air Quality Management District Rule 2202 (UCI AVR 1.89)
- UC-wide Policy on Sustainable Practices
- American College and University Presidents Climate Commitment

ZotWheels Imagined

- ZotWheels design imagined by Ron Fleming after renting a mall stroller
- Vendor contacted and agreed to modify product for use with bicycles
- Software and RFID technology incorporated
- Mascot-themed bikes purchased
- Program had support at all levels of campus administration

ZotWheels at UCI

- Unique planning process at university
- Worked with campus planner and facilities
- Site approvals - UCI Design Review Team
- CAD site drawings by T&DS Design Services
- Antennas positioned for best connectivity by UCI OIT
- Support through Bicycle Advisory Group and other campus organizations
- T&DS staff readied for deployment

ZotWheels Operations

- P&TS-managed
- Staff include administrator, IT support, bike support team, marketing, private on-campus bike shop, maintenance/tune-up company
- Daily database check for wireless connectivity, available bicycles, members in violation, reporting functions
- Bike Support Team redistributes bikes, performs minor maintenance, checks for issues and takes to bike shop

Program Details

- Liability waiver vetted by campus Risk Management
- Program is covered under campus standard insurance policy
- Online acceptance of waiver, bicycle and pedestrian safety course
- Helmets not mandatory (CA law)
- Program rules and locations coincide with campus policies (only 18 and older can ride, ride sunrise to sunset, ride on bike paths)

Program Details

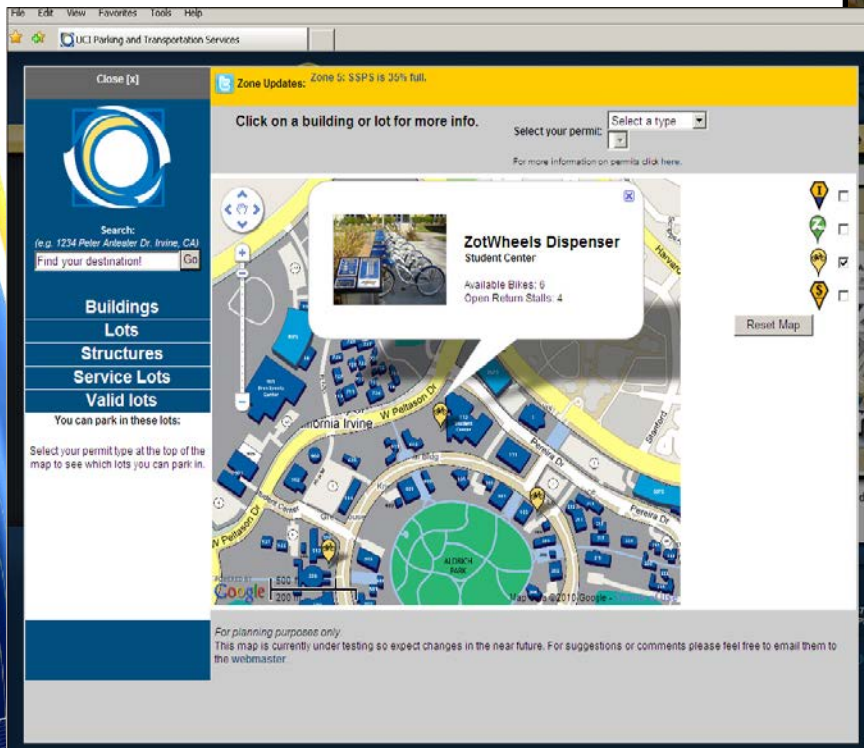
- Self-funded through permit sales and citation revenue
- Vehicle miles replaced is unknown as evidence is anecdotal, not GPS verified
- ZotWheels availability complements other modes
- Allows UCI to meet emissions reduction targets
- Promotes changes to commuters habits
- ZotWheels bikes are a visual reminder of UCI's commitment to reducing emissions

