



ASU BICYCLE MASTER PLAN

**Urban and Environmental Planning Master's Degree Program
Capstone Class
Spring Semester, 2015**

Class Participants:

Juan Aguilar
Hasaan Alahdal
Mawdhah AlHashemi
Ramon Aranki
Lyle Begiebing
Ariane Burson
Lauren Campbell

Mengyao Cheng
Joshua Grandlienard
Yuhan Huang
Kelley Kirtley
Jessica Koon
Chuleiyi Li
Ruoxi Li

Ryan McCann
Andrew McIntyre
Matthew Messina
Benjamin Miller
Kevin Rayes
Thomas Spencer
Rui Wen

Instructor: Aaron Golub

Teaching Assistant: Shawn Monk

Project Advisor: Donna Lewandowski

Purpose Statement

As a sustainable mode of transportation, bicycling fits well into ASU's sustainability plan. Bicycling's minimal infrastructure, energy use and convenience make it the ideal form of transportation to and from campus.

This plan seeks to explicitly outline policies and procedures that will encourage students, faculty and staff to consider bicycling not only as a viable transportation option, but as the preferred one.

Equity Statement

The overarching goal of this plan is to ensure equity in the bicycle program across all ASU campuses, for all ethnicities, ages and genders, and between students, staff, faculty and visitors.

Plan Philosophy:

In order to ensure that all aspects of the university's bicycling environment are considered in the plan, we have decided to adopt The League of American Bicyclists' (LAB) "Essential Elements of a Bicycle Friendly America" as key aspects of our plan. These essential elements – known as the 5 E's – allow us to assess and strengthen each campuses' bicycling community in a holistic way, as the elements are all inter-connected and no single element can stand alone. An important and innovative aspect of our plan is that it integrates LAB's "Equity Initiative" into this list of essential elements as the sixth "E". The 6 E's are as follows:

1. *Engineering*
2. *Education*
3. *Encouragement*
4. *Enforcement*
5. *Evaluation & Planning*
6. *Equity*

How does this document integrate with other planning efforts at ASU and surrounding communities?

This document represents ASU's first Bicycle Master Plan, but it was designed to align with previously-published university plans as well as municipal transportation plans.

These plans include:

- Arizona State University Master Plan (2011)
- Arizona State University Campus Access Plan (2012)
- Arizona State University Carbon Neutrality Action Plan (2009)
- Arizona State University Strategic Plan for Sustainable Practices and Operations (2011)
- Tempe Transportation Master Plan (2015)
- City of Phoenix Comprehensive Bicycle Master Plan (2014)
- Glendale Transportation Plan (2009)
- Mesa Bicycle Master Plan (2012)

The goals, objectives and strategies presented in this plan support those outlined in previous plans. This plan offers new recommendations, but acknowledges the importance of executing those presented in previous plans. The following objectives and strategies (taken from previous plans) specifically support this plan's goals and require continued recognition and endorsement if they are to be realized.

From the ASU Master Plan:

- Consolidate bike racks/storage areas to designated locations at the edge of the Pedestrian Safety Zone [Walk-Only Zone] and use first-floor areas of select parking garages for bike parking where possible.
- Invest in new bike storage systems for more efficient storage and security, as well as higher capacity.
- Enforce bike parking in designated areas during Pedestrian Safety [Walk-Only Zone] hours.
- Require/encourage bike registration to reduce theft
- Participate in a regional or campus-wide bicycle sharing program.

From ASU Carbon Neutrality Action Plan:

- Reduce total commuter emissions by 50 percent through alternative transportation (expanded U-Pass usage, bicycle options, and Enterprise CarShare membership).
- Implement a ban on campus parking for freshman students who reside on campus.

From City of Phoenix Comprehensive Bicycle Master Plan:

- The Phoenix Street Transportation Department should partner with the Downtown Phoenix Partnership and representatives of the ASU Downtown campus and Valley Metro to explore improvements in the bicycle network, bicycle connections and parking facilities in the downtown area, and identify optimal Bike Share station locations. These same agencies should partner to promote and educate new users when the Bike Share becomes available to the public.

From Glendale Transportation Plan:

- Enhance bicycle facilities, programs and services throughout the city.
- Provide a continuous bicycle system to ensure access to all parts of the city as well as connectivity to the regional bicycle and trail system.
- Strive to make Glendale a bicycle friendly city with facilities designed for cyclists of all skill levels.
- When feasible, provide grade separations and separate bicycle facilities.
- Encourage bicycle supportive amenities including secure bicycle parking, such as racks and lockers, and bicycle facilities on transit.

From Mesa Bicycle Master Plan:

- Increase bicycle mode share for all trips to work and school in Mesa within the life of the plan
- Improve safety of bicyclists throughout Mesa, reducing the rate of bicycle related crashes by one-third by the year 2022
- Develop and implement the League of American Bicyclists' 5 E's of a bicycle friendly community: Education, Enforcement, Engineering, Encouragement, and Evaluation.
- Achieve Silver, then Gold, and then Platinum bicycle friendly community status by the year 2022.
- Establish capital and operating budgets for the city's bicycle program at a level to accomplish these goals by 2022.

Campus Overview

In January 2015, the Urban and Environmental Planning Master's Program capstone class began the process of creating Arizona State University's first Bicycle Master Plan. During the spring semester of 2015 the class conducted extensive outreach and data gathering on each of the four campuses' current cycling conditions. For a detailed description of the outreach on each campus, see Appendix A.

