

**THIS IS**



**A cyclist safety campaign at  
The Ohio State University**



**(This is) How We Roll : A Cyclist Safety Campaign at The Ohio State University**

Copyright © 2012  
by Yay Bikes!  
All rights reserved.

To order a copy of this publication, please contact:

Yay Bikes!  
82 E. 16th Avenue  
Columbus, OH 43201  
info@yaybikes.com  
yaybikes.com  
614-403-4557



# table of contents

---

- executive summary ..... 1
- background
  - the funding opportunity ..... 5
  - campaign leadership ..... 6
  - bicycling at the ohio state university .... 7
  - campus-area crashes ..... 8
  - behavioral observation research ..... 9
- campaign strategy ..... 13
- campus outreach
  - materials ..... 15
  - events ..... 17
  - lights giveaways ..... 18
  - media & online ..... 19
- educational tour
  - overview ..... 20
  - staffing ..... 21
  - sponsors ..... 22
  - curriculum ..... 23
  - online registration ..... 25
  - logistics ..... 26
- administration
  - budget ..... 27
  - timeline ..... 28
- outcomes
  - overview ..... 29
  - tour evaluations ..... 31
  - cyclist safety ..... 33
- conclusions & next steps ..... 35
- citations ..... 37
- appendices
  - appendix a: background data ..... 39
  - appendix b: campaign information .... 45
  - appendix c: evaluation data ..... 49

# executive summary

---

During fall quarter 2011, an innovative cyclist safety campaign called “How We Roll” was piloted at The Ohio State University.

In 2010, the Ohio Departments of Transportation (ODOT) and Public Safety (ODPS) allocated federal safety funds to address specific geographies with high rates of bicycle–motor vehicle crashes. A proposal by Yay Bikes!, a nonprofit organization in Columbus, Ohio, to deliver a cyclist safety campaign at The Ohio State University (OSU) was funded through this solicitation. Experts from ODOT, ODPS, Yay Bikes!, OSU, Bike OSU and the Mid-Ohio Regional Planning Commission (MORPC) then worked collaboratively to create and deliver a safety campaign with impact. “How We Roll” was an innovative peer-based strategy to teach OSU students the rules of the road and change their bicycling behaviors. The 10,750 students living on main campus during fall quarter 2011 were targeted for an effort to:

1. Understand the nature and extent of unsafe bicycling behaviors on and around OSU
2. Decrease the incidence of unsafe bicycling behaviors among OSU students

## **BACKGROUND**

Recent efforts by OSU’s Transportation & Parking Services and others to make the campus more

accessible to cyclists were recognized during fall quarter 2011, when OSU was awarded a Bronze-level Bicycle Friendly University Award by the League of American Bicyclists. Despite OSU’s efforts, however, the intersections and roadways near OSU consistently yield the highest number of bicycle–motor crashes in the area.

## **Campus-area crashes**

Traffic incident reports from crashes involving bicyclists near campus were analyzed to discern the factors that caused them. Sixty-eight crashes occurred in the University Area from 2007–2010, and 50 of these caused injury to the cyclist. Traffic incident reports show that cyclists were cited in 32 crashes, for offenses including riding in a crosswalk, erratic or inattentive riding, failure to yield, riding against traffic and riding at night without lights.

## **Behavioral observation research**

Two OSU-area cyclist observations and an original cyclist observation helped tie the safety campaign to specific, prevalent problem behaviors.

### *MORPC and OSU observations*

The National Bicycle & Pedestrian Documentation Project counts cyclists at specific sites over several years. Beginning with their three 2010 NBPD counts, MORPC has asked volunteers to record whether cyclists were riding on the road or the sidewalk at their three OSU-area sites. Then, in April 2011, OSU Transportation and

Parking observed cyclists’ helmet use, sidewalk riding, wrong-way riding, distracted riding and light use at nine sites on campus. These studies informed and served as a comparison to the pre-intervention How We Roll observation.

### *Yay Bikes! observation*

Yay Bikes! observed for helmet use and sidewalk, wrong-way and distracted riding variables, failure to yield, curb hugging, signaling an intention to turn and crashing or narrowly avoiding a crash. On Thursday, June 2, 2011, volunteers counted cyclists and observed for these 7 dangerous behaviors and 2 possible traffic incidents at 10 campus-area intersections.

## **Application of data to campaign**

Reducing the number of crashes that occur on campus would require reducing the incidence of behaviors that caused them. Upon reviewing the data regarding how bicyclists behave in the vicinity of OSU, campaign leadership agreed to target the behaviors that cause crashes, occur with some frequency on campus, were easy to communicate and had the potential to be addressed in a two-month safety campaign. Ultimately it was decided that, if students rode on the roads instead of the sidewalks, yielded when required and used lights at night, they would significantly reduce their risk of causing a crash. The campaign would therefore teach students how to ride in the roads, compel them to stop when required and equip them with lights.

# executive summary

---

## **Campaign strategy**

A review of helmet use and promotion research, as well as behavior change research, was used to gain insight into riding behaviors and how a safety campaign could influence them. The literature reveals that the single best predictor of whether a cyclist will wear a helmet is whether their friends or family members also wear helmets. Behavior change research shows that while person's social context can reinforce dangerous behaviors, positive peer pressure can also transform them for the better. Campaigns that capitalize on the potential for peers to convey information and influence behaviors have provoked significant change where little was thought possible. Rather than trying to get people to change their behavior through a strictly rational consideration of facts and threats, peer-based social marketing can offer them a new identity and sense of belonging among friends. Their social life then becomes a context in which positive behaviors are enacted and reinforced.

It seemed plausible that the factors predicting helmet use could be used to predict how people ride bicycles, even if the relative significance of each factor varied. This assumption, coupled with insights from the research into peer-based outreach methodologies, suggested a campaign to increase students' level of riding confidence in the context of a social setting that rewarded lawful riding.

## **CAMPAIGN ELEMENTS**

The How We Roll cyclist safety campaign developed a cool, fun bicycling community at OSU—one in which safe cycling behaviors became the social norm—through a compelling lifestyle brand featuring evocative visuals, affirmative messaging and experiential education, and peer-based outreach from likable message ambassadors.

### **Mass media and grassroots outreach**

Notice of the campaign, its brand and safety messages were disseminated on campus through tabling events, traditional and online social media, posters and other promotional materials. Free lights giveaways emerged as a major grassroots campaign tactic.

### **Educational bike tours**

Free 3-hour bicycle tour of the city's coolest neighborhoods was used as a context in which to share essential urban cycling information. Along the route, groups stopped at three to five local businesses for free samples while instructors presented information about bicycle safety and the city of Columbus, answered questions and critiqued students' riding habits.

### **Lights handouts**

Campaign staff and volunteers installed front and rear lights on the bicycles of hundreds of ill-equipped cyclists riding on campus.



*The How We Roll logo, designed by Fulcrum Creatives.*

# executive summary

---

## **THE HOW WE ROLL TOUR**

Thirteen tours a week were offered during OSU's 10-week fall quarter, and custom tours were delivered upon request.

### **Staffing**

A team of 12 professionals led tours and managed the campaign. Yay Bikes! hired a Program Manager, an Outreach & Education Coordinator and a Research Intern. All program management staff were qualified to lead tours and did so as necessary. The instructors were mostly students or recent graduates between 22 and 30 years old. Each instructor was required to complete one of the three 12-hour Traffic Skills 101 courses offered in July and August and to attend a presentation about the campaign. They were scheduled for two rides a week, with an optional ride on Saturday afternoon, and helped with grassroots campus outreach as needed.

### **Sponsors**

Thirteen small business owners offered free samples or discounts to tour participants for the opportunity to have dozens of students experience their business and receive coupon maps to facilitate their return.

### **Curriculum**

A safety curriculum was the backbone of the tour experience. Instructors were expected to convey information regarding maintaining safe bicycle equipment, group riding rules and etiquette, basic

bicycle maneuverability, traffic principles and bicycle-related traffic law and road riding skills.

### **Website**

A customized WordPress website provided information about the campaign, the tour and its instructors, as well as links to social media and other bike safety resources. The primary purpose of the site was to enable online registration for the bicycle tour.

### **Logistics**

On the How We Roll website, students would select from among the available tours with available space and complete their registration. Guides would access tour participants' information to contact them about the ride, collect the appropriate swag and equipment for them (i.e., bikes, helmets and t-shirts) and be prepared to customize the tour as necessary for more or less experienced riders.

Before each tour, the two scheduled guides would come to the Yay Bikes! office to get their materials and equipment and then walk several blocks to Ohio Union's West Plaza, where each tour began and concluded. Prior to riding, guides would introduce themselves, check everyone's bicycles, install lights and make minor adjustments; hand out swag and get waivers signed. They'd then introduce the tour, establish the rules and start riding to the first sponsor. Upon stopping, the guides would review that leg

of the tour, ask how people felt about it and answer any questions before visiting the sponsor.

At the last stop, guides would hand out evaluation forms that were completed on the spot. The last leg of the journey returned participants to the Union, at which point tour guides would return to the office with any equipment, unclaimed swag, waivers and evaluation forms. They would record how many people had shown and how many lights they had installed, then head home to post the experience on Facebook.

### **Budget**

Significant investment in a brand and personnel helped realize the vision for the campaign. Expenses included staffing for program management, League Cycling Instructors and tour guides; graphic and web design, printing and advertising; equipment including 4 loaner bicycles and locks, 20 helmets, 12 emergency kits and 900 lights; overhead and miscellaneous expenses including those for the campaign launch party and a tour participation incentive.

### **Timeline**

How We Roll was developed in the summer of 2011, delivered that fall and reported on and shared during winter and spring 2012. The 3 phases of this campaign occurred over the course of 10 months.



# executive summary

---

## CAMPAIGN OUTCOMES

Data collected during How We Roll pointed to some promising safety outcomes and high rates of satisfaction with the tour. The campaign has also left a legacy on campus and garnered national recognition.

### Participation & satisfaction

A total of 212 students and staff from OSU rode a How We Roll tour during fall quarter 2011. More than two-thirds of participants (68.6%) lived off campus, approximately half were female (51.6%) and each class at OSU was equally represented. The overwhelming majority (84.8%) of tour participants rated their experience “excellent” and 100% would recommend the tour to others.

Responses to a question about favorite parts of the tour fell into 9 categories; some were coded into more than one category. The most popular parts of the tour were:

- **Local businesses**—55 mentions of a specific business or “the places we visited” (28.9%)
- **Downtown**—50 mentions of downtown and its sites (26.3%)
- **Columbus**—44 comments about experiencing and learning more about their city (23.2%)
- **Free stuff / food**—24 comments about the free swag or food participants received (12.6%)
- **Safety**—23 comments about learning how to ride or getting improved equipment (12.1%)

Other favorites included “everything” (11.1%), their guides (8.4%), the social aspect of the tour (4.7%) and the exercise (1.6%) People overwhelmingly enjoyed riding around the city and visiting cool places they’d never even known about before.

### Public safety

As people registered for the tour, they indicated their levels of confidence, on a scale of one (“none”) to five (“lots”), with understanding bicycle-related traffic law, riding a bicycle on the road, fitting a bicycle to their body and maneuvering a bicycle. They answered the same questions on their evaluation form at their last stop of the tour. In each category, tour participants reported a statistically significant increase in their levels of confidence. In addition, more than 700 bicycles were equipped with lights during the campaign

### Campus legacy

Bike OSU developed organizational capacity through the boost it got through the campaign. The leadership of this group is now involved in several conversations to improve bicycling on campus, including the effort to establish a bike shop at the Recreation & Physical Activity Center.

### Local and national recognition

The How We Roll campaign was cited as a factor in OSU earning the Bronze-level Bicycle Friendly University award in 2011. The campaign also won

the local WTS Innovative Transportation Solutions Award and was profiled in the League of American Bicyclists’ 2012 Blueprint publication; it will be presented at conferences nationwide.

### Other outcomes

Outcomes related to mode shift, economic development and attract and retain talent initiatives were not anticipated nor tested for. However, tour feedback suggested these that these outcomes may have been achieved.

## CONCLUSIONS & NEXT STEPS

The future of How We Roll is promising but uncertain as of March 2012. How We Roll’s brand and educational methodology are flexible enough to accommodate the needs of any client, from those who seek full implementation of a safety campaign to those who want stand-alone bicycle tours. The pilot How We Roll campaign had encouraging results that should be further explored at OSU and replicated in other contexts. Over time, and with improvements in the areas of achieving capacity, improving logistics, capturing behavior change and mitigating liability, How We Roll tours and campaigns have the potential to significantly reduce both the incidence of dangerous bicycling behaviors and the number of bicycle–motor vehicle crashes within targeted communities. Other outcomes, including mode shift, economic development, talent retention and the promotion of bicycle culture, may also be achieved through educational bicycle tours.

# background : the funding opportunity

---

The Ohio Departments of Transportation and Public Safety funded a pilot program to reduce the number of bicycle–motor vehicle crashes occurring near The Ohio State University’s main campus in Columbus.

Each year, the Ohio Departments of Transportation (ODOT) and Public Safety (ODPS) allocate Federal Highway Safety Improvement Program (HSIP) and Section 402 funds from the Federal Highway Administration Safety Program and the National Highway Transportation Safety Administration based on identified areas of need, with the goal of reducing fatality rates among all roadway users. In 2010, in addition to funding statewide, multi-modal education efforts like Share the Road Ohio, ODOT created an opportunity for Ohio’s bicycle advocacy organizations to develop innovative education, encouragement and/or enforcement strategies to improve bicyclists’ safety within specific high-crash geographies. This was ODOT’s first solicitation for a cyclist-specific outreach campaign and the first to be managed by a non-

profit organization. ODOT received funding from ODPS to supplement this initiative.

Using data from the Mid-Ohio Regional Planning Commission’s 2007–2011 bicycle crash analysis, Yay Bikes!, a bicycle advocacy organization based in Columbus, Ohio, found the intersections and corridors bordering The Ohio State University (OSU) to have the highest number of bicycle–motor vehicle crashes within their Transportation Planning Area (i.e., Franklin and Delaware counties and part of Licking and Fairfield counties). Yay Bikes! therefore proposed an OSU-based cyclist safety campaign, the primary goals of which would be to:

1. Understand the nature and extent of unsafe bicycling behaviors on and around the OSU campus
2. Decrease the incidence of unsafe bicycling behaviors among OSU students

The campaign that evolved out of this proposal became known as “How We Roll”, an innovative peer-based strategy to teach students the rules of the road and change their bicycling behaviors. Yay Bikes! received \$149,600 to pilot this campaign with students at OSU.



# background : campaign leadership

---

A team of experts from six agencies and organizations worked collaboratively to deliver a safety campaign with impact.

The following organizations and professionals generously contributed expertise, connections and other resources to the campaign.

## **OHIO DEPARTMENT OF TRANSPORTATION**

Heather Bowden, Bike & Pedestrian Planner,  
[Heather.Bowden@dot.state.oh.us](mailto:Heather.Bowden@dot.state.oh.us)

Michelle May, Safety Program Manager,  
[Michelle.May@dot.state.oh.us](mailto:Michelle.May@dot.state.oh.us)

*ODOT funded and administered the campaign.*

## **OHIO DEPARTMENT OF PUBLIC SAFETY**

Lori Genzen, Business Manager,  
[lgenzen@dps.state.oh.us](mailto:lgenzen@dps.state.oh.us)

*ODPS funded and administered the campaign.*

## **YAY BIKES!**

Meredith Joy, Executive Director,  
[meredith@yaybikes.com](mailto:meredith@yaybikes.com)

*Yay Bikes! conceived the campaign and managed its implementation.*

## **THE OHIO STATE UNIVERSITY**

Rob Osterfeld, Program Manager,  
Strategic Planning & Sustainability,  
[osterfeld.5@osu.edu](mailto:osterfeld.5@osu.edu)

*OSU's Transportation & Parking Services advanced the campaign within the university.*

## **BIKE OSU**

Denis de Verteuil, President,  
[deverteuil.1@gmail.com](mailto:deverteuil.1@gmail.com)

*Bike OSU served as the public face of the campaign on campus.*

## **MID-OHIO REGIONAL PLANNING COMMISSION**

Joe Fish, Associate Planner,  
[jfish@morpc.org](mailto:jfish@morpc.org)

*MORPC provided the campaign with data and data collection support.*



# background : bicycling at osu

---



*OSU's Share the Road initiative educates students, faculty and staff about road rules for all users.*

How We Roll was designed and executed within the institutional framework of OSU, at the third most populous campus in the U.S.