Emissions Reduction Calculations

- **CLAIM 1:**
- **Riding a bike as compared to a drive-alone vehicle reduces approximately one pound of GHG emissions for every mile traveled.**
- CALCULATIONS: (EPA)
- 1 mile traveled in vehicle = $1/20.64$ gallon (.0485 gallon/mile)
- $\text{CO}_2/\text{mile} = .0485 \text{ gallon/mile} \times 19.4 \text{ lbs/gallon} = .941 \text{ lbs CO}_2/\text{mile}$
- Total GHG = 100/95 of CO_2
- $\text{GHG savings/mile} = 100/95 \times .941 \text{ lbs/mile} = .991 \text{ lbs/mile}$
- For every mile traveled by bike versus a car **.991 lbs of GHG** emissions is saved.
-
- **CLAIM 2:**
- **The present UCI ZotWheels stations will save 16 metric tons of GHG emissions this year. In future years just the original 4-station ZotWheels system will save 32 metric tons annually**
- CALCULATIONS: (EPA)
- 2 miles X 50/day X 365 days/year = 36,500 miles/year
- AT 2 miles/use =
- 36,500 miles saved
- $36,500 \text{ miles} \times .991 \text{ lbs GHG} = 36,172 \text{ lbs GHG saved}$
- $36,172 \text{ lbs GHG} = 16.4 \text{ metric tons saved}$
- If 100 users/day (as expected for ZotWheels in 2011 after more promotion of the system), will see double the savings in emission reduction
- 2 miles/use at 100 users/day = 32.8 metric tons saved per year (**8.2 metric tons/station**)
- CALCULATIONS: ESTIMATED SAVINGS –
- Annual ZotWheels savings at 2 miles/use = 8.2 metric tons/year/station

How ZotWheels Works

- Interactive mapping shows bike availability at each station
- Slide card at kiosk to rent bike



Swipe Your Card and Go!



ZotWheels Website

- Easy to navigate website
- Online registration
- Online safety course
- \$40/year, unlimited use

Returning Users Login
(Not a member, visit Register here)

ZOTWHEELS
AUTOMATED SELF-SERVICE BIKESHARE SYSTEM

RENT... RIDE... RETURN... REPEAT!

MENU

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NEWS

HOW IT WORKS

1. JOIN
2. RENT
3. RIDE
4. RETURN

LOCATIONS

SIGN UP HERE!

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ABOUT ZOTWHEELS

[How It Works | Locations | Green Benefits | Photos | History]

How It Works

1. JOIN
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Locations

Green Benefits

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REGISTRATION [STEP 2 of 5]

Welcome PETER ANTEATER! Please complete the requested fields below to register:

Contact Information

Please select the address you would like your card mailed to:

Permanent:
 200 Public Services Bldg
Irvine, CA 92697

[Go into myCommute to add a different address to your record.](#)

Please enter your preference for ZotWheels text notifications during use:

YES - Please send text notifications to the number below

Cell Phone: (Select a Service Provider)

ZotWheels Participation Agreement

Participant should CAREFULLY READ all terms and conditions before entering this Agreement

1. PURPOSE AND TERMS OF AGREEMENT

This document constitutes the entire Agreement ("Agreement") between the person agreeing to participate as a bike user (hereinafter called "Rider") and The Regents of the University of California on behalf of the University of California, Irvine, ZotWheels program (hereinafter called "ZotWheels").

This Agreement will remain in effect for one year from the date of Rider's acceptance unless terminated sooner by ZotWheels.

BY CHECKING THIS BOX, YOU CONFIRM THAT YOU UNDERSTAND AND EXPRESSLY AGREE TO THE ABOVE AGREEMENT AND TERMS AND CONDITIONS.