Tempe Campus

At a Glance:

- Emerging bicycle culture
- Currently rated Gold by League of American Bicyclists
- Demand for improved bicycle infrastructure and access
- Bicycle theft a major concern for cyclists
- Bicyclists unaware of available amenities and services

Bicycle Infrastructure:

- Bicycle valet
 - Three stations on campus
 - Able to accommodate 500 bicycles
 - Free of charge
- Four bicycle fix-it stations
- Card-access secured bike parking facilities
 - Four facilities on campus
- Shared-lane markings on all campus roads
- Bike boxes at major ASU Tempe campus intersections
- Bike lanes on major roads that run through campus
- Contra-flow bike lane on a road that is one-way for vehicular travel
- Marked shared bike paths
- Bike co-op

Walk-Only Zone:

The Walk-Only Zone (WOZ) is an area exclusively for pedestrians in the center of the campus. It is meant to reduce the number of on-campus collisions.

Culture:

- Bicycle culture on and around the Tempe campus continues to grow.
- More students are choosing bicycles as their transportation mode.
- ASU at the Tempe campus is one of only 12 universities recognized as a Gold-level Bicycle Friendly University by the League of American Bicyclists.

- The Tempe campus is host to several bicycle-affiliated clubs and programs, including the following:
 - ASU Cycling Club
 - ASU Bicycle Coalition
 - ASU Wheel Devils
 - ASU Electric Bike Club
 - ASU Bike Co-Op
 - Tempe Bicycle Action Group
 - ASU Triathlon Club

Downtown Phoenix Campus

At a Glance:

- The dense urban environment in which the Downtown Phoenix campus is situated makes safety a top priority for bicyclists and pedestrians
- ASU administration and the City of Phoenix are eager to improve bicycle ridership rate and riding experience
- High theft rates deter people from riding
- Lack of bicycle facility connectivity between ASU properties

Bicycle Infrastructure:

- Bicycle Co-Op
- Bicycle fix-it stations
- GRiD Bike Share stations within walking distance of campus
- Card-access secured bike parking facility

Culture:

- Overall lack of bicycle culture
- Students feel bicycling is unnecessary; transit center is located in close proximity to campus
- Bicyclists are unaware of available amenities

Downtown Sub-Campuses

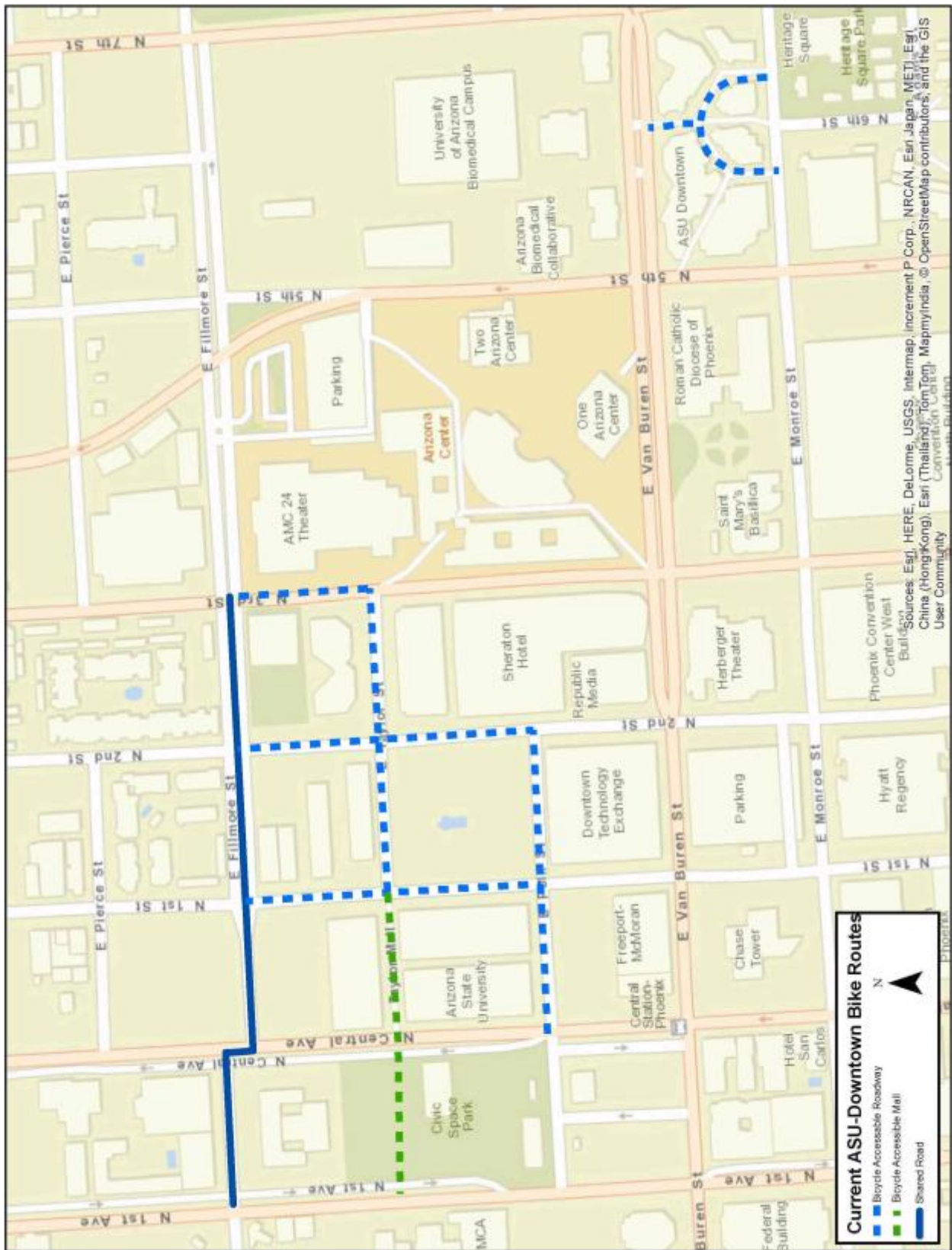
Mercado

- A subsection of the Downtown Phoenix campus located between Van Buren and Monroe and 5th and 7th St.
- Close proximity to main Downtown Phoenix campus – relatively easy access by collector streets.
 - Bike parking available