OSU, a campus on which 10,750 students live, 56,867 attend class and 28,240 work, is a vibrant community supportive of bicycling and striving to improve conditions for cyclists.

**THE "5 Es" AT THE OHIO STATE UNIVERSITY**  
The 5 Es are a rubric used by the League of American Bicyclists to compare U.S. communities for the Bicycle Friendly America awards program. As How We Roll planning was underway during

summer 2011, the 5 Es at OSU could be summarized as follows:

## **Engineering**

Since 2008, OSU has invested more than \$2 million to improve the bike path on campus, install 8,000 bike racks and 28 bike lockers and add sharrows or bike lanes on several streets. More bicycle accommodations are anticipated when the campus implements its One Ohio State Framework<sup>1</sup>, a plan to integrate all of OSU's physical infrastructure.

## **Education**

Several departments first collaborated on a multi-modal road safety effort during fall quarter 2010, which evolved into a Share the Road OSU<sup>2</sup> campaign during fall 2011. The coalition disseminated print materials and developed a website to teach all OSU road users how to interact with one another.

## **Encouragement**

MORPC data shows a 28.5% increase in bicycling per year from 2005–2010, and racks can barely accommodate all the bicycles on campus, but OSU has only recently begun to proactively encourage bicycling with events like Car-free Day, a bicycle fair and participation in Central Ohio's annual Bike to Work Challenge. First-year students are not permitted to bring cars to campus, which seems to encourage them to bring bicycles instead.

## **Enforcement**

OSU campus police has a bicycle patrol, and they proactively address bicycle theft with their "Bug a Bike" registration program. They have opted not to enforce traffic law as it pertains to bicyclists, however, until the roadways offer a more coherent, safer ride for people who may be new to bicycling on city streets.

## **Evaluation & Planning**

OSU has a bicycle master plan, and bicycling infrastructure features heavily in the aforementioned One Ohio State Framework. To support implementation of the plan, the OSU Bikeways Advisory Committee was revived in 2011 after languishing for several years. In addition, research into bicycling on campus is being conducted by several professors and the transportation department, and Bike OSU has evolved into a consistent student voice for bicycle advocacy on campus.

## **BICYCLE FRIENDLY UNIVERSITY AWARD**

These efforts by Transportation & Parking Services and several other departments to make the campus more accessible to cyclists were honored during fall quarter 2011, when OSU was awarded a Bronze-level Bicycle Friendly University Award by the League of American Bicyclists. The How We Roll campaign was fortunate to have benefited from and contributed to the momentum for bicycling at OSU during this time.

# background : campus-area crashes

Traffic incident reports from crashes involving bicyclists near campus were analyzed to discern the factors that caused them.

In spite of OSU’s recent bicycle friendly efforts, the intersections and roadways near OSU consistently yield the highest number of bicycle–motor crashes in the Transportation Planning Area (TPA). To reveal the behaviors for which cyclists were cited when they were at fault, MORPC mapped crashes that occurred from 2007–2010 within the official boundaries of the University Area (excluding the Weinland Park neighborhood to the south) and pulled traffic incident reports from the ODPS online database.

## CRASH DATA

Traffic incident reports from 2007–2010 showed that four intersections near OSU (High Street at Lane, Woodruff, 15<sup>th</sup> and 11<sup>th</sup> Avenues) were among the top 10 sites for bicycle and pedestrian crashes in this TPA. Sixty-eight bicycle–motor vehicle crashes were reported during that 4-year period, and a majority of them (73.5%) caused injury to the cyclist. Crashes spiked in 2010, with 26 that year compared to an average of 14 per year from 2007–2009, an increase that tracks with the 185% increase in cyclists recorded in the 2010 MORPC bicycle counts (421 in 2009 compared with 781 in 2010). Just a handful of on-campus crashes were reported to Columbus City

police or University Police, which could reflect their infrequency or suggest they are not damaging enough for victims to report them.

### Fault

Cyclists were cited in 32 (47.1%) of the crashes. Their offenses included riding in a crosswalk (46.9%), erratic or inattentive riding (21.9%), failure to yield (18.8%), riding against traffic (6.2%) and riding at night without lights (6.2%).

### Conditions

Most crashes occurred in daylight conditions (57.4%) on clear days (79.4%) at an intersection (75.0%). Somewhat more crashes (17.6%) occurred during September, when OSU resumes for the fall, than during other months.

### Demographics

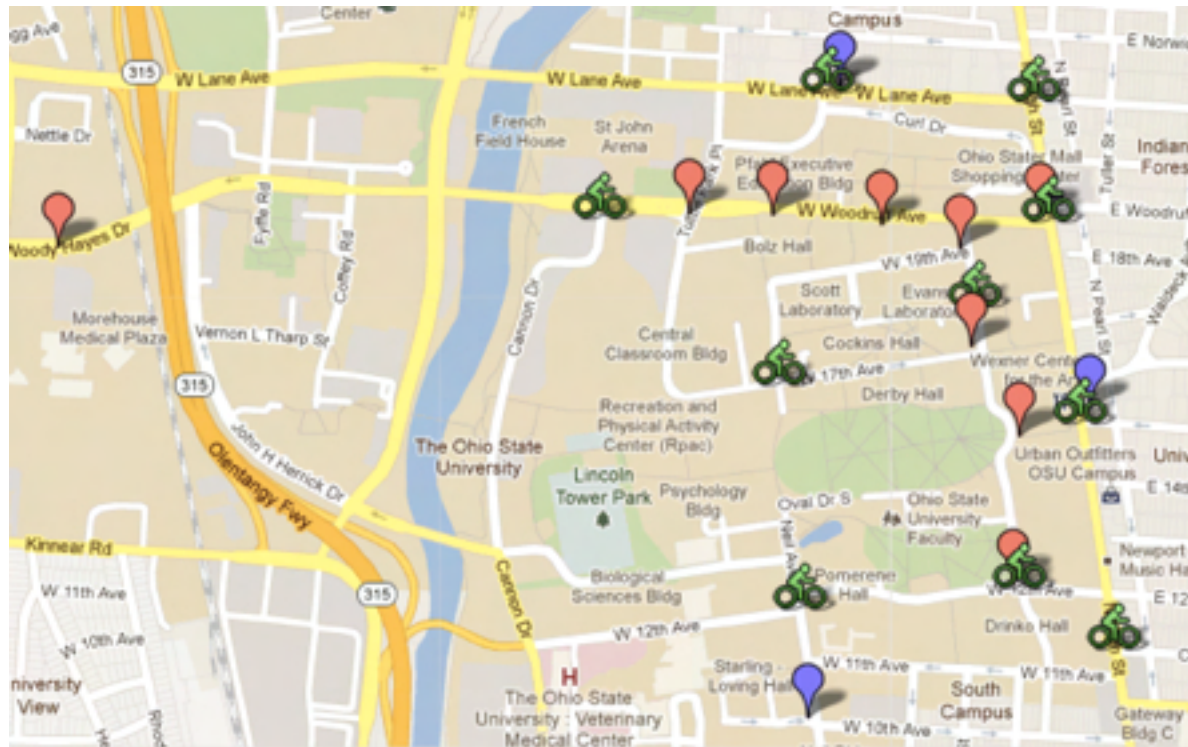
Cyclists who caused crashes were 22 years old, on average, and overwhelmingly male (72.3%).

*See Appendix A, page 39 for a map of crash sites.*

Bicycle–Motor Vehicle Crashes OSU Area, 2007–2010	
Total crashes	<b>68</b>
Injury crashes	<b>50 (73.5%)</b>
Property damage crashes	<b>18 (26.5%)</b>
Crashes attributed to cyclists	<b>32 (47.1%)</b>
Crash factors, cyclist-caused crashes	
Riding in crosswalk	<b>15 (46.9%)</b>
Erratic/inattentive riding	<b>7 (21.9%)</b>
Failure to yield	<b>6 (18.8%)</b>
Riding against traffic	<b>2 (6.2%)</b>
Riding at night without lights	<b>2 (6.2%)</b>

Source: Mid-Ohio Regional Planning Commission, Ohio Crash Reports

# background : behavioral observation research



Source: Yay Bikes!

*A map depicting the sites on and near campus at which cyclists have been observed. Red pins are OSU Transportation & Parking observation sites, purple pins are National Bicycle & Pedestrian Documentation Project observation sites and green bicycles are Yay Bikes! How We Roll observation sites.*

Several observations of campus-area cyclists provided snapshots of how they actually behave and suggested the prevalence of dangerous behaviors.

Campus-area traffic incident reports revealed the most dangerous behaviors for cyclists, but it was also important to learn which were ubiquitous. Two prior OSU-area cyclist observations and an original cyclist observation helped tie the safety campaign to specific problem behaviors.

## **CYCLIST OBSERVATION RESEARCH**

Few published studies have captured actual behaviors by cyclists as they ride their bicycles. Among those that have utilized an observation methodology, most focus on helmet use, although light use, sidewalk riding and wrong-way riding have also received attention.<sup>3-4</sup> At OSU, several recent observations have documented cyclists' behavioral profile using these variables and more. The National Bicycle & Pedestrian Documentation Project<sup>5</sup> (NBPDP) conducted regularly by MORPC, which counts cyclists at specific sites over several years in a manner similar to how motor vehicle counts are conducted, was one such data source. Beginning with their three 2010 NBPDP counts, MORPC has asked volunteers to record whether cyclists were riding on the road or the sidewalk. This addition

# background : behavioral observation research

to the count forms served as the model for a more robust OSU T&P observation in April 2011, designed to gauge how the installation of bicycle lanes and sharrows along two streets would affect bicyclists' behavior. In that study, volunteers at nine sites tallied cyclists' helmet use, sidewalk riding, wrong-way riding, distracted riding and light use.

## HOW WE ROLL OBSERVATION

The pre-campaign observation for How We Roll was designed to get an even more nuanced picture of how cyclists behave while riding. It incorporated helmet use and sidewalk, wrong-way and distracted riding variables from the prior studies, as well as failure to yield, curb hugging, signaling an intention to turn and crashing or narrowly avoiding a crash. On Thursday, June 2, 2011, volunteers counted cyclists and observed for these 7 dangerous behaviors and 2 possible traffic incidents at 10 campus-area intersections.

### Site selection

The 10 sites selected for analysis represented a mix of signal- and sign-controlled intersections evenly distributed near and throughout campus. Some sites had never been studied relative to cyclists and others had been observed during the research by MORPC and OSU. W Woodruff Avenue had to be avoided due to construction from College Road to Tuttle Park Place.

### Data collection volunteers

Volunteers were recruited through emails sent to the Yay Bikes! and MORPC volunteer lists, and OSU Transportation & Parking Services provided several staff members and interns for the effort. A total of 16 volunteers attended a 1-hour training session before observing for a 2-hour shift from 7–9am and/or 3–5pm. During both shifts a team member rode to each site to check on volunteers and answer their questions.

### Data collection

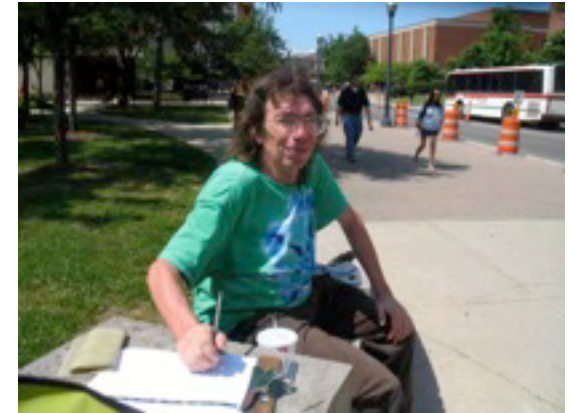
Volunteers made hash marks on their form for each cyclist they observed and each time these cyclists enacted the behaviors in question. They were also encouraged to take notes or draw pictures for clarification or commentary. Sites were documented with 360° photographs to capture their condition and infrastructure at the time of the observation.

### Observation outcomes

Outcomes in each category are summarized below, with results from the MORPC and OSU studies referenced for comparison.

### Bicyclists

A total of 3,326 bicyclists were counted during the two 2-hour observation periods (1,131 from 7–9am and 2,195 from 3–5pm). The fewest cyclists were observed at Woody Hayes and Cannon Drive (149) on the northwest side of campus, while the most were observed at W



Source: Meredith Joy, Yay Bikes!

*Volunteer Steve Scott observing cyclists' behavior at W 17th and Neil Avenues on campus.*



Source: Meredith Joy, Yay Bikes!

*A cyclist at Weber and High Streets prepares to cross illegally in the crosswalk.*

# background : behavioral observation research

---

Woodruff and High Street (443). Among the on-campus intersections, W 12<sup>th</sup> and College to the south was the least trafficked (233) and 17<sup>th</sup> and Neil at central campus was the most trafficked (434) by bicyclists. The mean average number of cyclists was split evenly between the 4 on-campus sites (326 per site) and 6 off-campus sites (342 per site).

## *Helmet use*

On average, 20.0% of cyclists observed were wearing a helmet. This result is similar to the OSU study, during which just 17.4% of cyclists were wearing a helmet. The mean average percentage of cyclists wearing helmets on campus (17.0%) was somewhat less than the average proportion wearing helmets off-campus (22.0%).

## *Sidewalk/crosswalk riding*

More than half the cyclists observed (51.3%) were riding on the sidewalk or in a crosswalk. In the OSU study 44.0% of cyclists were on the sidewalk, while in the MORPC study 64.0% were on the sidewalk (although the MORPC study only counts cyclists on one side of the street). The mean average percentage of cyclists riding on the sidewalk on campus (49.1%) was similar to the average proportion riding the sidewalks off-campus (52.8%). Off-campus, the highest rates of sidewalk riding occurred at Lane and Neil (64.8%) and Woody Hayes and Cannon (59.7%), where the roads are wide and the posted speed limit is 35mph; on-campus, the highest rates of sidewalk

riding occurred at 12<sup>th</sup> and Neil (62.0%) and 12<sup>th</sup> and College (58.4%), where roads are narrow and speeds are slower but automobile traffic tends to be heavy. There does not seem to be one factor that predicts sidewalk riding.

## *Wrong-way riding*

On average, 1.1% of cyclists were observed riding against traffic on the road (cyclists on the sidewalk were not counted in this category). A higher proportion of on-campus cyclists (1.5%) than off-campus cyclists (0.9%) were riding the wrong way. In the OSU study, 1.5% of cyclists were riding against traffic.

## *Distracted riding*

An average of 9.4% of cyclists were riding distractedly, which was defined as talking on a cell phone, texting, eating or drinking, wearing headphones or carrying a large or awkward load that prevented them from having both hands on their handlebars. The extreme variability across sites (0.5% at W 17<sup>th</sup> and Neil compared to 18.7% at Lane and High) may have resulted from different levels of visibility for cyclists wearing headphones, or some volunteers not realizing that headphone use counted as distracted riding. The OSU study had similar results, with 8.0% of cyclists being distracted.

## *Failure to yield*

While an average of 15.5% of cyclists, whether on the sidewalk or the road, did not stop, this

variable seemed especially influenced by the circumstances at each site. Many more cyclists stopped at the seven signaled intersections than at the three stop signs, all of which were on campus. For example, at the signal-controlled intersection at Lane and High, cyclists failed to yield only 0.7% of the time, but a stop sign on campus near the library was disregarded by 38.0%. On campus, cyclists failed to yield 32.3% of the time, while off campus the failure to yield rate was 4.3%. One significant caveat with this variable is that it is not clear how many cyclists were required to stop at signaled intersections at the time they were observed.