Bicycle Safety Course

ZotWheels Database

- Wireless connectivity status
- Number of bikes at each station
- Member activity
- Reports generated by date range or topic

ZotWheels Logged in as: Lynn (Logout)

HOME MANAGE MEMBERS MANAGE BIKES MANAGE LOCATIONS REPORTS SETTINGS

STATUS

3 BIKES CHECKED OUT 0 MEMBERS IN VIOLATION 35 AVERAGE RENTAL TIME

AVAILABILITY

[View Map in New Window](#)

Student center (RACK001) Bikes: 7 / Slots: 3 Update: 05/13/2010 2:44PM	Langson Library (RACK002) Bikes: 4 / Slots: 4 Update: 05/13/2010 2:44PM	Near Engineering Ct. & Physical Ct. (RACK003) Bikes: 6 / Slots: 6 Update: 05/13/2010 2:45PM	Science Library (RACK004) Bikes: 5 / Slots: 5 Update: 05/13/2010 2:44PM	Backup Client (RACK005) Bikes: 0 / Slots: 10 Update: 04/15/2010 5:14PM
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RECENT HISTORY

Bike	Last Event	Member	Date/Time	Rental Time (mins)	Location
bike026	Return		5/13/2010 12:31:00 PM	7	rack002
bike026	Check Out	700085	5/13/2010 12:28:02 PM	0	rack005
bike026	Return		5/13/2010 11:00:28 AM	34	rack008
bike026	Check Out	700065	5/13/2010 10:26:28 AM	0	rack002
bike019	Return		5/12/2010 4:20:58 PM	81	rack001
bike025	Return		5/12/2010 3:37:03 PM	0	rack005
bike019	Check Out	700096	5/12/2010 2:59:47 PM	0	rack004

1 2 3 4 5 6 7 8 9 10 ...

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HOME MANAGE MEMBERS MANAGE BIKES MANAGE LOCATIONS REPORTS SETTINGS

REPORTS

RENTAL TIME AND TRANSACTIONS

[Rental Time with Average by Date](#)

[Transactions Per Day](#)

[Transactions Per Day by Date](#)

BIKES

[Checked Out Bikes](#)

[Overdue Bikes](#)

MEMBERS

[All Members](#)

[Members In Violation](#)

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HOME MANAGE MEMBERS MANAGE BIKES MANAGE LOCATIONS REPORTS SETTINGS

RENTAL TIME BY DATE

Select a Start date and an End date to generate a report detailing rental time totals and averages. Results are grouped by the location the bicycle was returned to.

The report will open in a new window.

Select the Start Date Select the End Date

≤	May 2010	≥	≤	May 2010	≥								
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	1	25	26	27	28	29	30	1
2	3	4	5	6	7	8	2	3	4	5	6	7	8
9	10	11	12	13	14	15	9	10	11	12	13	14	15
16	17	18	19	20	21	22	16	17	18	19	20	21	22
23	24	25	26	27	28	29	23	24	25	26	27	28	29
30	31	1	2	3	4	5	30	31	1	2	3	4	5

[Generate Report](#)

Staffing

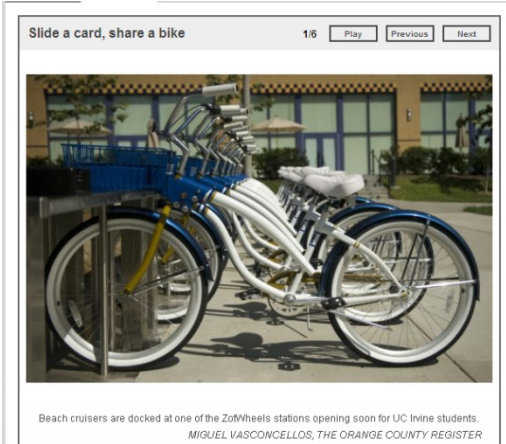


Student employees are members of Bike Team, specially trained for ZotWheels duties



Purchased a surplus van from campus fleet services to take bikes needing repair to campus bike shop

Marketing and Branding



Article from OC Register



Article from UCI Communications



Sustainable Transportation website



Collateral ST material



Material given to every SPOP attendee

Results

- We helped move the bikeshare conversation in a positive direction
- We learned from our experience and added to the body of knowledge
- Bikeshare is an integral component of a complete sustainable transportation system and replicable
- Over 1400 trips by bicycle
- Over 100 members
- Over 350 pounds in GHG not emitted
- Growth in regional programs (OC)