Art Studio Annex

- A subsection of the campus, located at the southwest corner of Grant and 7th Street.
 - Lack of safe routes
 - Bike parking available

Downtown Campus Bike Map:



West / Thunderbird Campuses

West

At a Glance:

- Compact campus layout makes bicycling unnecessary
- Commuter campus; most students do not live on campus
- 1/2 mile from Arizona Canal Multi-Use Trail
- Administration is eager to implement policies to encourage bicycle use

Bicycle Infrastructure:

- Current bicycle infrastructure is insufficient to support future growth/demand
- Bike paths connecting campus east 43rd Avenue and to west to 51st Avenue.
- Three-mile bike path around campus

Culture:

- Lack of culture/demand
- Administration is eager to implement policies to encourage bicycle use

Thunderbird

- No safe and comfortable bicycle routes between West and Thunderbird campuses
- Thunderbird bicycle demand is for short local trips
- Several bikes are available to students through their bike share program

West Campus Bike Map:



Polytechnic Campus

At a Glance:

- Small yet developing bicycle community
- Students like walking due to compact campus design
- Lack of bicycle parking facilities
- Theft is not a major concern

Bicycle Infrastructure:

- Bicycle Co-Op
- All roads have bike lanes or are shared neighborhood roads
- Shared bike paths with speed limit posted
- Major surrounding roads all have bike lanes
- Watch for Bike signs posted on major roads

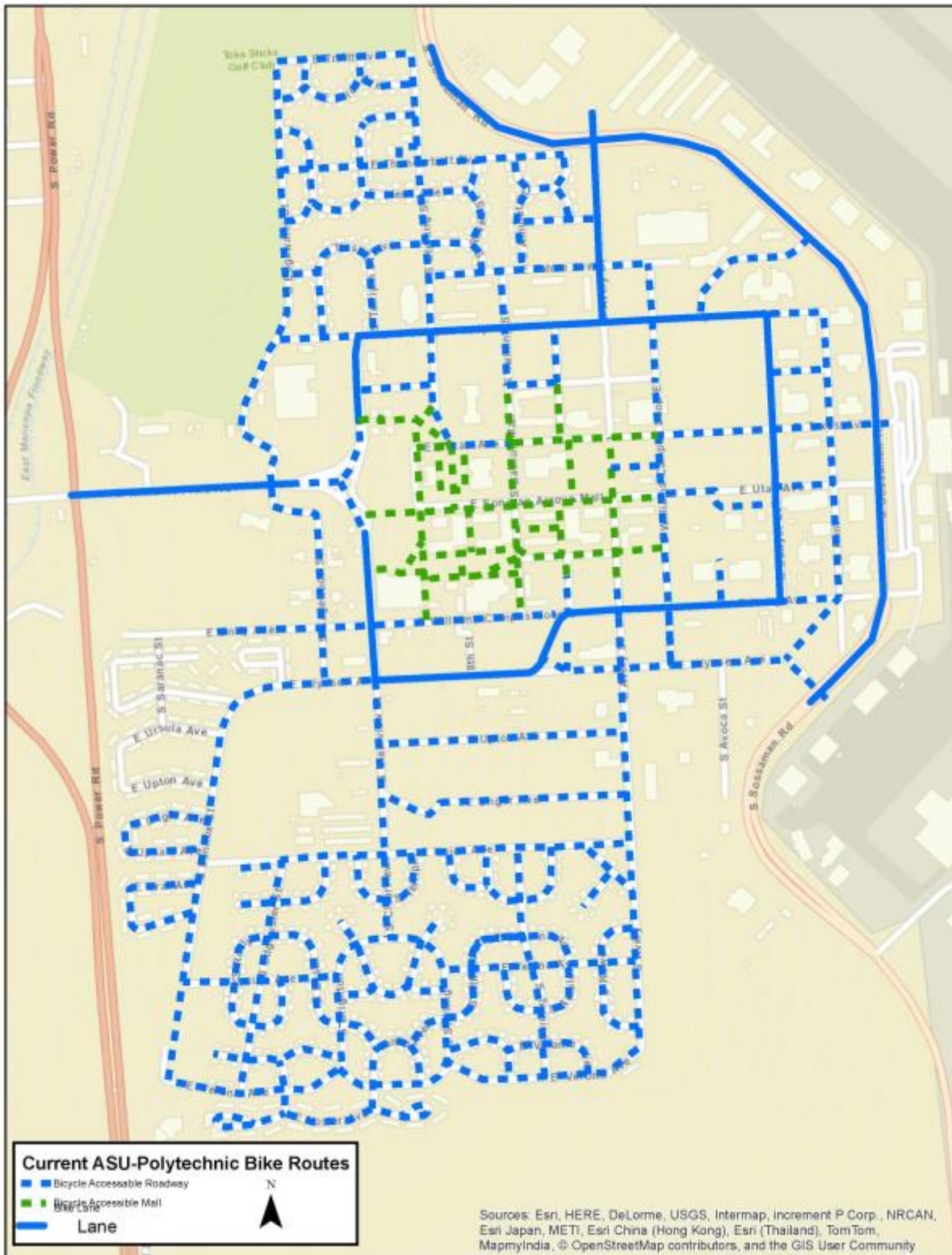
Culture:

- Exemplary Bike Co-Op
- High bicycle ridership
- Strong bicycling community



Example of Polytechnic's multi-use paths

Polytechnic Campus Bike Map:



Goals & Objectives

Goal 1

Foster a community that embraces bicycle culture at ASU

Objective 1: Create more opportunities for bicyclists to become involved at ASU

Suggested Strategies:

- Create an ASU Bike Month during fall semester (October)
- Hold a Bike-to-School Day during ASU Bike Month
- Collaborate with on- and off-campus clubs and organizations to offer bike tours on and around campus to let people learn to enjoy bicycling
- Work with local municipal bike organizations to hold bike races/events
- Develop opportunities to participate in bicycle advocacy on bicycle rules/laws
- Develop an incentive program that rewards people for riding their bikes
- Design gifts and souvenirs that encourage riding to sell or distribute during bike-related events

Suggested Metrics:

- Number of participants in Bike Day/Bike Month activities
- Number of collaborative bike events held and their participation rates each year
- Number of incentives, rewards, gifts and souvenirs given away each semester

Objective 2: Engage more people by sharing relatable stories of bicycling's potential

Suggested Strategies:

- Posters around campus to show some encouraging quotes for bicycling
- Videos/digital stories of personal bicycle stories
- Hold a digital storytelling workshop to help students/staff/faculty tell their own cycling stories in an impactful way

Suggested Metrics:

- Number of bicycling posters hung and maintained around campus
- Number of participants in discussion groups/online forums each session
- Number of videos or digital stories produced

Objective 3: Introduce the community to our bicycle-related data and educate them about the importance of the data/results

Suggested Strategies:

- Create a bicycle-specific Twitter feed and Facebook page (or their social media equivalents) to keep interested community members informed of bicycle information
- Use bicycle program website to display progress on bike theft reduction, bicycle crash reduction and bike mode share increases
- Continue to collaborate with Maricopa Association of Governments (MAG) and Tempe Bicycle Action Group (TBAG) to maintain and gather bicycle count data

Suggested Metrics:

- Number of social media accounts created (e.g., Facebook, Twitter)
- Frequency of posts on accounts
- Number of followers on social media accounts
- Frequency with which the bicycle program website is updated
- Whether data is gathered and maintained with MAG & TBAG each year

Objective 4: Engage non-bicyclists in understanding and embracing bicyclist culture and behavior

Suggested Strategies:

- Educate all incoming students (freshmen and transfer) by incorporating a section about bicycle culture and behavior (drivers and bicyclists) into:
 - ASU-101 classes
 - Freshman orientations
 - Graduate orientations
 - International orientations
- Encourage non-cyclists to take bicycle safety classes by offering discount on parking passes, a few free parking days, or dismissal of first parking offense
- Work with the campus police to ensure that the bicycle infractions that are being enforced are the most dangerous ones
- Increase support of bicyclists by trip reduction survey respondents
 - Include a question in the annual trip reduction survey regarding drivers' perceptions of bicyclists' behavior and sharing the road

Suggested Metrics:

- Number of incoming students captured in incoming student bicycle education each semester
- Number of non-cyclists participating in bicycle safety classes for incentive rewards each semester
- Number of bicycle infractions enforced that compromise the safety of bicyclists and other mode users, versus those that don't, each semester
- Whether drivers' perceptions of bicyclists becomes increasingly favorable each year

Objective 5: Increase bicycle mode share by 2% each year at ASU

Suggested Strategies:

- Enact positive reinforcement strategy program that rewards those who shift from driving to bicycling
 - "Bicyclist of the Month" awards
 - Collaborate with "Don't Drive 1-in-5" program to increase staff bicycle mode share

Suggested Metrics:

- Estimated number of staff participants in "Don't Drive 1-in-5" program

Goal 2

Create an environment where bicycling is a viable mode of transportation.

Objective 1: Develop fully connected networks of bicycle-safe streets or paths surrounding each campus

Suggested Strategies:

- Tempe Campus
 - Provide bicycle routes around Walk-Only Zones on campus
 - Convert on-campus bike lanes to shared-lane markings with advanced bike boxes at major intersections at campus boundaries
- West Campus/Thunderbird
 - Connect West campus and Thunderbird campus with potential bicycle routes to commute between campuses safely by bicycle
 - Recommend improvements on potential bicycle roads surrounding campus to improve safety and comfort
 - Add bicycle lanes on campus roads to connect incoming bike routes
 - Create ample signage for proposed bike paths between ASU and Thunderbird
- Downtown Phoenix Campus
 - Corridors connecting three detached parcels in ASU Downtown Phoenix campus, including 1st Street between Fillmore Street and Grant Street; Central Avenue between Fillmore Street and Grant Street; 3rd Street between Fillmore St and Grant St; 7th Avenue between Monroe St and Grant St; Monroe St between Central Ave and 7th St; Grant St between Central Ave and 7th St; 2nd St between Fillmore St and Jefferson St; Washington St between Central Ave and 7th St; and Jefferson St between Central Ave and 7th St.
 - Create better traffic calming techniques for 1st Street between Margaret T. Hance and East Buckeye Road
 - Create motor-free zone on Taylor Street between 1st Street and 2nd Street
 - Daytime closure to vehicles at the intersection of Taylor & 1st streets
- Polytechnic Campus
 - Provide bicycle access to future developments on campus and maintain connectivity already present on campus
 - Create bicycle lanes and sharrows on campus roads
 - Make the connected bicycle paths accessible to everyone

Suggested Metrics:

- Assess network connectivity on and between all four campuses
- Document whether the suggested improvements on each campus are implemented and maintained
- Document whether infrastructure is proportional, equally distributed, and accessible to all

Objective 2: Reduce bicycle theft on all ASU campuses

Suggested Strategies:

- Increase bicycle registration rates on campus
 - Create flyers with facts about the benefits of bicycle registration
 - Provide incentives for people who register their bicycles
 - Put information on My ASU splash page and banners
- Teach the community about the tools and techniques to properly lock their bicycles
- Inform the community about various resources to park your bicycle (e.g. bike valet, card-access parking)
- Build more individual bicycle lockers on campus to reduce number of bicycles brought into classrooms
- Expand bicycle valet services to all ASU campuses as student population requires
- Install underground bicycle parking facility (DPC and Tempe Campuses) (<https://www.youtube.com/watch?v=pcZSU40RBrg>)
- Increase campus surveillance around bicycle parking
- Create additional lighting at bicycle parking to improve security
- Build card-access parking facilities on all ASU campuses
- Continue and build upon the spring 2015 bicycle theft study by business analytics students
- Work with campus police to utilize the data gathered in the bike theft study to target their patrol efforts and bait bike program more effectively
- Increase the number of bicycle thefts that are reported to ASU police

Suggested Metrics:

- Number of bicycles newly registered each semester
- Number and type of outreach regarding proper bicycle locking and bicycle facilities on campus
- Number of new card-access storage facilities, bike valets, and underground parking units installed each semester

- Number of new lights installed and maintained per bicycle parking facility
- Number of bicycle parking facilities with security cameras installed and maintained
- Document whether all campuses have secure bicycle parking facilities
- Document whether the bicycle theft study is continued and police efforts are included

Objective 3: Help bicyclists at ASU navigate campus

Suggested Strategies:

- Provide printed and digital bicycle maps for each ASU campus
- Develop a cell phone application to find the best bicycle routes on campus and different bicycle facilities on campus
- Develop and maintain wayfinding signage throughout all campuses
 - Include map of campus and surrounding roads, bicycle amenities, and Facebook/orgsync links for more bicycle information
- Educate Walk-Only Zone ambassadors about bicycle routes, amenities and campus riding laws
- Ensure that maps/signage/education materials are easy to locate, read and understand for all ages/cultures
- Evaluate connections between campus malls and roadway entries into campus

Suggested Metrics

- Number of paper copies given out, and number of downloaded copies of bicycle maps for each campus
- Confirm that a bicycle route app is made and kept up-to-date
- Number of wayfinding signs hung and maintained on each campus
- Number of hours of bicycling education Walk-Only Zone ambassadors receive

Objective 4: Provide convenient access to bicycles

Suggested Strategies:

- Create access to a bicycle share program - stations located on and around campuses including transit stations
- Work with local bike shops to support their bicycle rental and buy-back programs
- Provide multi-day bicycle rentals on all campuses
- Hold bicycle sales at the beginning of every semester on all ASU campuses

- Create a bicycle recycle program to provide inexpensive bicycles for students to purchase
- Provide bicycle rental options for various levels of income

Suggested Metrics

- Frequency of use of bike share programs by ASU students, staff and faculty
- Number of bicycles rented or buy-back program bicycles sold through collaborative bike shops each semester
- Number of bicycles rented through campus bicycle rental programs per applicable rental period
- The number of bicycles sold at bicycle sales held on all ASU campuses each semester
- Number of bicycles recycled for student purchase each semester
- Determine if there is a tiered rental pricing scheme for bike share, and how often it is utilized

Objective 5: Provide end-of-trip resources to serve bicyclists

Suggested Strategies:

- Ensure that signage at end-of-trip facilities is visible and easy to find
- Increase the number of showers on campus for members of the ASU community who commute by bicycle
 - Improve marketing of current shower locations
- Provide the equal amount of end-of-trip services for each campus based upon the number of students that ride on campus
- Improve links between bicycle parking and public transit stations
 - Improved bicycle parking on Forest Avenue (near shuttle stop)
 - Work with the local jurisdictions to provide more secure bicycle parking at public transit stations
- Increase the amount of bicycle parking spaces on all campuses and distribute according to usage
- Adopt a policy to include secure bicycle parking with all new construction

Suggested Metrics

- Assess the visibility of signage for end-of-trip facilities
- Number of showers and the spread of their distribution around each campus
- Whether there is a proportionate distribution of end-of-trip facilities on each campus for each campus' ridership

- Number of links between bicycle parking and transit stations, or number of bicycle parking at transit stations, installed and maintained
- Number of new bicycle parking spaces installed and maintained on each campus each semester
- Number of bicycle parking spaces installed and maintained per each newly constructed building or facility on each campus

Objective 6: Provide convenient ways for bicyclists to maintain their bicycles in good riding condition

Suggested Strategies:

- Improve Bike Co-Ops to provide the same level of service across all campuses
- Provide professional bicycle repair service on campus
- Install more bike fix-it stations and place them in popular bicycle parking areas
 - Regularly monitor and repair fix-it stations
 - Place fix-it stations near bike valet entrances
 - Place fix-it stations within card-access bike cages
- Make visible signage of bike fix-it stations and co-ops
- Increase frequency of bicycle maintenance class and offer them on all ASU campuses

Suggested Metrics

- Assess the level of service offered by bicycle co-ops at all campuses
- Number of fix-it stations installed and maintained, and the spread of their distribution around each campus
- Assess the visibility of signage for fix-it stations and co-ops
- Number of bicycle maintenance classes offered on each campus, each semester
 - Number of participants

Objective 7: Increase the knowledge base of ASU community about bicycle laws and safe riding practices

Suggested Strategies:

- Create a robust offering of classes in bicycle safety, best riding practices and techniques, utilizing TS101 curriculum
- Distribute more advertisements about current bicycle related classes