Volunteers also reported that a new stop sign at W 18<sup>th</sup> and College may have been a factor in the high rate of failures to yield (52.1%) at that intersection. Although a traffic flow change notice was posted, both motorists and bicyclists often failed to heed the new sign.

## *Signaling*

Almost no cyclist (1.0%), whether on campus or off, at a signal- or sign-controlled intersection, was recorded indicating an intention to turn. However, as with failure to yield, this variable should be treated with caution since it is not clear how many cyclists were turning at the time they were observed.

## *Curb hugging*

Curb hugging, defined as riding less than three



# background : behavioral observation research

---

feet from the curb, was committed by an average of 7.1% of cyclists observed. The outlier at W 18<sup>th</sup> and College, where 24.5% of cyclists hugged the curb compared with a high of 8.6% of cyclists at other sites, indicates there may have been a problem with how this variable was defined. A volunteer at this site accidentally recorded the roadway near the intersection, and not the intersection itself, for a portion of her shift; it could be easier to ascertain curb hugging along a roadway than at an intersection. Excluding this site, 5.5% of cyclists off campus and 4.4% of cyclists on campus were hugging the curb.

## *Crashes and near misses*

No crashes occurred during this observation. Near misses occurred for 0.9% of all cyclists observed; however, removing the outlier intersection at W 12<sup>th</sup> and College, where 4.3% of cyclists almost crashed, causes the rate to drop to 0.5%. This four-way sign-controlled stop also had a high failure to yield rate (27.9%) and sidewalk riding rate (58.4%) relative to other sites, which may account for the problems here; the volunteer at this site may also have tallied these incidents differently than other volunteers. Overall there were twice as many near-crashes on campus (1.2%), on average, than off campus (0.6%).

## *Lights*

Cyclists's use of lights, or the presence of lights on bicycles, were not captured in this observation. The OSU study included this variable and found

that 9.0% of cyclists were using lights. This finding is suspect because the "use" of lights was loosely defined to include both having lights turned on and having bicycles equipped with lights. However, except for a brief period at dusk, observations occurred during daylight and it was difficult for volunteers to ascertain whether bicycles were equipped with lights.

## **Post-campaign observation**

A post-campaign observation planned for June 2012 is being rescheduled. While expectations for significant behavior change are low given the short intervention period, it will be useful to demonstrate How We Roll's impact longitudinally.

## **APPLICATION OF DATA TO CAMPAIGN**

Reducing the number of crashes that occur on campus would require reducing the incidence of behaviors that caused them. Upon collecting and reviewing several sets of data regarding how bicyclists behave in the vicinity of OSU, campaign leadership commenced a process of determining which behaviors to target with the safety campaign. It was agreed that the selected behaviors must cause crashes, occur with some frequency on campus, be easy to communicate and have the potential to be addressed in a two-month safety campaign.

Crash-causing behaviors were weighted the most heavily, so sidewalk riding, distracted riding and failure to yield were all possible targets. Not

signaling or wearing a helmet, the most prevalent problem behaviors, were also considered. And finally, even though it was not well captured in the data, the underuse of lights among OSU-area cyclists was a concern. Of these, distracted riding was discarded because it encompassed too many "sub-behaviors", none of which could be definitively linked to crashes (i.e., traffic incident reports did not indicate whether distracted cyclists were wearing headphones or daydreaming). Signaling an intention to turn was also discarded for not being linked to crashes. Likewise helmet use, while problematic, was passed over in favor of crash-causing behaviors.

Ultimately it was decided that, if students rode on the roads instead of the sidewalks, yielded when required and equipped their bicycles with lights at night, they would significantly reduce their risk of causing a crash. Sidewalk riding was difficult problem to convey, but essential to the campaign for its prevalence and risk factor. Failure to yield was dangerous, occurred a fair amount on campus and could be easily communicated. And the use of lights was easily addressed in a safety campaign. To change these behaviors, then, How We Roll would need to teach students how to ride in the roads, compel them to stop when required by law and equip them with lights.

*See Appendix A, pages 40–42 for raw data from each observation, and pages 43–44 for data collection instructions and tally forms.*

# campaign strategy

---

A unique methodology was employed to get college students to adopt safe cycling behaviors.

The primary challenge in designing this safety campaign was to select a behavior change methodology that would resonate with college students. There were several concerns—first, that a safety message would be contending with an overwhelming number of competing messages on campus; second, that students might have attitudes about bicycling and/or cyclists that made them disinclined to care about or respect cycling-related information and third, that even if a safety message was heard, it would be considered “uncool” and ignored. The campaign would have to be compelling enough to break through these barriers and truly engage students in becoming safer cyclists. A literature review helped identify strategies for effecting behavior change in an undergraduate student population.

## LITERATURE REVIEW

Outside the area of helmet use and promotion, there is scant research into bicyclists’ behaviors or how to change them, and none into the effects of education on bicycling behaviors. Helmet research was therefore used as a proxy for understanding other types of behaviors among older youth and adult cyclists, and for gaining insights into how a safety campaign could influence them.

## Helmet use and promotion research

The promotion of helmet use among cyclists is a priority in the public health community, given how effectively they prevent serious injury and death in the event of a crash but how few cyclists wear them.<sup>6</sup> Many studies have sought to identify the predictors of helmet use and the most effective interventions to increase helmet use. Factors that predict this behavior include whether a cyclist owns a helmet, has developed a helmet-wearing habit, believes it is a social obligation and/or that helmets are highly protective, feels confident in their ability to wear one correctly and finds that helmets do not infringe too much on their personal comfort or appearance. Almost universally, however, studies find the single best predictor of whether a cyclist—of any age—will wear a helmet to be whether their friends or family members wear helmets.<sup>7–12</sup> One study quantified the impact of social ties on helmet use:

- 78% of helmet users had suggested that others should wear a helmet, compared with 18.5% of nonusers
- 72% of helmet users had received recommendations from others to wear a helmet, compared with 55% of nonusers
- 74% of helmet users had friends who wore helmets, compared with 33% of nonusers
- 66% of helmet users had friends who had been involved in a bike accident, compared with 48.2% of nonusers<sup>12</sup>

## Peer-based behavior change

Research shows that while person’s social context can reinforce dangerous behaviors, positive peer pressure can also transform them for the better. Campaigns that capitalize on the potential for peers to convey information and influence behaviors have provoked significant change where little was thought possible, in contexts ranging from helmet promotion at a university in the United States to political uprisings in Serbia. Rather than trying to get people to change their behavior through a strictly rational consideration of facts and threats, peer-based social marketing can offer them a new identity and sense of belonging among friends. Their social life then becomes a context in which positive behaviors are enacted and reinforced.<sup>13–14</sup>

Of course, helmet use is likely not a perfect proxy for other bicycling behaviors, as there may be a greater social stigma associated with it than with other behaviors, and wearing a helmet requires much less expertise than, for example, riding a bicycle on a road correctly. Nevertheless, it seemed plausible that the factors predicting helmet use could be used to predict how people ride bicycles, even if the relative significance of each factor varied. This assumption, coupled with insights from the research into peer-based outreach methodologies, suggested a campaign to increase students’ level of riding confidence in the context of a social setting that rewarded lawful riding.

# campaign strategy

---

## **A CONTEXT FOR SAFETY**

The How We Roll campaign focused on fostering a cool, fun bicycling community at OSU—one in which safe cycling behaviors became the social norm—through the creation of a compelling lifestyle brand and peer-based outreach.

### **A compelling lifestyle brand**

The How We Roll brand was designed to have a fun, confident and inspiring “personality”, to be the popular kid everyone wants to befriend. The brand was communicated to the OSU community primarily through evocative visuals, affirmative messaging and experiential education.

#### *Evocative visuals*

The goal with How We Roll’s visual design was to get people emotionally engaged and willing to accept new information about how to ride their bicycles. A modern twist on 1940s-era military propaganda styling was used for its potential to impact people at a gut level and short-circuit their rational, judgmental processes. It was important that everyone—not just those who already identified as cyclists—be able to see themselves in the imagery. The designs employed bright colors, abstracted illustrations of cyclists and militaristic elements including shields, ribbons, navy stars, block letters, grainy black and white photographs of cyclists standing at attention, etc. to evoke patriotism and a call to arms. The materials had sufficient artistic merit that it was hoped that people would proudly display them.

#### *Affirmative messaging*

How We Roll communications deliberately avoided the negative messages cyclists often hear about themselves and their actions, in favor of simple, declarative statements that asserted a positive new role for them to assume. Cyclists are not scofflaws or jerks, but rather honorable, inspiring and confident people who behave in ways that contribute to society. The word “we” was used frequently to convey the notion that all cyclists are in this together, being safe and supporting one another on Columbus’ roads. Explicit campaign messages included:

- “We light the night. Cyclists use white front and red rear lights for night riding.”
- “We respect the red. Cyclists stop at all red lights and stop signs.”
- “We ride the roads. Cyclists take the full lane as necessary to ensure our safety.”

#### *Experiential education*

Instead of teaching bike safety in a classroom, a bicycle tour from campus to downtown Columbus got people out, actually experiencing what it is like to ride in traffic. During the tour riders would stop at several small businesses for free samples and discounts, at which point safety information would be conveyed informally by the tour guides. This methodology allowed the outreach team to promote a “fun bicycle tour of Columbus!” instead of a “bike safety class”.

#### **Peer-based outreach**

How We Roll’s safety message would not appear to originate from the government, from the university or even from Yay Bikes!, but from other students that participants found themselves liking, trusting and looking up to. Bike OSU, a student organization “dedicated to making campus and the surrounding community safe and fun for cyclists”, would be the campaign’s public face. The President of Bike OSU was hired to develop How We Roll’s educational offering and served a dual role as a leader in both organizations; capacity was thus built into Bike OSU so that, regardless of future funding, How We Roll would leave a positive legacy for cyclists on campus. The campaign’s cycling instructors were students or recent graduates who could connect with students as both peers and trained experts. The relationship that developed between tour guides and their students was considered a primary factor in the campaign’s success at communicating a cycling safety message. It was hoped that students who had experienced their investment of time and care would become message ambassadors themselves, spreading information and expectations about safe cycling organically throughout campus.

# How We Roll outreach : materials

---



Source: Meredith Joy, Yay Bikes!

*Buttons, stickers and spoke cards gave people a reason to share the campaign with others.*



Source: Meredith Joy, Yay Bikes!

*Drawstring bags and t-shirts were available only to those who took the tour.*

Hundreds of stickers, buttons and spoke cards were distributed to promote the tour and given as special gifts to tour participants.

Marketing elements were a substantial investment, because students were known to go to great lengths for free swag and to spread the word if they had cool materials to share with friends. Campaign materials included:

## **Posters**

Posters were hung in all the residence halls and most academic buildings on campus, if possible in sets of two or three for maximum visual impact.

## **Spoke cards**

Spoke cards used the same design as the posters, but only had the campaign URL on them. They were used as fliers and put on hundreds of bicycles parked on campus.

## **Banners**

Three table banners were used, depending on the event and what was being promoted. One said "Bike OSU", another said "Get Lit" and a third said "Ask Us How We Roll". A stand-up banner for outdoor events read "This Is How We Roll".

## **Fliers**

Fliers that advertised the campaign launch party were distributed at Car-Free Day and the Student Involvement Fair.

## **T-shirts**

Red t-shirts were given exclusively to tour participants, to create a special How We Roll riders' club on campus.

## **Drawstring bags**

Bright yellow drawstring bags held all the free swag tour participants received. The bags also made them extremely visible on the road and in the community.

## **Stickers**

Stickers of the logo were handed out alongside the other items, and tour participants each received two of them.

## **Buttons**

The same button in three different colors were popular freebies at events, and tour participants received one of each button.

## **Safety brochure**

An original safety brochure explaining traffic concepts and crash avoidance techniques was distributed at events and to each tour participant.

*See Appendix B, pages 47–48 for the safety brochure copy.*

# How We Roll outreach : materials



Source: Fulcrum Creatives

The How We Roll posters were designed to be evocative propaganda for three behaviors—riding on the roads, equipping bicycles with lights for night riding and stopping at reds.

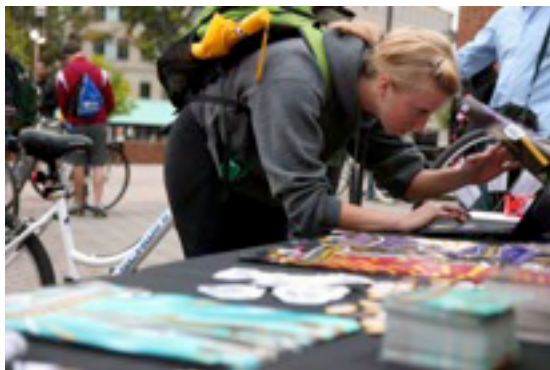
# How We Roll outreach : events

---



Source: Fulcrum Creatives

*Meredith Joy of Yay Bikes! shares about How We Roll and invites students to the following week's campaign launch party.*



Source: Fulcrum Creatives

*A student registers online for a tour at the official How We Roll campaign launch party.*

A campaign launch party and several tabling events offered direct contact with the student population and generated a buzz about the campaign on campus.

## **TABLING EVENTS**

The following events were a cost effective way to quickly reach hundreds of students.

### **Freshman Orientation**

*July 11, 8-10am, Drake Union*

Each incoming freshman, along with their parents, attends a summer orientation experience on campus. A tabling event at one of these events provided an opportunity to offer students a teaser about How We Roll.

### **Student Involvement Fair**

*Sept 19, 12-4pm, Ohio Union*

During Welcome Week, students had a chance to explore all the student organizations on campus in one afternoon. Thousands of students attended the Student Involvement Fair, and 290 of them signed up for Bike OSU's email list.

### **Car-Free Day**

*Sept 22, 11:30am-1:30pm, 12th & High Streets*

OSU celebrated Car-Free Day by setting aside several parking spots on campus for active

transportation community groups to table. The How We Roll table promoted the tours and the email list, for which 26 students signed up.

### **Campaign Launch Party**

*Oct 3, 6-9pm, Ohio Union West Plaza*

A launch party featuring a DJ, free bike maintenance, lights giveaways and pizza kicked off the How We Roll campaign. Hundreds of students showed for the event, 74 signed up for Bike OSU's email list and 15 left directly from the party on the first tours of the quarter.

## **PRESENTATIONS**

Team members were invited to give two presentations during the quarter.

### **City & Regional Planning graduate class**

*Nov 7, 3:30-5pm, Dr. Gulsah Akar*

Meredith Joy discussed How We Roll with the 20 students in Dr. Akar's transportation class.

### **Statistics undergraduate class**

*Nov 14, 8:30-10am, Dr. Kristi Lekies*

Nicholas Deis discussed How We Roll data collection methodologies with the 11 students in Dr. Lekies' statistics class.

# How We Roll outreach : lights giveaways

Seven hundred front and rear lights were installed on bicycles through a major grassroots outreach campaign on campus.

One of the primary tasks of this campaign was to increase cyclists' safety and legality by equipping them with lights. Nine hundred sets of lights that met the State of Ohio minimum legal requirements—being visible from 500 feet to the rear and 300 feet to the sides—were purchased, and 700 were installed on the bicycles of ill-equipped cyclists riding on campus. To prevent people from forgetting to install them or selling them for personal gain, lights were given to cyclists who: 1) had a bicycle with them and 2) allowed a team member to install the lights. Everyone who rode the bicycle tour received lights if they needed them, and they were installed on bikes at the campaign launch party and at other times on campus throughout the quarter. The face time made possible by a free lights giveaway proved invaluable to the campaign's success.