- Make it a requirement for those in their freshman year to take a bicycle related course, to include bicycle laws, safe riding practices, campus policies, and driving alongside bicyclists
- Provide signs and posters that educate about bicycle laws and safety
- Create an incentive program that rewards cyclists for obeying the law and riding safely
- Targeted enforcement in specific areas, especially in high areas of “improper” or dangerous behavior
- Initiate a two-week “grace period” at the beginning of each semester for bicyclists who break campus laws
 - Instruct students on the proper behavior
 - Develop a positive relationship with campus enforcers

Suggested Metrics

- Number of bicycle safety classes offered on each campus, each semester
- Number of different types of classes offered
- Number of participants per class
- Number of bicycle safety and bicycle law signs hung and maintained on each campus
- Number of rewards given for safe bicycling incentive programs on each campus, each semester
- Number of “free-pass” educational warnings given to bicyclists during the two-week “grace period” at the beginning of each semester, on each campus

Objective 8: Educate ASU community about bicycling events and resources

Suggested Strategies:

- Update and promote the bike.asu.edu website
- Post information on websites, Facebook, Twitter, and other social media platforms to reach student population about classes
- Promote information about bicycle classes and “Get to Know Your Campus by Bike” tours to international student organizations
- Engage residence halls to spread the word about classes
- Post information about bicycle classes at bicycle racks
- Hand out information at bicycle events, wellness events, bicycle sales and bicycle shops
- Text bicycle related workshops/events to interested parties through an opt-in text message system

Suggested Metrics

- Number of social media platform posts about classes offered
- Number of promotional programs implemented
- Number of students participating in the “Get to Know Your Campus by Bike” tours
- Number of bicycle racks with bicycle class information posted
- Number of residence halls collaborating to inform students of classes
- Number of organizations reached out to
- Number of bicycle related ASU Text Message Alert texts sent each semester

Objective 9: Eliminate infrastructure that is unsafe for bicyclists on ASU campuses

Suggested Strategies:

- Create a reporting form on the bike.asu.edu for bicyclists to report unsafe conditions
- Implement a safety ride on each campus every semester/yearly

Suggested Metrics

- Number of unsafe conditions reported through the bike.asu.edu reporting form
- Number of safety ride participants on each campus, each semester

Goal 3

Make bicycling a top priority among decision makers on all ASU campuses.

Objective 1: Achieve Platinum-level Bicycle Friendly University status for all ASU campuses

Suggested Strategies:

- Apply for Bicycle Friendly status for Downtown Phoenix, Polytechnic and West campuses
- Re-apply to upgrade Tempe's status to Platinum
- Educate campus decision-makers about the benefits ASU receives from this designation
- Install Bicycle Friendly University designation signs on Tempe Campus and other campuses as they achieve designation

Suggested Metrics

- The Bicycle Friendly status of each campus
- Number of campus decision-makers reached out to regarding the benefits of Bicycle Friendly designation
- Number of Bicycle Friendly designation signs installed and maintained on each campus

Objective 2: Foster collaboration between ASU organizations, community organizations and municipalities' bicycle programs

Suggested Strategies:

- Invite all bicycle-related organizations on campus and in the community to meetings held each semester to facilitate their cooperation and discuss bicycle programs
- Improve ASU's relationship with local planning agencies
- Continue the Bicycle Advisory Committee (BAC)
- Increase the number of students/staff participating in bicycle committee or action groups to promote bicycle friendliness

Suggested Metrics:

- Number of participants from bicycle-related organizations in meetings each semester
- Frequency of interaction with local planning agencies
- Number of students/staff participating in bicycle advocacy groups

Objective 3: Contribute to ASU's Carbon Neutrality Action Plan

Suggested Strategies:

- Include bicycle projects and plans in campus transportation/circulation plans
- Educate the ASU community about how bicycling contributes to the goals of ASU's Carbon Neutrality Action Plan

Suggested Metrics:

- Amount of outreach to educate the community regarding how bicycling contributes to ASU's Carbon Neutrality Action Plan

Objective 4: Pursue a transportation fee to be included in student fees

Suggested Strategies:

- Educate students about what the fee is intended for and how it will benefit their educational experience and bicycle resources
- Approach USG to garner support for a transportation fee

Suggested Metrics:

- Amount of outreach to educate students about the proposed transportation fee and its benefits

Goal 4

Ensure that every member of the ASU community has an equal opportunity to enjoy the benefits of bicycling.

Objective 1: Increase proportion of female bicyclists at all ASU campuses

Suggested Strategies:

- Organize women-only bicycle rides for all skill levels
- Offer women-only bicycle related classes
- Encourage student bicycling organizations to create opportunities for women in leadership roles
- Increase police and security presence, especially in areas with late hours of operation (e.g., libraries)
- Add bicycle racks to safety escort service vans on campus

Suggested Metrics:

- Number of women-only bicycle rides held
- Number of women participating in women-only bicycle related classes
- Number of women in leadership roles in student bicycling organizations
- Number of added police or security patrols
- Number of safety escort vans with bicycle racks
- Number of women bicycle organizations or groups on campus

Objective 2: Ensure that any bicyclist can see themselves in our communications

Suggested Strategies:

- Ensure we use a variety of examples that represent all members of the ASU community
- Use language that relates to the people
- Ensure that marketing strategies are up-to-date with target audience

Suggested Metrics:

- Number of differing examples used and number of different groups represented in communications
- Assess the ease with which communications are received and understood

Appendix A

Data Collection and Outreach Process

This plan was created following an iterative process of stakeholder research, with each campus requiring unique information-gathering techniques. Prior to conducting any research, each campus group designed a “public participation plan” using a template borrowed from the Portland Development Commission. To determine public interest regarding bicycle-related issues, each campus group answered numerous questions about its designated campus, assigning ordinal scores to each criterion. Averaging these scores resulted in an overall score, which was then evaluated using a pre-defined scale. The questions and scale used to determine each campus’s “public participation plan” are shown in Figure 1 and Figure 2, respectively, and a chart of strategies selected for each campus is shown in Figure 3.