## GRASSROOTS CAMPUS OUTREACH

Because a team member installed the lights, the giveaway permitted a five minute conversation with each light recipient. That time was used to teach them about their lights, share about How We Roll, introduce Bike OSU, answer questions and invite them to register for the bicycle tour. When no one showed for a tour, the scheduled How We Roll tour guides took a box of 20 lights to campus, selected a high-traffic location and flagged down cyclists without lights. Lights giveaways outside several dorms were also scheduled, and tour guides and Bike OSU volunteers were on hand to equip large numbers of cyclists. As one person installed lights, another would use an iPad to have cyclists register for an upcoming tour. Students were encouraged to sign up on the spot and cancel later, if necessary, so that a means of communicating with them could be secured.



*Portland Design Works provided 900 discounted lights sets for the campaign.*



*Source: Meredith Joy, Yay Bikes!*

*Tour Guide Casey Bellman spends an afternoon in front of Thompson Library installing bicycle lights and recruiting students for the How We Roll tour.*

# How We Roll outreach : media & online



Screenshots of an article from The Columbus Dispatch (above) and the How We Roll Facebook page (below).

Local news outlets, social media and Constant Contact e-newsletters spread word of the campaign.

Media coverage introduced students and the general public to the tour and the campaign. On campus, in keeping with a peer-based outreach strategy, the stories highlighted Bike OSU's leadership; off campus, the roles of other campaign partners were revealed.

## EARNED MEDIA

The press advisory for the campaign launch party got picked up by OSU's student paper, The Lantern, and its staff paper, OnCampus. Off-campus publications that covered How We Roll included The Columbus Underground and the Columbus Dispatch; the Columbus Alive mentioned the campaign in an update on Yay Bikes! Executive Director. WBNS 10TV also ran a one-minute spot about the campaign in a Community Outreach segment.

## SOCIAL MEDIA

The social media presence included a How We Roll Facebook page that received 279 Likes and an inactive Twitter feed at @HowWeRollOSU that attracted 26 followers. Participants were encouraged to post and tag photos from their tours on Facebook.

## CONSTANT CONTACT

Five e-newsletters with campaign updates and general bicycling information were emailed to the 582 students who opted into receiving Bike OSU communications.

## FACEBOOK ADVERTISING

Two Facebook ads were created to exclusively target OSU students. One ad ran September 28 to October 3 to advertise the How We Roll launch party and the other ran throughout October to promote the tour. The tour ad generated almost 4.5 million impressions, garnered 311 clicks and converted 18 of these into connections (i.e., people "liking" the How We Roll page).



# How We Roll tours : overview

An innovative cyclist education methodology forsook the classroom for a fun, informative on-road experience.

Instead of offering classroom-based bicycle safety classes, a bicycle tour of the city's coolest neighborhoods was used as a context in which to share essential urban cycling information. Free three-hour tours were offered to OSU students at least twice a day, six days a week, during fall quarter 2011. Bicycles and helmets were provided for students who did not own them, and each rider received a free bag, t-shirt, lights, stickers, buttons, discounts and educational materials. Two guides led up to 6 students on a 12-mile loop from Campus to Downtown and back. Along the route, which was designed to feature different traffic scenarios of increasing difficulty, groups stopped at three to five local businesses for free samples of ice cream, sauerkraut balls, hot chocolate, french fries and more. The stops provided an opportunity for instructors to forge relationships, present information about bicycle safety and the city of Columbus, answer questions and critique students' riding habits. Tour participants reported extremely high levels of satisfaction with their experience, and increased levels of confidence in several areas that suggest safety outcomes will be realized.



Source: Fulcrum Creatives

*Tour guides Jennifer Sherry and Shibnum Blewett prep their group for the first tour of the campaign, leaving directly from the launch party on October 3, 2011.*

***"This tour showed me a lot and it was really fun being respected by cars on a bike as a vehicle because the small city I am from, bikes are not used like they are in Columbus and no one rides on the roads. I am glad I went on the tour because I know the street laws now and it encouraged me to start riding a bike more places now that I am comfortable with the laws."***—Tour Participant

# How We Roll tours : staffing



Source: Fulcrum Creatives



Source: Yay Bikes!

League Cycling Instructors Tricia Kovacs and Meredith Joy teach Traffic Skills 101 to prospective tour guides.

*“I really enjoyed how personal the tours were. Getting to know the participants was great and I think it generally improved our ability to communicate important information to [them].”—Tour Guide*

*“Our tour guides, Art and Denis, were fantastic, funny and accommodating. They were awesome—possibly the best part of the ride.”—Tour Participant*

A team of 12 professionals led tours and managed the campaign.

## PROGRAM MANAGEMENT

Yay Bikes! employed a Program Manager for 435 hours, an Outreach & Education Coordinator for 645 hours and a Research Intern for 280 hours. All program management staff were qualified to lead tours and did so as necessary.

## TOUR INSTRUCTORS

In keeping with the peer-based outreach strategy, the instructors hired were mostly students or recent graduates between 22 and 30 years old. Recruitment occurred during the summer break, primarily through the Yay Bikes! social media outlets and e-newsletter. Each instructor was required to complete one of the three 12-hour Traffic Skills 101 courses offered in July and August and to attend a presentation about the campaign. They were scheduled for two rides a week, with an optional ride opportunity on Saturday afternoons, and helped with grassroots campus outreach as needed for a combined total of 750 hours during fall quarter. The guides proved very popular with students—on 16.2% of the evaluations received, participants volunteered that their tour guide was an important or favorite part of their experience.

See Appendix B, page 50 for the evaluation sent to all tour guides after the campaign concluded.

# How We Roll tours : sponsors

Thirteen small business owners were excited about a unique way to introduce their businesses to OSU students.

Among the more innovative parts of the campaign was the sponsorship from small businesses. It can be challenging to entice OSU students off campus to explore other areas of the city, even with free public transportation, vibrant neighborhoods within two miles and ubiquitous coupons for the college crowd. For business owners willing to offer tour riders free samples or discounts, How We Roll delivered dozens of students, with coupon maps to facilitate their return, and provided management the opportunity to discuss their business. Students' favorite part of the tour was overwhelmingly these businesses, and they frequently mentioned not knowing about them before riding with How We Roll; evaluations indicated that 75% were "very likely" and 19% were "somewhat likely" to return to them. An evaluation sent to business owners elicited two responses, both of which positive about the return on investment from their participation in the campaign.

See Appendix B, page 45 for a full listing of our sponsors and their offers and page 50 for the evaluation sent to all business owners after the campaign concluded.



The sponsors who provided discounts or freebies to tour participants, and/or served as stops on the tour.

***"How We Roll introduced new customers to our business. A lot of the cyclists on the tour came back to our establishment. We really enjoyed seeing the tour come in daily."***

Commonwealth Sandwich Bar

***"How We Roll falls in line very well with our decision to involve our company only in local, community-based promotion. We feel that supporting sustainable, community supporting initiatives provides a form of marketing in itself by promoting our culture and values."***

Columbus Food League



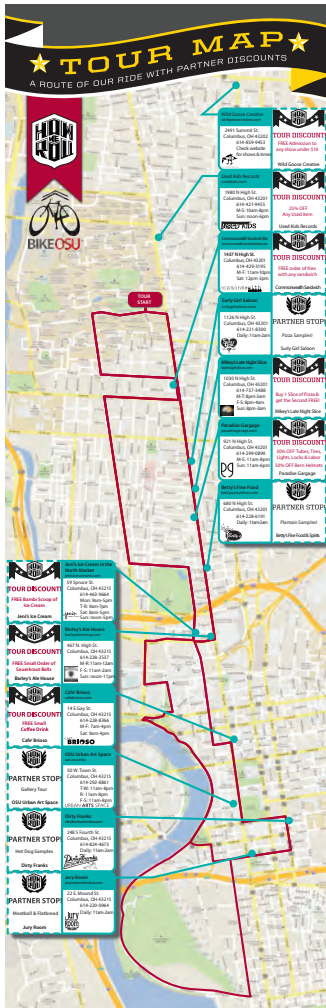
Source: Arthur Kadlec, Yay Bikes!

Riders pick up their free ice cream cone from Jeni's Splendid Ice Creams in the North Market.

***"The places we stopped along the ride were genuinely interesting as I have never been to any of them before...The North Market was an amazing place that I never knew about and I plan to most definitely return. My favorite stop would be a tie between Jenny's Ice Cream, where I got the chocolate forest cake ice cream, and the Brewery where we got samples of the sauerkraut balls which were amazing."***

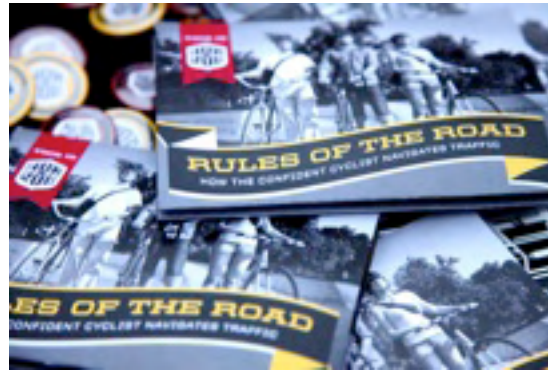
Tour Participant

# How We Roll tours : curriculum



Source: Denis de Verteuil, Yay Bikes!

Riders were given a tour map with sponsor coupons to help facilitate their return by bike.

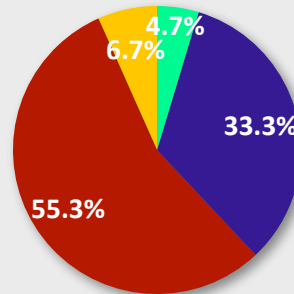


Source: Fulcrum Creatives

Original safety materials were designed specifically for college students.

## What is your level of experience on a bicycle? (n=150)

- I've never been on one.
- I haven't ridden since I was 11.
- I just ride to and from class.
- I ride around town but could get better.
- I could lead this tour.



Registrants were asked for their level of cycling experience to help guides customize their tours.

The League of American Bicyclists' Traffic Skills 101 curriculum was adapted to fit within a three-hour bicycle tour.

A safety curriculum was the backbone of the tour experience. The following page details the material instructors were expected to convey and the knowledge and experiences students were to have gained. These outcomes were not tested for, although tour participants were asked to indicate their levels of confidence in several key areas of bicycle safety before and after the tour (see page 34 for survey results).

One challenge was planning for the different skill levels among tour participants. If students hadn't mastered basic maneuverability, a 12-mile ride might be too much for them. To deal with this, 3 possible tours of approximately 4, 8 and 12 miles were designed so that people could opt to turn back or keep going at 2 points in the tour. Also, all registrants their level of experience on a bicycle so the guides could think about how they might need to handle their tour. These strategies seemed to work well and no one reported feeling inadequately equipped for the ride, although some feedback suggested it might be better to separate groups by skill level.

# How We Roll tours : curriculum

## CURRICULUM AND LEARNING OBJECTIVES

### Equipment

#### *Instructors will:*

- Assess the fit of each student's bicycle and discuss possible consequences of a poor fit
- Install free light sets on bicycles that need them
- Perform the A-B-C Quick Check on each student's bicycle and describe this technique
- Discuss traffic law regarding bicycle equipment

#### *Students will understand:*

- What makes a bicycle fit properly and the consequences of a poor fit
- Traffic law as it pertains to bicycle equipment
- Why and how to perform an A-B-C Quick Check

### Group riding

#### *Instructors will:*

- Review the rules and etiquette of group riding
  - Hand signals, maintaining a safe distance, stopping at signs & lights, etc.
- Assert the rules of riding this tour
  - Following the leader, riding single file, etc.

#### *Students will understand:*

- How to ride safely and respectfully in a group
- The rules of riding on this tour

### Maneuverability

#### *Instructors will:*

- Have students practice shifting their gears, signaling with both their right and left arms and

scanning behind them to the right and the left while maintaining a straight line

#### *Students will:*

- Demonstrate proficiency with basic bicycling maneuvers—shifting, scanning and signaling

### Traffic principles

#### *Instructors will:*

- Share basic traffic principles with students
  - A bicycle is a vehicle that confers rights & responsibilities; slow vehicles do not “impede traffic”; right of way is first come, first served
- Share specific bicycle-related law with students
  - Riding as far right as practicable (vs. possible), sidewalk riding, riding two abreast, etc.

#### *Students will understand:*

- Their place within traffic, including their rights and responsibilities as a cyclist
- Specific traffic laws that apply to cyclists

### Road riding

#### *Instructors will:*

- Describe common crashes and how to avoid them by following traffic law and being visible and predictable
- Share proper lane positioning vis-à-vis parked cars and in wide and narrow lanes
- Model appropriate behavior during the tour



Source: Arthur Kadlec, Yay Bikes!

*Guide Sarah Becker discusses safety before the group breaks for Jeni's ice cream at the North Market.*

- Facilitate conversation about the trade-offs involved in riding a bicycle in traffic (e.g., taking the lane vs. angering motorists) and how to make the best choice

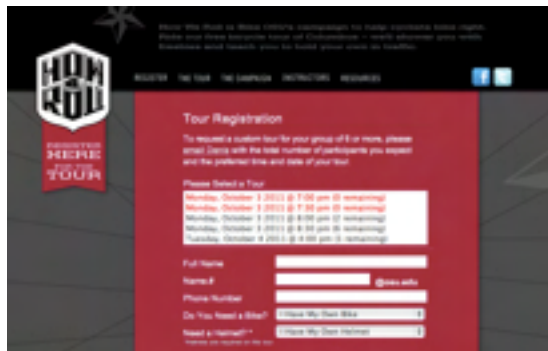
#### *Students will:*

- Understand why crashes occur and how to prevent them by positioning themselves correctly on the road
- Demonstrate proficiency with riding safely and confidently on urban streets
- Articulate how they will make choices about how and where to ride on urban streets

# How We Roll tours : online registration



A simple and well-designed homepage directed visitors to the tour registration page.



The tour registration page was intuitive and quick for registrants and provided us a wealth of information about them.

A simple website with sophisticated tour registration and data collection capabilities was developed.

A customized WordPress site at [howweollosu.com](http://howweollosu.com) provided information about the campaign, the tour and its instructors, as well as links to social media and other bike safety resources. The primary purpose of the site was to enable online registration for the bicycle tour.

## TOUR REGISTRATION

The following information was collected from each registrant:

### Tour preference

Registrants selected the tour that worked with their schedule from a list of all tours available during the quarter. When someone registered for a tour, the site updated automatically to reflect that a spot had been taken; tours were capped at six participants.

### Cycling experience

So that tours could be customized, registrants were asked to rate their level of experience riding a bicycle on a scale of one to five. They were also asked to rate from one (“none”) to five (“lots”) their level of confidence with maneuvering a bicycle, riding a bicycle on a road, fitting a bicycle to their body and understanding bicycle-related traffic law.

### Equipment needs and sizes

Registrants were asked their t-shirt size and whether they needed to borrow a helmet or a bicycle for the ride. Of the 304 unique registrations received through the website, 39 (12.8%) requested use of a loaner bike and 143 (47.0%) indicated the need to borrow a helmet.

### Contact information

Registrants’ full names, phone numbers and OSU email addresses were collected so they could be contacted as necessary regarding their tour. Requiring an OSU email address ensured that people unaffiliated with the university wouldn’t register for the tour.

### Permissions

Registrants were asked for permission to be contacted by Bike OSU and by Yay Bikes!. Those who opted in were added to the appropriate Constant Contact email lists.

## WEBSITE STATISTICS

From September 19, when the campaign was first advertised, to December 10, 2011, when the last tour was available, the How We Roll website received 2,826 visits from 1,588 unique visitors. Almost 300 visits (10.5%) occurred on a mobile device. The average visitor viewed 3.28 pages per visit and spent 3:10 on the site.

*See Appendix B, page 46 for the number of people who registered and showed for each tour.*

# How We Roll tours : logistics

---

Thirteen tours a week were offered during OSU's 10-week fall quarter, and custom tours were delivered upon request.

How We Roll tours were available twice each day Monday through Thursday, thrice on Fridays and once on Saturdays.

## **OPEN ENROLLMENT TOURS**

The following is a step-by-step account of how each open registration tour was conducted.