Figure 1

INTERNAL WORKSHEET: Assessing Public Concern and Interest

Assessment Questions	Very low (1)	Low (2)	Moderate (3)	High (4)	Very High (5)
1. What is the level of existing controversy, conflict or concern on this or related issues?					
2. How significant are the potential impacts to the public?					
3. How much do the major stakeholders care about this issue?					
4. What degree of involvement does the public appear to desire?					
5. What is the potential for public impact on the potential decision or project?					
6. How significant are the possible benefits of involving the public?					
7. How serious are the potential ramifications of NOT involving the public?					
8. What level of public participation does the Commission and/or directors desire or expect?					
9. What is the possibility that the media will become interested?					
10. What is the probable level of difficulty in solving the problem or advancing the project?					
<i>Count number of checks in each column</i>					
<i>Multiply number of checks by the weight</i>	X1	X2	X3	X4	X5
<i>Enter column score</i>					
<i>Add total of all five columns</i>					
<i>Divide total score by number of questions</i>	/10				
<i>Average score (Desired Level of Public Participation Spectrum)</i>	*				

*See Chart on page for illustration of the level of public participation that would match the public’s interest in the project.

Figure 2

INTERNAL WORKSHEET: Assessing Level of Public Participation

Increasing Level of Public Participation			
Inform (1-2)	Solicit Input / Consult (2-3)	Involve (3-4)	Collaborate (4-5)
<u>One-way communication</u> between PDC and the public to provide the public with balanced and objective information to assist them in understanding the problems, alternatives, opportunities and/or solutions.	Seek public feedback on a proposal, analysis or alternatives. Requires a response from the public, but limited opportunity for public dialogue.	Work directly with the public throughout the process to ensure that issues, aspirations and concerns are consistently understood and considered. Includes elements of public information and outreach, but adds a third dimension of <u>two-way communication</u> .	To collaborate with the public on some or all aspects of the planning or decision including the development of alternatives and the identification of the preferred solution.
Promise to the Public			
We will keep stakeholders informed	We will keep stakeholders informed, listen to and acknowledge concerns, aspirations and provide feedback on how public input influenced the decision.	We will work with stakeholders to ensure that their concerns, aspirations and issues are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to stakeholders for direct advice and innovation in formulating solutions and incorporate their recommendations into the decisions to the maximum extent possible.
Example of Tools to use			
<ul style="list-style-type: none"> ✓ Fact sheet ✓ Press Release ✓ Open House ✓ Tour / Site Visit 	<ul style="list-style-type: none"> ✓ Public Meeting ✓ Appreciative Inquiry ✓ Focus Group ✓ Survey 	<ul style="list-style-type: none"> ✓ Workshop ✓ Design Charrettes ✓ Citizen advisory committee 	<ul style="list-style-type: none"> ✓ Working Group ✓ Joint Venture ✓ Commissioner-led advisory committee

Adapted from the IAP2 Public Participation Spectrum

Figure 3

	<i>TEMPE</i>	<i>POLYTECHNIC</i>	<i>DOWNTOWN</i>	<i>WEST/THUNDERBIRD</i>
<i>Campus tour</i>	✓	✓	✓	✓
<i>Handlebar survey</i>	✓		✓	✓
<i>In-person survey</i>		✓	✓	
<i>Online survey</i>	✓	✓		
<i>Focus group</i>	✓			
<i>Meeting with staff</i>	✓		✓	✓
<i>Tabling event</i>			✓	✓

Data collection and outreach strategies selected for each campus

Tempe Campus

Outreach Summary:

The ASU Tempe campus is the oldest and largest of our five campuses, and it also has the most abundant bicycle infrastructure and activity. Because of the well-developed bicycle culture and environment in Tempe, higher levels of public participation were necessary. Our team engaged stakeholders on the Tempe campus through a survey and public meeting in order to elicit various concerns and ideas.

Our student group held a public meeting on March 25, 2015, at 7 p.m. at the Tempe campus Memorial Union. Participants responded to various questions regarding bicycle issues on campus and helped identify specific problem areas.

An online survey was also distributed to collect information regarding students' perceptions of bicycle issues on campus. Information was gathered from 133 respondents. It should be noted that approximately two-thirds of the respondents were male.

Concerns:

A major concern expressed by numerous participants was the unsafe behaviors exhibited by bicyclists and drivers on and around campus. Unsafe bicyclist behaviors include, but are not limited to, riding on the sidewalk (with or against traffic), excessive speed, inattention and lack of concern for other road users.

Congestion is a major concern on the Tempe campus, especially during peak hours. One student even compared riding a bicycle on campus to "...navigating 1980s Beijing." The enormous amount of students traveling across campus between classes and at meal times prompted the university to introduce "Walk-Only Zones" in fall 2013. These zones prohibit the use of any wheeled vehicles from 8 a.m. to 4 p.m., Monday through Friday, in an effort to reduce congestion and increase safety in heavily trafficked areas around campus. With the introduction of Phase 1 and 2 of the initiative, ASU became one of more than 25 universities around the country to implement such a program. The Walk-Only Zones have been successful, but many bicyclists are frustrated that the zones impede their daily campus routes. The ASU Master Plan, last updated in 2011, recommended that bicycle paths or routes should be established simultaneously with the implementation of the Walk-Only Zones.