### **Pre-tour**

On the How We Roll website, students would select from among the available tours and complete their registration. They would instantly receive an email confirming their registration, providing ride details and a cancellation code for use if necessary. Their information was also emailed to program management and made available to tour guides through the website's WordPress Dashboard. Guides would access tour participants' information to contact them about the ride, collect the appropriate swag and equipment for them (i.e., bikes, helmets and t-shirts) and be prepared to customize the tour as necessary for more or less experienced riders.

Before each tour, the two scheduled guides would come to the Yay Bikes! office to get their materials and equipment—pre-stuffed drawstring

bags, waiver and evaluation forms, lights and loaner bicycles and helmets, if necessary. They'd make sure to have the multi-tool, lube, air pump, tire levels and first aid kit provided for them and then walk several blocks to Ohio Union's West Plaza, where each tour began and concluded.

### **Tour**

At the plaza, guides would meet with their riders and spend approximately 20 minutes checking everyone's bicycles, installing lights and making minor adjustments; handing out swag; and getting waivers signed. They'd then introduce the tour, establish the rules and start riding to the first sponsor with one guide in front and another bringing up the rear. Upon stopping, the guides would review that leg of the tour, ask how people felt about it and answer any questions. Then one guide would enter the business with students to coordinate the free samples while the other stood outside with the unlocked bicycles and called ahead to let the next sponsor know to expect them (sponsors were rotated so that individual businesses weren't overburdened). When the tour had reached downtown, guides would ask if the group wanted to continue on to Whittier Peninsula for an extra couple of miles; different tour lengths accommodated different schedules and physical activity levels. At the last stop, guides would hand out evaluation forms that were completed on the spot. The last leg of the journey returned participants to the Union.

### **Post-Tour**

After students were delivered back to the Ohio Union, tour guides would return to the Yay Bikes! office with any equipment, unclaimed swag, waivers and evaluation forms. They would record how many people had shown and how many lights they had installed, then head home to post the experience on Facebook.

## **CUSTOM TOURS**

Custom tours occurred in exactly the same way as open tours, except that the pre-tour registration information was collected by the individual coordinating a tour for their group and not submitted through the website. Unfortunately this meant pre-tour confidence level data was not collected from these riders.

## **EMERGENCIES**

Guides had first aid kits on hand to handle minor injuries, and free COTA bus passes in case a student needed transported back to campus. More serious injuries or medical conditions would prompt a 911 call. When bicycles malfunctioned, guides would either fix them on the spot, stop at a bike shop for quick repairs or take the student back to campus on the bus COTA.

# How We Roll administration : budget

Budget Item	Amount
Staff	\$34,710.00
League Cycling Instructors	\$640.00
Tour guides	\$11,250.00
Design	\$51,600.00
Advertising	\$720.00
Printing	\$8,300.00
Equipment	\$11,100.00
Events & Miscellaneous	\$1,100.00
Overhead	\$9,675.00
<b>Total</b>	<b>\$129,095.00</b>

As of April 2012, \$20,505 remains of the \$149,600 contract.

Significant investment in a brand and personnel helped realize the vision for the campaign.

The budget was fairly lean, but the cost per tour participant was high during the pilot as we developed a brand and figured out logistics.

## STAFFING

All personnel were contractors hired by Yay Bikes! for this campaign.

## Program management

From June 2011 through March 2012, Yay Bikes! employed a Program Manager for 435 hours at \$50/hour, an Outreach & Education Coordinator for 645 hours at \$18/hour and a Research Intern for 280 hours at \$8/hours (some of these hours included tour instruction).

## League Cycling Instructors (LCI)

One LCI was hired at \$20/hour to co-teach three 10-hour Traffic Skills 101 classes with the How We Roll Program Manager.

## Tour guides

Tour guides were paid \$15/hour and worked a combined total of 750 hours during the campaign.

## DESIGN, PRINTING & ADVERTISING

Yay Bikes! hired Fulcrum Creatives to design all campaign elements.

## Graphic & web design

Fulcrum Creatives created and produced How We Roll's visual design, including the logo, color palette, photography, materials and website.

## Printing

A total of 500 posters; 3,000 stickers; 3,000 buttons; 2,500 spoke cards; 750 safety brochures; 550 t-shirts; 500 drawstring bags; 500 fliers; 200 evaluation forms; 200 waivers and 4 banners were printed. There are ample leftovers for the next round of How We Roll at OSU.

## Advertising

Two Facebook ads, one to promote the launch party and another to promote the campaign, ran for several weeks.

## EQUIPMENT

Four loaner bicycles and locks, 20 helmets, 12 emergency kits and 900 lights were purchased.

## MISCELLANEOUS

Miscellaneous expenses included those for the campaign launch party—a DJ, parking, space rental and tablecloths—as well as Traffic Skills 101 course materials and the bicycle purchased as a tour incentive.

## OVERHEAD

Yay Bikes! earned \$7.53 on each hour worked by the Program Manager, Outreach & Education Coordinator and Research Intern.



# How We Roll administration : timeline

How We Roll was developed in the summer of 2011, delivered that fall and reported on and shared during winter 2012.

The 3 phases of this campaign occurred over the course of 10 months.

## DEVELOPMENT

During the development phase, research was conducted, the campaign was conceived, instructors were recruited and trained, a brand and all supporting materials were developed, partnerships with local businesses were established and a social and educational tour of Columbus was planned.

## DELIVERY

Bicycle tours and lights giveaways were delivered from October 3 to December 10, 2011.

## SHARING & REPORTING

Presentations, conference and award applications and this final report were delivered from January to April of 2012.

Month	Tasks & Milestones
<b>June 2011</b>	Data collection plan and behavior observations on campus / Campaign strategy research and development / Official go-ahead regarding How We Roll from University partners on June 30
<b>July 2011</b>	Traffic Skills 101 course and instructor recruitment / Engagement of design firm to begin conceptualizing campaign visuals / Community partner outreach efforts / Outreach & Education Coordinator, Media Intern and Research Intern positions filled
<b>August 2011</b>	Traffic Skill 101 courses and instructor recruitment / Equipment purchasing / Continued design and outreach efforts
<b>September 2011</b>	Presentation about How We Roll to instructors, sponsors and Yay Bikes! board members on September 6 / Designs finalized and sent to print / Website designed and copy written / Media and events outreach / Instructor tour practice runs / Sponsor relationships confirmed
<b>October 2011</b>	Campaign launch party October 3 / Media outreach continues / Lights giveaways and grassroots campus outreach begin / Ironing out tour logistics
<b>November 2011</b>	Tours and outreach continue
<b>December 2011</b>	Tours and outreach continue through the end of the quarter, December 10 / Evaluation data processed / WTS Award application / Instructor, Media Intern and Outreach & Education Coordinator positions end
<b>January 2012</b>	Campaign sharing with presentations, meetings and proposal development
<b>February 2012</b>	Campaign sharing with presentations, meetings and proposal development
<b>March 2012</b>	Campaign sharing with presentations, meetings and proposal development / Final report drafted and submitted March 22

# How We Roll outcomes : overview



2012 bicycle friendly america guide  
**TRUE LIFE STORIES**  
real-world TOOLS



*How We Roll was featured as an innovative campaign in the League of American Bicyclists' 2012 Bicycle Friendly America Guide.*



Source: Kyle Carpenter, Bike OSU

*Bike OSU received a \$1,000 grant during fall quarter to host their 2<sup>nd</sup> Annual Winter Bicycle Show.*

How We Roll achieved several promising safety-related outcomes, delivered a highly rated product and made Columbus more attractive to students.

The two campaign goals were to understand bicycling behavior on campus and decrease the incidence of those that are dangerous. Good work was accomplished towards these ends, but the educational methodology also opened other, unexpected, avenues for success and expansion.

## **CAMPAIGN OUTCOMES**

Data collected during How We Roll pointed to some promising safety outcomes and high rates of satisfaction with the tour product. The campaign has also left a legacy on campus and garnered national recognition.

### **Participation & satisfaction**

A total of 212 students and staff from OSU rode a How We Roll tour during fall quarter 2011, and 84.8% of them rated it “excellent”.

### **Public safety**

Tour participants reported a statistically significant increase in their levels of confidence with: 1) Maneuvering a bicycle, 2) Fitting a bicycle to their body, 3) Understanding bicycle-related traffic law and 4) Riding on the roads.

### **Campus legacy**

Bike OSU developed organizational capacity through the boost it got from the campaign. The student organization received two grants—\$1,000 for their Winter Bicycle Show and \$5,000 for a mobile bike repair clinic—and introduced themselves directly to hundreds of students. The leadership of this group is now involved in several conversations to improve bicycling on campus, including the effort to establish a bike shop at the Recreation and Physical Activity Center.

### **Local and national recognition**

The How We Roll campaign was cited as a factor in OSU earning the Bronze-level Bicycle Friendly University award in 2011. The campaign also won the local WTS Innovative Transportation Solutions Award and was profiled in the League of American Bicyclists' 2012 Blueprint publication; it will also be presented at conferences nationwide.

### **ADDITIONAL OUTCOMES**

Outcomes related to mode shift, economic development and attract and retain talent initiatives were not anticipated nor tested for. However, tour feedback suggested these that these outcomes may have been achieved.

### **Mode shift**

Tour participants reported a greater confidence on their bicycles, and some commented that this would increase their rate of cycling in the future. Such an outcome suggests additional benefits in

# How We Roll outcomes : overview

*“I had never been to some of the parts of the city that we went while on the tour. It was a great opportunity to travel by bike to really let the beauty of Columbus sink in. Behind all of the cars and tall buildings, there are some really cool spots around Columbus that I didn’t know about before this ride. I know that I will be headed back to some of these spots when the weather gets nicer out. The city can only be experienced fully when riding on a bike.”—Tour Participant*

the areas of health and wellness, infrastructure savings, sustainability and more.

## **Small business economic development**

Tour participants overwhelmingly reported being “very likely” to return to the places visited on their tour. Many expressed surprise that they’d never known about the businesses to which they were exposed.

## **Attracting and retaining talent**

Tour participants were enthusiastic about Columbus, surprised by how cool and beautiful it is and grateful for the opportunity to know it better. These realizations may make them more likely to stay here upon graduation.



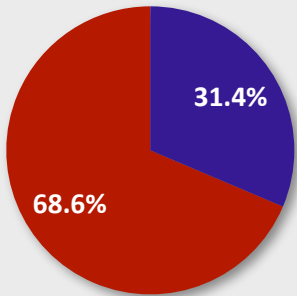
Source: Arthur Kadlec, Yay Bikes!

*A group of Taylor Tower residents on the new Main Street bridge, overlooking the Olentangy River & downtown Columbus, during their beautiful Saturday afternoon tour.*

# How We Roll outcomes : tour evaluations

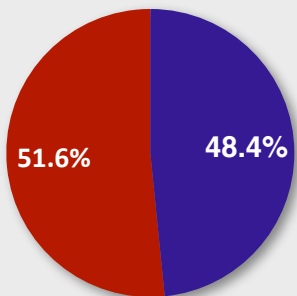
Where do you live? (n=188)

● On-campus ● Off-campus



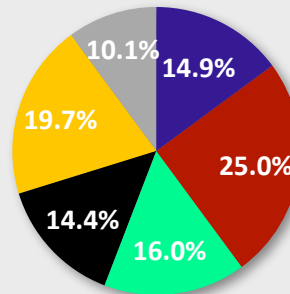
How do you identify? (n=188)

● Male ● Female



What is your class rank (n=188)

● Freshman ● Sophomore ● Junior  
● Senior ● Grad Student ● Other



A broad spectrum of the OSU community took the tour, and the majority rated it “excellent”.

The tour evaluation form, given to participants at the last stop, asked 13 questions regarding their demographic profile, tour experience, and levels of cycling confidence.

## DEMOGRAPHICS

Three bits of demographic data were requested of tour participants.

### Residence

More than two-thirds of participants (68.6%) lived off campus, while 31.4% lived on campus.

### Sex

Approximately half of tour participants were female (51.6%) and just under half (48.4%) were male. This contrasts with the gender breakdown of cyclists observed in both the OSU study and the 2010 NBPDP count, where just 27.9% and 29.8% of cyclists, respectively, were female.

### Year in school

Tour participants were fairly evenly distributed among each class at OSU. The largest group was sophomores (25.0%), followed by graduate students (19.7%), juniors (16.0%), freshmen (14.9%), seniors (14.4%) and other (10.1%), a category for OSU staff and faculty.

## QUANTITATIVE TOUR EVALUATION

Three questions elicited riders’ enjoyment of the tour. One question required a yes/no response and two asked participants to rank their responses on a Likert scale of one to five, with one being the lowest and five being the highest.

### Overall tour experience

The overwhelming majority (84.8%) of tour participants rated their experience “excellent”, while 13.1% rated it “great” and 2.1% said it was “good”. No one rated it “fair” or “poor”.

### Recommending the tour

One hundred percent of respondents (n=188) would recommend the tour to others.

# How We Roll outcomes : tour evaluations

## Likelihood to return to places visited

Three quarters (75.4%) of tour participants indicated they were “very likely” to return to the tour stops, while 19.4% were “somewhat likely” to return, 3.1% would “maybe” return, 2.1% were “somewhat unlikely” to return and none were “very unlikely” to return.

## QUALITATIVE TOUR EVALUATION

Three open-ended questions on the evaluation form elicited riders’ experience of the tour.

### Favorite part of tour

The 190 responses to this question fell into 9 categories; some responses were coded into more than one category. The most popular parts of the tour were:

- **Local businesses**—55 mentions of a specific business or “the places we visited” (28.9%)
- **Downtown**—50 mentions of downtown and its sites (26.3%)
- **Columbus**—44 comments about experiencing and learning more about their city (23.2%)
- **Free stuff / food**—24 comments about the free swag or food participants received (12.6%)
- **Safety**—23 comments about learning how to ride or getting improved equipment (12.1%)

Other favorites included “everything” (11.1%), their guides (8.4%), the social aspect of the tour (4.7%) and the exercise (1.6%) People overwhelmingly enjoyed riding around the city

and visiting cool places they’d never even known about before.

### Recommended changes

Of the 132 participants who responded to this question, 90 (68.2%) said some version of “no” and another 6 (4.5%) mentioned factors beyond the guides’ control (e.g., the weather, the fact that they did not stop for beer, etc.). There was no consistent theme to the remaining critiques, suggesting that individual tours may have had issues that did not extend to all tours.

### Other comments

Of the 92 respondents who wrote additional comments, 68 (73.9%) expressed thanks or general positive comments, 15 (16.3%) shared how much they enjoyed their guides, 6 (6.5%) mentioned how much they’d learned about bicycling and 4 (4.3%) offered productive suggestions for improving the tour.

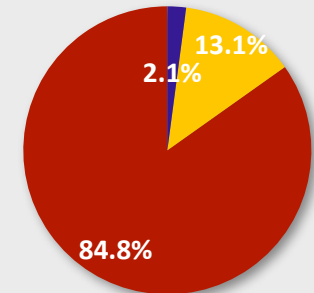
### Geography class essays

A geography instructor offered extra credit to students who took the tour and wrote a two-page essay about their experience. Seven essays were received, and students’ quotes have been included throughout this report.

*See Appendix C, page 49 for tour evaluation forms and page 51 for tabulated results. Complete qualitative data can be requested from Meredith Joy of Yay Bikes!.*

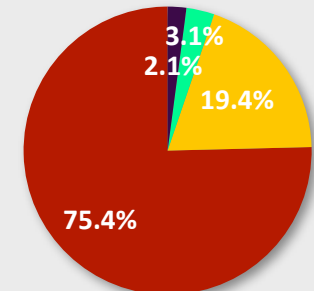
## How would you rate your overall tour experience? (n=191)

● Good ● Great ● Excellent



## How likely are you to return to the places we visited? (n=191)

● Somewhat unlikely ● Maybe ● Somewhat likely ● Very likely



# How We Roll outcomes : cyclist safety



Source: Arthur Kadlec, Yay Bikes!

A tour guide walks cyclists across an intersection onto the bike path.

*“Initially, my team leaders noticed that I always stay on the right side of the lane...and stay very close to the parking cars on the right side of the street. The reason why I try to stay as most right as I can is because I do not want to slow down the speeds of cars which behind me. My team leaders told to me that I do not need to do like that...After my team leaders told me that, I stopped staying close with the parking cars on the right side of the street and keep staying away from the parking cars.” —Tour Participant*

Significant gains in tour participants’ reported levels of confidence, in several key areas of cyclist safety, were achieved.

As people registered for the tour, they indicated their levels of confidence, on a scale of one (“none”) to five (“lots”), with understanding bicycle-related traffic law, riding a bicycle on the road, fitting a bicycle to their body and maneuvering a bicycle. They answered the same questions on their evaluation form at their last stop of the tour.

## DATA ANALYSIS

Responses to questions about tour evaluation forms (n=191) were compared against the registrations of those who had shown up for the tour, as evidenced by the completion of a waiver form (n=156). The data set was imperfect—119 students registered but did not show up for the tour, 20 did not sign a waiver, 19 did not complete an evaluation form, 34 did not register online prior to the tour and 4 took the tour twice. Nevertheless, an estimated impact of the tour at 95% confidence for each variable was calculated.

The research intern took the natural log of each possible response (1, 2, 3, 4, 5) to normalize the distribution, then calculated the mean and variance and, using t-statistics, the multiplicative effect of confidence intervals. These intervals were converted to percent change confidence intervals. Since the effect estimations were done with paired t-tests with log transformation and the proportions are simply summary data, the effect estimations are additive rather than multiplicative (i.e., an amount was “added” to their confidence at all pre-tour levels on average —3s became 4s on average, 4s became 5s on average, etc.).

## RESULTS

In each category, a statistically significant shift in levels of confidence occurred among students who had taken the tour.

### Fitting a bicycle

Students were asked if they knew how to fit a bicycle, to gauge their facility with bicycle equipment and knowledge of how a poor fit can impact safety and comfort. A shift from lower to higher levels of confidence after the tour occurred, with the estimated impact of the tour at 20% ( $\pm 9\%$ , with 95% confidence).

# How We Roll outcomes : cyclist safety

## Maneuvering a bicycle

Students were asked if they could handle basic maneuvers, for example scanning and signaling while maintaining a straight line. A shift from lower to higher levels of confidence after the tour occurred, with the estimated impact of the tour at 9% ( $\pm 5\%$ , with 95% confidence).

## Riding a bicycle on the road

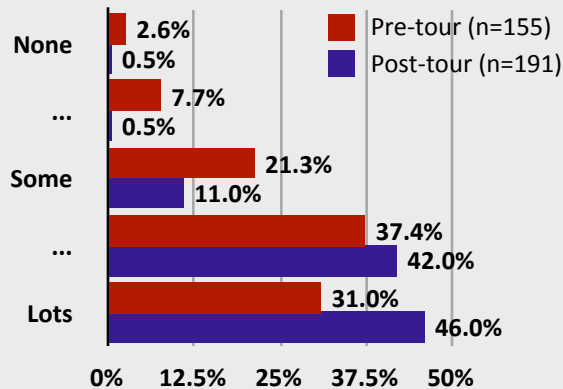
Students were asked their level of confidence riding a bicycle on the road. A shift from lower to higher levels of confidence after the tour occurred, with the estimated impact of the tour at 15% ( $\pm 7\%$ , with 95% confidence).

## Understanding bicycle-related traffic law

Students were asked their knowledge of traffic law, and almost 60% had just “some” or even less confidence in this area. A shift from lower to higher levels of confidence after the tour occurred, with the estimated impact of the tour at 38% ( $\pm 8\%$ , with 95% confidence).

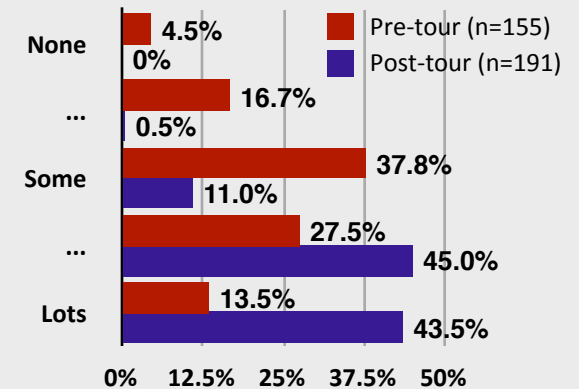
See Appendix C, page 52 for tabulated results.

### What is your level of confidence with riding a bicycle on the road?



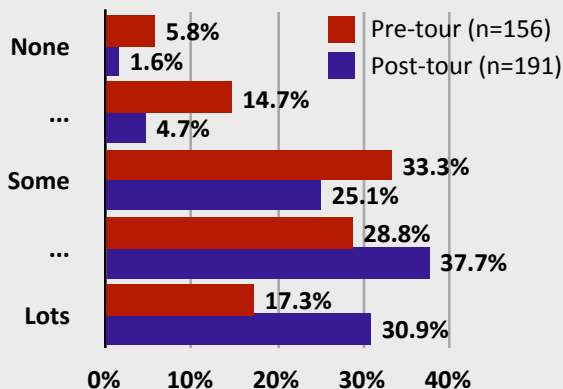
The estimated difference in confidence is 15% ( $\pm 7\%$ ), with a 95% confidence interval.

### What is your level of confidence with understanding bicycle-related traffic law?



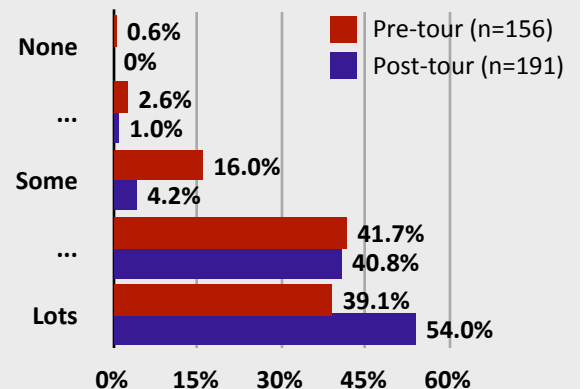
The estimated difference in confidence is 38% ( $\pm 8\%$ ), with a 95% confidence interval.

### What is your level of confidence with fitting a bicycle to your body?



The estimated difference in confidence is 20% ( $\pm 9\%$ ), with a 95% confidence interval.

### What is your level of confidence with maneuvering a bicycle?



The estimated difference in confidence is 9% ( $\pm 5\%$ ), with a 95% confidence interval.

# How We Roll : conclusions & next steps

---

How We Roll will incorporate lessons learned during fall quarter at OSU to creatively expand the methodology to new audiences in new contexts.

The future of How We Roll is promising but uncertain as of March 2012. How We Roll's brand and educational methodology are flexible enough to accommodate the needs of any client, from those who seek full implementation of a safety campaign to those who want stand-alone bicycle tours. Making a success of these new opportunities requires a thorough accounting of what worked and didn't during the OSU pilot, so that changes can be made to improve the program. Campaign successes have been documented throughout this report; below are some ways to improve future iterations of How We Roll, as well as potential areas for expansion.

## **AREAS FOR IMPROVEMENT**

One obvious path for How We Roll is a continued role at OSU, using what has been learned during the pilot to improve the program and expand its reach on campus.

### **Achieving capacity**

With 13 tours scheduled during each 10 weeks of the quarter (with the exception of Thanksgiving week), at 6 possible participants per tour, How

We Roll tours had the capacity to accommodate 725 participants. Yet most tours did not attract 6 riders and, overall, only 29.4% of tour capacity was realized. Different recruitment and tour scheduling strategies, like the ones suggested below, could increase participation.

### *Institutionalization*

Each class of incoming freshmen—and their parents—should be made aware of the opportunity for students to learn safe cycling on a How We Roll bicycle tour. Orientation, Welcome Week and First Year Experience programming provide perfect contexts in which to inform newcomers about bicycling in Columbus, and Resident Assistants and other staff for these programs should be engaged in promoting How We Roll.

### *Custom tours*

The tours that attracted the highest levels of participation were those coordinated by a leader as a special experience for their group. How We Roll should continue to offer several open enrollment options on weekends but otherwise focus on engaging campus leaders, particularly Resident Assistants, to organize group tours.

### *Direct mail*

Students should each receive a personal invitation to the tour in the form of a postcard mailed to their campus address, to ensure they are all equally aware of it regardless of whether

they happen to encounter How We Roll materials or representatives.

### *Art, spectacle and games*

Although the intention was to creatively employ public art and spectacles (e.g., flash mobs, sidewalk chalk art, etc.), and use social media games (e.g., scavenger hunts), to attract attention to the campaign, these plans did not materialize. Unexpected, punctuating experiences are ideal expressions of the How We Roll brand, however, and they should be incorporated into future campaigns. Ideally students would be inspired to generate their own creative means of outreaching to peers.

### *Street Team*

The preferred way to promote How We Roll would be to have students act as ambassadors on the campaign's behalf. A "Street Team" of volunteers affiliated with Bike OSU did begin to coalesce during the pilot, and a few students helped with lights giveaways, but a core group did not promote the campaign as hoped. It is likely that this type of group simply takes more time to develop than was available during fall quarter. Figuring out how to more quickly create and deploy a Street Team of student ambassadors, or nurturing such groups over longer engagements, would be worthwhile.

### **Improving logistics**

For the most part, How We Roll tours operated



# How We Roll : conclusions & next steps

---

smoothly and efficiently; however, in two areas operations could have been improved.

## *Sponsor relationships*

Sponsors were overall supportive of the campaign and welcomed frequent tour groups to their establishments. However, some expressed surprise at the number of visits they received, and not every employee was aware of the business' How We Roll sponsorship. Halfway through this campaign, additional sponsors were secured and a firm schedule of stops was created. In the future, formal contracts detailing expectations for both parties should be drawn up for each sponsor. Communicating these expectations to all staff should be emphasized in the contracts.

## *Equipment access*

Bikes, helmets, swag and other materials were stored several blocks from the tour starting point, making it frustrating and time consuming for guides to compile everything and get to their riders. Storage at the Ohio Union was not available, so it might be wise to start future tours closer to the Yay Bikes! office.

## **Capturing behavior change**

Data collected during the How We Roll pilot suggest significant increases in the levels of bicycling confidence among people who rode the tour, and cyclist observations can reveal any widespread change in bicycling behaviors, but it would be useful to tie the tour experience more

directly to long-term behavior change. The tour evaluation form should request permission to contact participants several weeks afterwards to ask follow-up questions about its lasting impact.

## **Mitigating liability**

As independent contractors who were not certified as League Cycling Instructors, tour guides were fully liable for any crashes that occurred on their tours. Although each tour participant signed a waiver, the risks associated with not having general liability insurance may deter young people from being instructors. Unfortunately, there is no good solution to this issue; insurance is expensive and the process of becoming a certified instructor, which confers insurance to those teaching bicycle safety courses, is daunting. Further attention to this issue will be necessary.

## **AREAS FOR EXPANSION**

How We Roll campaigns and bicycle tours are now available to clients outside OSU, and efforts are underway to secure contracts within both the public and private markets.

## **Full campaigns**

A full implementation of How We Roll would include all or most of the elements of a multi-layered behavior change campaign described in this report, with consideration for the target audience dictating particular expressions of each element. Such a campaign could be delivered in

any well-defined community, whether a university, corporate campus, neighborhood, etc., where mode shift or the adoption of safe behaviors is a desired outcome.

## **Bicycle tours**

Bicycle tours that teach people how to ride the roads legally and confidently are the backbone of How We Roll, and they can stand alone as educational opportunities for small groups. This is especially true in cases where recruiting people to participate in the tour, or getting large numbers of people to internalize a behavior change message, is unnecessary. Such tours can be designed for any group, for purposes including staff wellness and team building adventures, youth programming, neighborhood pride, community education on using new bicycle infrastructure, theme rides to particular sites, etc.

## **CONCLUSION**

The pilot How We Roll campaign had encouraging results that should be further explored at OSU and replicated in other contexts. Over time, and with the proscribed improvements, How We Roll tours and campaigns have the potential to significantly reduce both the incidence of dangerous bicycling behaviors and the number of bicycle–motor vehicle crashes within targeted communities. Other outcomes, including mode shift, economic development, talent retention and the promotion of bicycle culture, may also be achieved through educational bicycle tours.

# citations

---

<sup>1</sup> [fod.osu.edu/afp](http://fod.osu.edu/afp)

<sup>2</sup> [sharetheroad.osu.edu](http://sharetheroad.osu.edu)

<sup>3</sup> Wachtel, Alan and Diana Lewiston. Sept 1994. "Risk Factors for Bicycle–Motor Vehicle Crashes at Intersections." *ITE Journal* 30–35.

<sup>4</sup> Osberg, J. Scott, Sarah C. Styles, and Ohene Kwaku Asare. 1998. "Bicycle safety behavior in Paris and Boston." *Accident Analysis & Prevention* 30, no.5: 679–687.

<sup>5</sup> [bikepeddocumentation.org](http://bikepeddocumentation.org)

<sup>6</sup> Thompson, Diane C., Frederick P. Rivara, and Robert S. Thompson. 1996. "Effectiveness of Bicycle Safety Helmets in Preventing Head Injuries." *Journal of the American Medical Association* 76, no.24:1968–1973.

<sup>7</sup> Coron, J., G. McLaughlin, and S.M. Dorman. 1996. "Factors influencing use of bicycle helmets among undergraduate students." *Journal of American College Health* 44, no.6: 294–297.

<sup>8</sup> Lajunen, Timo and Mikko Räsänen. 2001. "Why teenagers owning a bicycle helmet do not use their helmets." *Journal of Safety Research* 32, no. 3: 323–332.

<sup>9</sup> O'Callaghan, Frances V. and Sarah Nausbaum. 2006. "Predicting Bicycle Helmet Wearing

Intentions and Behavior among Adolescents." *Journal of Safety Research* 37, no.5: 425-431.

<sup>10</sup> Everett, Sherry A., James H Price, David A. Bergin, and Bruce W. Groves. 1996. "Personal Goals as Motivators: Predicting Bicycle Helmet Use in University Students" *Journal of Safety Research* 27, no.1: 43–53.

<sup>11</sup> Ross, Thomas P., Lisa Thomson Ross, Annalise Rahman, and Shayla Cataldo. 2010. "The Bicycle Helmet Attitudes Scale: Using the Health Belief Model to Predict Helmet Use Among Undergraduates." *Journal of American College Health* 59, no.1: 29–36.

<sup>12</sup> Dannenberg, A.L., T.R. Coté, M.J. Kresnow, J.J. Sacks, C.M. Lipsitz and E.R. Schmidt. Mar–Apr 1993. "Bicycle helmet use by adults: the impact of companionship." *Public Health Reports* 108, no.2: 212–217.

<sup>13</sup> Ludwig, Timothy D., Chris Buchholz, and Seven W. Clarke. July/August 2005. "Using Social Marketing to Increase the Use of Helmets Among Bicyclists." *Journal of American College Health* 54, no.1: 51–58.

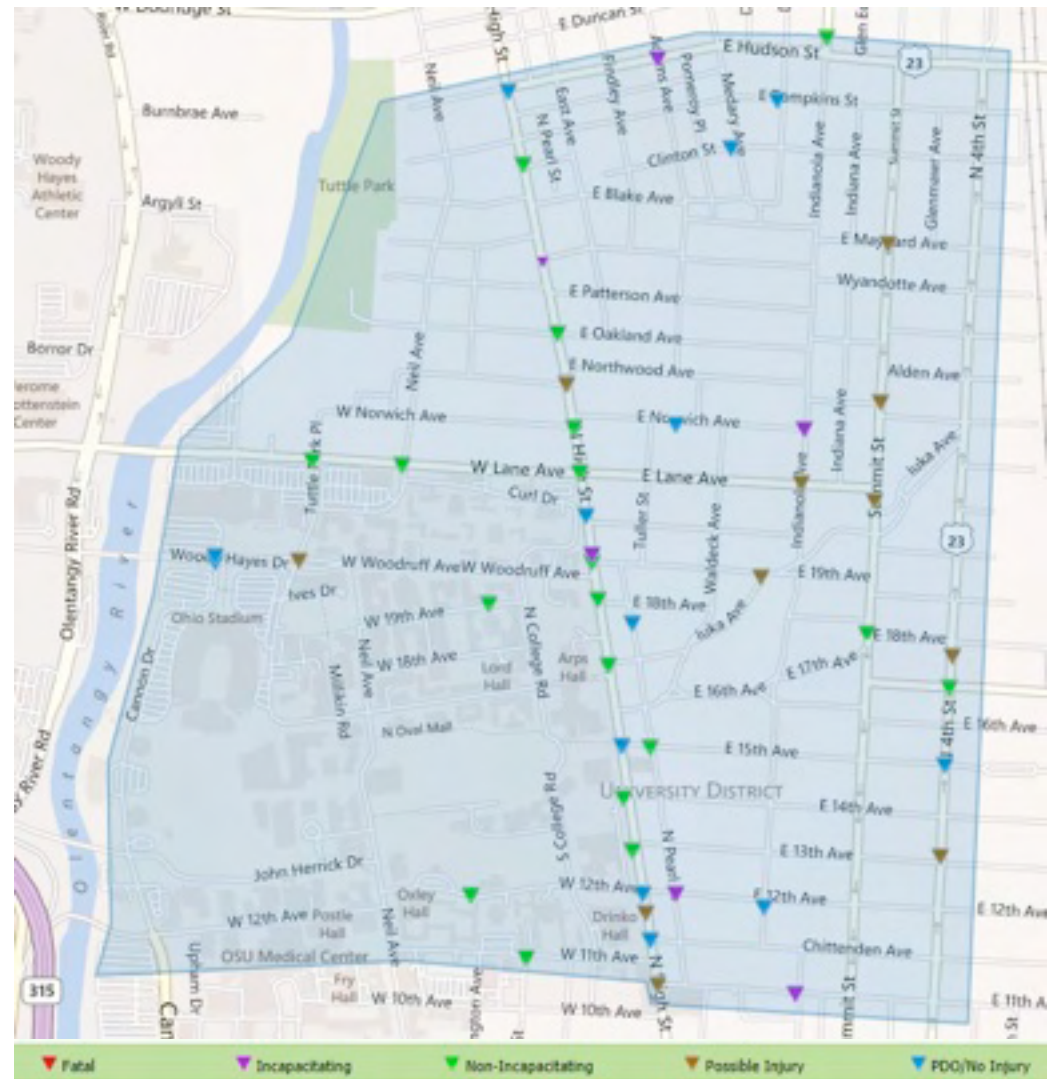
<sup>14</sup> Rosenberg, Tina. *Join the Club: How Peer Pressure Can Transform the World*. London: Icon Books, 2011.

appendices

---

# appendix a : background data

Map of bicycle crashes in the University Area, 2007–2010



Source: Mid-Ohio Regional Planning Commission

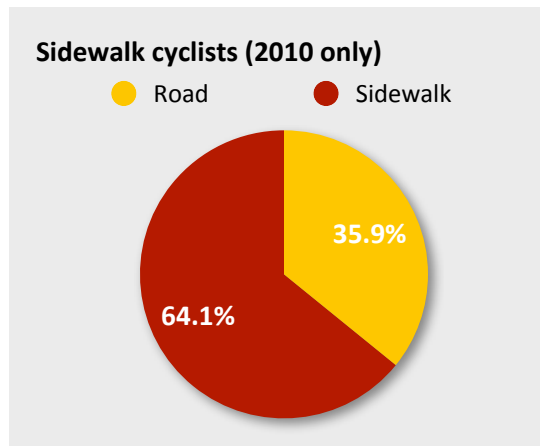
# appendix a : background data

## MORPC NATIONAL BICYCLE & PEDESTRIAN DOCUMENTATION PROJECT

### Observation sites

- **Site 1**—Neil Ave & W Lane Ave
- **Site 2**—High St & E 15<sup>th</sup> Ave
- **Site 3**—Neil Ave & W 10<sup>th</sup> Ave

Number of cyclists, by location, 2007–2010				
	Site 1	Site 2	Site 3	Total
<b>Cyclists 2007</b> (12 variables)	102	93	100	<b>295</b>
<b>Cyclists 2008</b> (9 variables)	123	63	160	<b>346</b>
<b>Cyclists 2009</b> (12 variables)	138	104	179	<b>421</b>
<b>Cyclists 2010</b> (12 variables)	216	189	376	<b>781</b>



Source: Mid-Ohio Regional Planning Commission

# appendix a : background data

Incidence of unsafe bicycling behaviors as number and a % of total bicyclists, by location, April 2011 (OSU)										
	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Total (Avg)
<b>Cyclists</b>	165	175	223	158	304	279	240	224	296	<b>2,064</b>
<b>No helmet</b>	58 (35.2%)	132 (75.4%)	193 (86.5%)	129 (81.6%)	252 (82.9%)	246 (88.2%)	217 (82.1%)	201 (89.7%)	267 (90.2%)	<b>1,705 (82.6%)</b>
<b>On sidewalk/ in crosswalk</b>	65 (39.3%)	101 (57.7%)	171 (76.7%)	82 (51.9%)	83 (27.3%)	112 (40.1%)	53 (50.0%)	113 (50.4%)	130 (43.9%)	<b>910 (44.1%)</b>
<b>Distracted riding</b>	2 (1.2%)	6 (3.4%)	20 (9.0%)	11 (7.0%)	17 (5.6%)	20 (7.2%)	37 (15.4%)	27 (12.1%)	10 (3.4%)	<b>150 (7.3%)</b>
<b>Wrong-way riding</b>	0 (0.0%)	0 (0.0%)	2 (0.9%)	0 (0.0%)	6 (2.0%)	3 (1.1%)	2 (0.8%)	5 (2.2%)	12 (4.1%)	<b>30 (1.5%)</b>

Source: OSU Transportation & Parking Services

## OSU TRANSPORTATION & PARKING PRE-INFRASTRUCTURE RESEARCH

### Observation Sites

- **Site 1**—Woody Hayes Dr near Kenny Rd
- **Site 2**—Woody Hayes Dr and Tuttle Park Pl
- **Site 3**—W Woodruff Ave at Mason Hall
- **Site 4**—W Woodruff Ave at Neilwood Gables
- **Site 5**—W Woodruff Ave & High St
- **Site 6**—College Ave & 19<sup>th</sup> Ave
- **Site 7**—College Ave & 18<sup>th</sup> Ave
- **Site 8**—College Ave at The Oval
- **Site 9**—College Ave & W 12<sup>th</sup> Ave

# appendix a : background data

## YAY BIKES! PRE-CAMPAIGN OBSERVATION

### Observation Sites

- **Site 1**—Lane Ave & Neil Ave\*
- **Site 2**—Lane Ave & N High St\*
- **Site 3**—Woody Hayes Dr & Cannon Dr\*
- **Site 4**—N High St & W Woodruff Ave\*
- **Site 5**—Neil Ave & W 17<sup>th</sup> Ave
- **Site 6**—College Rd & W 18<sup>th</sup> Ave
- **Site 7**—N High St & E 15<sup>th</sup> Ave\*
- **Site 8**—Neil Ave & W 12<sup>th</sup> Ave
- **Site 9**—College Rd & W 12<sup>th</sup> Ave
- **Site 10**—N High St & Chittenden Ave\*

\*Signal-controlled intersections

Incidence of unsafe bicycling behaviors as number and a % of total bicyclists, by location, June 2011 (Yay Bikes!)											
	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Total (Avg)
<b>Cyclists</b>	321	411	149	447	434	326	374	376	233	255	<b>3,326</b>
<b>Failure to signal</b>	318 (99.1%)	408 (99.3%)	147 (98.7%)	444 (99.3%)	429 (98.8%)	321 (98.5%)	372 (99.5%)	376 (100.0%)	230 (98.7%)	251 (98.4%)	<b>3,296 (99.0%)</b>
<b>No helmet</b>	274 (85.4%)	335 (81.5%)	99 (66.4%)	359 (80.3%)	325 (74.9%)	276 (84.7%)	307 (82.1%)	326 (86.7%)	200 (85.8%)	185 (72.5%)	<b>2,686 (80.0%)</b>
<b>On sidewalk/ in crosswalk</b>	208 (64.8%)	222 (50%)	89 (59.7%)	198 (44.3%)	129 (29.7%)	151 (46.3%)	181 (50.0%)	233 (62.0%)	136 (58.4%)	122 (47.8%)	<b>1,675 (51.3%)</b>
<b>Failure to yield</b>	32 (10.0%)	3 (0.7%)	9 (6.0%)	6 (1.3%)	65 (38.0%)	170 (52.1%)	17 (4.5%)	42 (11.2%)	65 (27.9%)	9 (3.5%)	<b>518 (15.5%)</b>
<b>Distracted riding</b>	39 (12.1%)	77 (18.7%)	8 (5.4%)	27 (6.0%)	2 (0.5%)	33 (10.1%)	24 (6.4%)	69 (18.4%)	9 (3.9%)	32 (12.5%)	<b>320 (9.4%)</b>
<b>Curb hugging</b>	21 (6.5%)	25 (6.1%)	12 (8.1%)	12 (2.7%)	5 (1.2%)	80 (24.5%)	13 (3.5%)	13 (3.5%)	20 (8.6%)	16 (6.3%)	<b>217 (7.1%)</b>
<b>Wrong-way riding</b>	8 (2.5%)	2 (0.5%)	2 (1.3%)	0 (0.0%)	5 (1.2%)	9 (2.8%)	3 (0.8%)	2 (0.5%)	3 (1.3%)	0 (0.0%)	<b>34 (1.1%)</b>
<b>Near-misses</b>	0 (0.0%)	4 (1.0%)	1 (0.7%)	1 (0.2%)	0 (0.0%)	2 (0.6%)	7 (1.9%)	0 (0.0%)	10 (4.3%)	0 (0.0%)	<b>25 (0.9%)</b>
<b>Crashes</b>	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	<b>0 (0.0%)</b>

Source: Yay Bikes!

# appendix a : background data

---

## DATA COLLECTION PROCEDURES

The following instructions and tally sheets were given to each volunteer and reviewed at their training session.

- Remember—there is NO BENEFIT to recording data inaccurately.** Please do not attempt to make cyclists “look good” by underreporting their bad behavior! Likewise, do not exaggerate their bad behavior in this first observation to have our safety campaign seem more effective than it really is. We must have an accurate accounting of cyclists’ behavior to develop an effective safety campaign and to learn from it.
- Arrive at OSU Transportation & Parking to pick up your materials with enough time to arrive at your site 5 minutes early.** The best place to park is the Tuttle Place Parking Garage, or bike racks are located directly across from the building entrance.
- Bring the following items with you:**
  - Count instructions (provided)
  - Location map (provided)
  - Observation tally sheets (provided)
  - Clipboard (provided)
  - Pen or pencil and a spare
  - Timekeeping device
  - Water & snack
  - Sunscreen/sunglasses & umbrella
  - Portable chair
- Identify a specific point within the box on your location map where you will conduct the count.** Stand or sit in a safe, visible location on public property that does not block pedestrians.
- Place a hash mark ( +++) in the appropriate box when you observe any of the following:**
  - **Bicyclists**—Record each person you see riding a bicycle within your zone. Do not record people walking with their bicycles.
  - **Helmet Use**—Record each cyclist who is wearing a helmet.
  - **Sidewalk/Crosswalk**—Record each cyclist who is riding on the sidewalk or in the crosswalk.
  - **Wrong-Way Riding**—Record each cyclist who is riding against traffic on the road. Do not count wrong-way cyclists who are riding on the sidewalk.
  - **Distracted Riding**—Record each cyclist who is riding distractedly, i.e., talking on a cell phone, texting, eating or drinking, wearing headphones, or carrying a large/awkward load that prevents them from having both hands on their handlebars.
  - **Failure to Yield**—Record each cyclist who rides through red lights or stop signs without stopping, or slows/stops but resumes before the light changes to green. Count all cyclists who do not stop, whether they are on the road or in a crosswalk.
- **Signaling**—Record each cyclist who signals their intention to change lanes or execute a turn.
  - **Curb Hugging**—Record each cyclist who is riding closer than 3’ from the curb.
  - **Near-Misses**—Record each cyclist who almost crashes with a motor vehicle.
  - **Crash**—Record each cyclist who crashes with a motor vehicle. (The number for emergencies is 911. For non-emergencies, call Campus Police at 292-2121 or Columbus Police at 645-4545.)
- Record any additional information on your Additional Notes page.** This might include observations about the intersection (e.g., the sensor doesn’t react to cyclists), details about a near-miss, or behaviors you’re witnessing that aren’t on the tally sheet.
- Count for two full hours.** If you arrive at your location more than 5 minutes late, begin counting at the next 15-minute interval and continue for 2 hours. Mark your actual starting and ending times on the tally sheet.
- Return observation tally sheet and all materials to the T&P office when you are finished.** *Thank you for helping with this data collection effort!*



# appendix a : background data

DSU CAMPUS-AREA BICYCLIST BEHAVIOR OBSERVATION  
06/02/11 Tally Sheet

Your Name: \_\_\_\_\_ Count Location #: \_\_\_\_\_ Weather: \_\_\_\_\_ Actual Time Start/Finish: \_\_\_\_\_ / \_\_\_\_\_

Time	Bicyclists	Wearing Helmet	Sidewalk / Crosswalk	Wrong Way	Distracted Riding	Failure to Yield	Signaling	Curb Hugging	Near-Miss	Crash
3:00- 3:14 PM										
3:15- 3:29 PM										

**Additional Notes** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

*The sheets onto which volunteers recorded their observation data.*

# appendix b : campaign information

---

## SPONSORS

### **Commonwealth Sandwich Bar**

commonwealthsandwichbar.com  
437 N High Street, Columbus, OH 43201  
Free fries & soda

### **Paradise Garage**

paradisegarage.com  
941 N High Street, Columbus, OH 43201  
30% off tubes, tires, lights, locks and labor

### **Columbus Food League**

Jury Room  
columbusfoodleague.com  
22 E Mount Street, Columbus, OH 43215  
Free meatballs and flatbread

### **Dirty Frank's Hot Dog Palace**

columbusfoodleague.com  
248 S Fourth Street, Columbus, OH 43215  
Free hot dog samples

### **Surly Girl Saloon**

columbusfoodleague.com  
1126 N High Street, Columbus, OH 43201  
Free pizza samples

### **Betty's Fine Food**

columbusfoodleague.com  
680 N High Street, Columbus, OH 43201  
Free plantain samples

### **Café Brioso**

cafebrioso.com  
14 E Gay Street, Columbus, OH 43215  
Free small coffee drink

### **Barley's Ale House**

barleysbrewing.com  
467 N High Street, Columbus, OH 43215  
Free small order of sauerkraut balls

### **Jeni's Ice Cream, North Market**

jenisicecreams.com  
59 Spruce Street, Columbus, OH 43215  
Free Bambi-sized ice cream scoop

### **Travonna Coffee House**

travonnacoffee.com  
1195 N High Street, Columbus, OH 43201  
Free hot chocolate

### **Da Levee**

dalevee.com  
765 N High Street, Columbus, OH 43215  
Free Cajun food samples

### **OSU Urban Arts Space**

uas.osu.edu  
50 W Town Street, Columbus, OH 43215  
Free gallery tour

### **Wild Goose Creative**

wildgoosecreative.com  
2491 Summit Street, Columbus, OH 43202  
Free admission to any show under \$10

### **Used Kids Records**

usedkids.com  
1980 N High Street, Columbus, OH 43201  
25% off any used item

### **Mikey's Late Night Slice**

latenightslice.com  
1030 N High Street, Columbus, OH 43201  
Buy 1 slice, get 1 free

### **Bern Unlimited**

bernunlimited.com  
P.O. Box 1284, Duxbury, MA 02331  
50% off helmets

### **Portland Design Works**

ridepdw.com  
15 NE Hancock Street, Portland, OR 97212  
60% off lights (free to students)

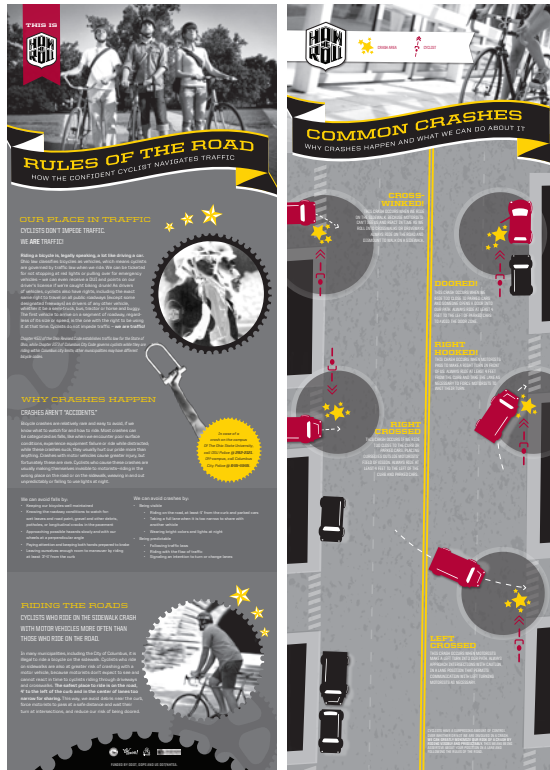
# appendix b : campaign information

## TOUR PARTICIPANTS

The number of students who showed for the tour (left figure) compared with the number who registered online for it (right figure)													
	Mon 2pm	Mon 5:30pm	Tues 4pm	Tues 6pm	Weds 2pm	Weds 5:30pm	Thurs 5:30pm	Thurs 7pm	Fri 12pm	Fri 2pm	Fri 4pm	Sat 1pm	Total
<b>Oct 3–9</b>	0 / 0	15* / 16	4 / 5	1 / 3	1 / 1	3 / 2	0 / 0	2 / 2	3 / 5	2 / 2	3 / 5	12 / 11	46 / 52
<b>Oct 10–16</b>	1 / 1	0 / 0	1 / 1	3 / 5	0 / 0	1 / 6	0 / 3	4 / 5	0 / 1	0 / 1	6 / 6	9 / 12	25 / 41
<b>Oct 17–23</b>	0 / 0	3 / 5	0 / 0	2 / 2	0 / 0	0 / 0	2 / 2	0 / 0	1 / 1	0 / 0	1 / 3	12* / 2	21 / 15
<b>Oct 24–30</b>	0 / 0	1 / 1	0 / 0	1 / 1	3 / 3	2 / 5	1 / 2	0 / 4	0 / 1	3 / 4	4 / 6	3 / 10	18 / 37
<b>Oct 31–Nov 6</b>	1 / 1	0 / 3	3 / 5	3 / 3	0 / 0	8* / 6	2 / 3	0 / 1	3 / 4	3 / 4	5 / 6	2 / 6	30 / 42
<b>Nov 7–13</b>	0 / 0	4 / 6	6 / 5	3 / 6	0 / 1	0 / 2	0 / 5	1 / 2	6 / 6	1 / 4	1 / 5	1 / 10	23 / 52
<b>Nov 14–20</b>	1 / 1	4 / 5	4 / 5	3 / 6	0 / 0	0 / 1	3 / 6	7* / 0	1 / 2	1 / 6	5 / 6	5 / 9	34 / 47
<b>Nov 21–27</b>	0 / 2	0 / 1	0 / 2	0 / 5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0 / 10
<b>Nov 28–Dec 4</b>	0 / 1	0 / 2	0 / 2	2 / 2	0 / 2	3 / 5	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	0 / 2	8 / 20
<b>Dec 5–11</b>	0 / 0	0 / 0	0 / 2	2 / 2	0 / 0	0 / 1	3 / 5	0 / 0	0 / 2	2 / 1	0 / 0	0 / 0	7 / 13
<b>Totals</b>	<b>3 / 6</b>	<b>27 / 39</b>	<b>18 / 27</b>	<b>20 / 35</b>	<b>4 / 7</b>	<b>17 / 28</b>	<b>11 / 26</b>	<b>14 / 14</b>	<b>14 / 22</b>	<b>12 / 22</b>	<b>28 / 41</b>	<b>44 / 62</b>	<b>212 / 329</b>

Source: Yay Bikes!

# appendix b : campaign information



The front and rear of an original safety brochure designed specifically for college students.

## SAFETY BROCHURE FRONT PAGE COPY

RULES OF THE ROAD: HOW THE CONFIDENT CYCLIST NAVIGATES TRAFFIC

OUR PLACE IN TRAFFIC  
CYCLISTS DON'T IMPEDE TRAFFIC.  
WE ARE TRAFFIC!

Riding a bicycle is, legally speaking, a lot like driving a car. Ohio law classifies bicycles as vehicles, which means cyclists are governed by traffic law when we ride. We can be ticketed for not stopping at red lights or pulling over for emergency vehicles—we can even receive a DUI and points on our driver's license if we're caught biking drunk! As drivers of vehicles, cyclists also have rights, including the exact same right to travel on all public roadways (except some designated freeways) as drivers of any other vehicle, whether it be a semi-truck, bus, tractor or horse and buggy. The first vehicle to arrive on a segment of roadway, regardless of its size or speed, is the one with the right to be using it at that time. Cyclists do not impede traffic—we are traffic!

*Chapter 4511 of the Ohio Revised Code establishes traffic law for the State of Ohio, while Chapter 2173 of Columbus City Code governs cyclists while they are riding within Columbus city limits; other municipalities may have different bicycle codes.*

## WHY CRASHES HAPPEN CRASHES AREN'T "ACCIDENTS."

Bicycle crashes are relatively rare and easy to avoid, if we know what to watch for and how to ride. Most crashes can be categorized as falls, like when we encounter poor surface conditions, experience equipment failure or ride while distracted; while these crashes suck, they usually hurt our pride more than anything. Crashes with motor vehicles cause greater injury, but fortunately these are rare. Cyclists who cause these crashes are usually making themselves invisible to motorists—riding in the wrong place on the road or on the sidewalk, weaving in and out unpredictably or failing to use lights at night.

We can avoid falls by:

- Keeping our bicycles well maintained
- Knowing the roadway conditions to watch for:
  - Wet leaves and road paint, gravel and other debris, potholes or longitudinal cracks in the pavement
- Approaching possible hazards slowly and with our wheels at a perpendicular angle
- Paying attention and keeping both hands prepared to brake
- Leaving ourselves enough room to maneuver by riding at least 3'–4' from the curb

We can avoid crashes by:

- Being visible

# appendix b : campaign information

---

- Riding on the road, at least 4' from the curb and parked cars
- Taking a full lane when it is too narrow to share with another vehicle
- Wearing bright colors and lights at night
  
- Being predictable
  - Following traffic laws
  - Riding with the flow of traffic
  - Signaling an intention to turn or change lanes

## RIDING THE ROADS

CYCLISTS WHO RIDE ON THE SIDEWALK CRASH WITH MOTOR VEHICLES MORE OFTEN THAN THOSE WHO RIDE ON THE ROAD.

In many municipalities, including the City of Columbus, it is illegal to ride a bicycle on the sidewalk. Cyclists who ride on sidewalks are also at greater risk of crashing with a motor vehicle, because motorists don't expect to see and cannot react in time to cyclists riding through driveways and crosswalks. The safest place to ride is on the road, 4' to the left of the curb and in the center of lanes too narrow for sharing. This way, we avoid debris near the curb, force motorists to pass at a safe distance and wait their turn at intersections, and reduce our risk of being doored.

## SAFETY BROCHURE BACK PAGE COPY

COMMON CRASHES: WHY CRASHES HAPPEN AND WHAT WE CAN DO ABOUT IT

### CROSS-WINKED!

This crash occurs when we ride on the sidewalk, because motorists can't see us and react in time as we roll into crosswalks or driveways. Always ride in the road and dismount to walk on a sidewalk.

### DOORED!

This crash occurs when we ride too close to parked cars and someone opens a door into our path. Always ride at least 4' to the left of parked cars to avoid the door zone.

### RIGHT HOOKED!

This crash occurs when motorists pass to make a right turn in front of us. Always ride at least 4' from the curb and take the lane as necessary to force motorists to wait their turn.

### RIGHT CROSSED!

This crash occurs when we ride too close to the curb or parked cars, placing ourselves outside motorists' line of vision. Always ride at least 4' to the left of the curb and parked cars.

### LEFT CROSSED!

This crash occurs when motorists make a left turn into our path. Always approach intersections with caution, in a lane position that permits communication with left-turning vehicles.

Cyclists have a surprising amount of control over whether or not we are involved in a crash. We can greatly minimize our risk of a crash by riding visibly and predictably. This means being assertive about our position a lane and following the rules of the road.

# appendix c : evaluation data

---

## HOW WE ROLL TOUR EVALUATION

What was your favorite part of the tour?

Is there anything about the tour you would change?

How would you rate your overall tour experience?

poor  fair  good  great  excellent

Will you recommend this tour to others?

yes  no

How likely are you to return to the places we visited?

unlikely  somewhat unlikely  maybe  
 somewhat likely  very likely

What is your level of confidence with...

...maneuvering a bicycle?

(none) --- (some) --- (lots)  
 1  2  3  4  5

...riding a bicycle on the road?

(none) --- (some) --- (lots)  
 1  2  3  4  5

...fitting a bicycle to your body?

(none) --- (some) --- (lots)  
 1  2  3  4  5

...understanding bicycle-related traffic law?

(none) --- (some) --- (lots)  
 1  2  3  4  5

Other Comments:

*The following questions are optional and will only be used to help us evaluate our outreach.*

How do you identify?  male  female

What is your class rank?  freshman

sophomore  junior  senior  grad  
 other

Where do you live?  on-campus  off-campus

**THANK YOU!**

## GEOGRAPHY CLASS ESSAY ASSIGNMENT

The How We Roll campaign is aimed at helping students learn to ride a bicycle safely on OSU campus and in the surrounding community. Cycling is also a great way to explore the city from a new perspective. If you complete the following assignment, you will earn an extra 5% to use for either the midterm or the final exam.

1. Sign up for a Bicycle Safety Class. (<http://howwerollosu.com/>)
2. Have your picture taken with one of the ride leaders at the event. (Cell phone cameras are fine.)
3. Write a two page reflection on the experience, and note anything that stuck out to you as especially interesting or new. As part of the two page reflection, answer the question: How did your experience of the city on a bicycle differ from riding in a car or on the bus?
4. Put the picture and essay together in a document (Word, Pages, .txt are all fine.) and submit it to the proper dropbox folder.

# appendix c : evaluation data

---

## HOW WE ROLL SPONSOR EVALUATION

Your input is invaluable to us as we develop the next phase of this campaign! Please fill out this evaluation and mail it back using the enclosed self-addressed envelope; the form is also available online at <http://bit.ly/HWR-eval>. We appreciate as much information as you are willing to provide—thank you!

What about HWR worked well for your business?

What about HWR did NOT work for your business?

How did HWR compare to other forms of marketing you have tried?

What should we keep in mind as we expand HWR to a broader audience?

Additional comments, suggestions, critiques, etc. about HWR?

Would you provide a short comment about HWR for use in our promotions?

What is the estimated value of your investment in HWR? \$\_\_\_\_\_

Did you notice increased business that you can attribute to HWR?

- Yes
- No
- Unsure

What is your role in the business?

- Owner
- Business Administration
- Manager
- Employee
- Other:

Are you interested in partnering with Yay Bikes! on future bicycle tours?

If yes, please provide your contact information below OR email Meredith Joy at [meredith@yaybikes.com](mailto:meredith@yaybikes.com).

## HOW WE ROLL TOUR GUIDE EVALUATION

What was your favorite part(s) of leading the How We Roll (HWR) tour?

Is there anything about the HWR tour you would change?

Is there anything about LEADING the HWR tour you would change?

Did you witness behavior change among participants on the tours?

If so, how did their behavior change and why (in your opinion)? If not, what do you think prevented that from happening?

Did your riders say anything about their tour that stuck in your head?

Do you have any other comments, suggestions, critiques, etc. re: HWR?

Would you provide a short comment about HWR that we could use in our promotions?

What are some things we might want to watch for or keep in mind as we expand HWR to a broader audience?

# appendix c : evaluation data

## PARTICIPANTS' DEMOGRAPHIC PROFILE

Where do you live? (n=188)	
On-campus	Off-campus
59 (31.4%)	129 (68.6%)

How do you identify? (n=188)	
Male	Female
91 (48.4%)	97 (51.6%)

What is your class rank? (n=188)					
Freshman	Sophomore	Junior	Senior	Grad	Other
28 (14.9%)	47 (25.0%)	30 (16.0%)	27 (14.4%)	37 (19.7%)	19 (10.1%)

## PARTICIPANTS' EXPERIENCE OF TOUR

How would you rate your overall tour experience? (n=191)				
Poor	Fair	Good	Great	Excellent
0 (0.0%)	0 (0.0%)	4 (2.1%)	25 (13.1%)	162 (84.8%)

Would you recommend this tour to others? (n=189)	
Yes	No
189 (100.0%)	0 (0.0%)

How likely are you to return to the places we visited? (n=191)				
Unlikely	Somewhat unlikely	Maybe	Somewhat likely	Very likely
0 (0.0%)	0 (0.0%)	4 (2.1%)	25 (13.1%)	162 (84.8%)



# appendix c : evaluation data

## CHANGES IN CONFIDENCE LEVELS

What is your level of confidence with riding a bicycle on the road?					
	None	---	Some	---	Lots
<b>Pre-tour</b> n=155	2.6% (4 / 155)	7.7% (12 / 155)	21.3% (33 / 155)	37.4% (58 / 155)	31.0% (48 / 155)
<b>Post-tour</b> n=191	0.5% (1 / 191)	0.5% (1 / 191)	11.0% (21 / 191)	42.0% (81 / 191)	46.0% (87 / 191)

The estimated difference in confidence is 15% ( $\pm 7\%$ ), with a 95% confidence interval.

What is your level of confidence with understanding bicycle-related traffic law?					
	None	---	Some	---	Lots
<b>Pre-tour</b> n=156	4.5% (7 / 156)	16.7% (26 / 156)	37.8% (59 / 156)	27.5% (43 / 156)	13.5% (21 / 156)
<b>Post-tour</b> n=191	0.0% (0 / 191)	0.5% (1 / 191)	11.0% (21 / 191)	45.0% (86 / 191)	43.5% (83 / 191)

The estimated difference in confidence is 38% ( $\pm 8\%$ ), with a 95% confidence interval.

What is your level of confidence with fitting a bicycle to your body?					
	None	---	Some	---	Lots
<b>Pre-tour</b> n=156	5.8% (9 / 156)	14.7% (23 / 156)	33.3% (52 / 156)	28.8% (45 / 156)	17.3% (27 / 156)
<b>Post-tour</b> n=191	1.6% (3 / 191)	4.7% (9 / 191)	25.1% (48 / 191)	37.7% (72 / 191)	30.9% (59 / 191)

The estimated difference in confidence is 20% ( $\pm 9\%$ ), with a 95% confidence interval.

What is your level of confidence with maneuvering a bicycle?					
	None	---	Some	---	Lots
<b>Pre-tour</b> n=156	0.6% (1 / 156)	2.6% (4 / 156)	16.0% (25 / 156)	41.7% (65 / 156)	39.1% (61 / 156)
<b>Post-tour</b> n=191	0.0% (0 / 191)	1.0% (2 / 191)	4.2% (8 / 191)	40.8% (78 / 191)	54.0% (103 / 191)

The estimated difference in confidence is 9% ( $\pm 5\%$ ), with a 95% confidence interval.