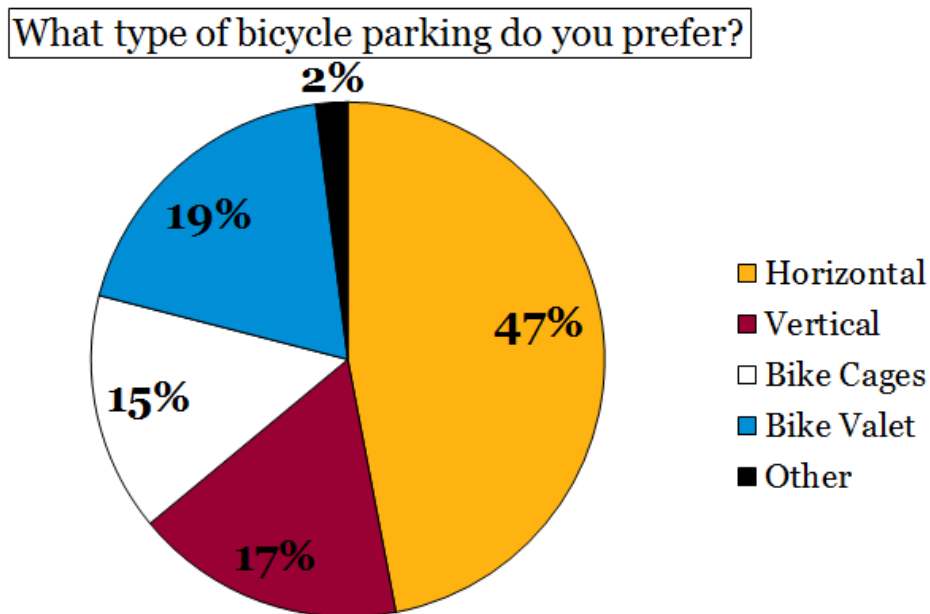
On campus routes:

There is a network of bicycle-approved routes across campus. As seen in the ASU Tempe bike map, there are shared road bicycle routes where bikes share campus roads with motor vehicles, and shared paths in which bicycles share campus paths with pedestrians and carts. Finally, there are a few bicycle lanes that are restricted to the major thoroughfares that surround and cut through campus.

Parking on campus:

Bike docks and vertical racks are the primary bicycle parking infrastructure on the Tempe campus. There are also two secured parking structures, with an additional one scheduled, as well three staffed bicycle valet stations. Both of these higher security structures aid in reducing on-campus theft.

Bicycle parking is perhaps the most important – and most basic – bicycle -related amenity offered to campus users. A shortage of parking can inconvenience and frustrate bicyclists, resulting in some students giving up on riding bicycles on campus altogether. Thus, ASU needs to ensure that each campus provides adequate and reliable parking options.



In 2001, ASU's Tempe campus contained around 11,800 bicycle parking spaces, or around **0.27** spaces per student. That 2001 study deemed this ratio to be low among "bicycle-friendly universities" and recommended a space to student ratio of **0.35**.







According to our student group's survey, 68 of 133 respondents (54 percent) stated that there is not enough parking on campus during peak hours on the Tempe campus. When asked which areas needed additional parking, the following were the most common responses:

1. Memorial Union
2. Coor Hall
3. Inside the Walk-Only Zones
4. Noble Library

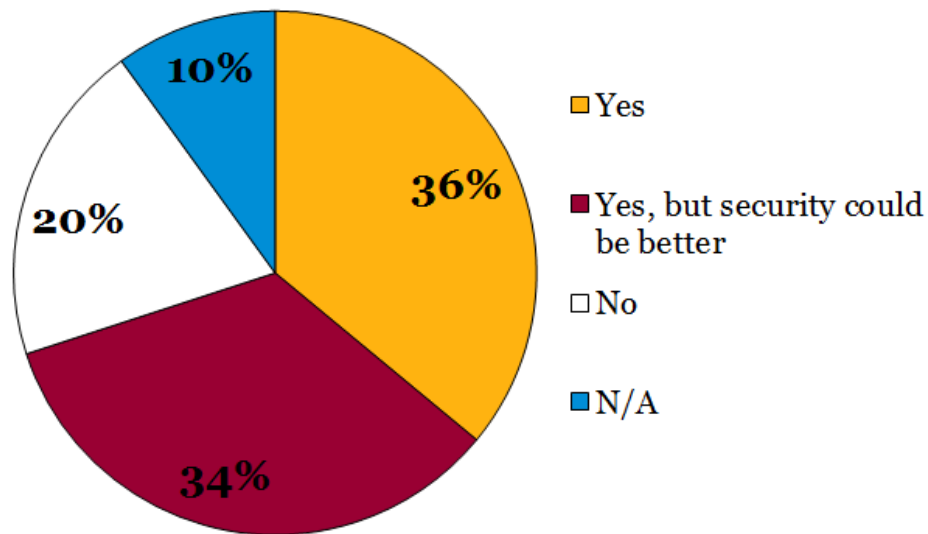
Just as important as the number of parking spaces on campus is the *quality* of those options. There is a wide variety of bicycle racks on the market, but many of them should not be considered for implementation on campus, as they fail to meet certain requirements. Many racks do not provide enough security; others are inefficient, bulky, or otherwise aesthetically unappealing. Below is a guide that outlines the types of bicycle racks that should and should not be considered by the university.

Currently, ASU is in the process of transforming its bicycle parking inventory. Most racks on campus are "inverted-U" racks, but these are being replaced with bike docks and vertical racks. Aside from the comb racks utilized by the bike valet stations, these two styles will be the only two racks approved for use on campus. We have found that these styles provide the most security and efficiency.

Rack Types and Uses

Type of Rack	Example	Benefits	Drawbacks	Approved for use on campus?
Inverted U-Rack		Simple, inexpensive		Still on campus, no longer approved for new installations
Wave (Ribbon) Rack				No
Bike Dock		Secure, easy to lock frame and wheel		Yes
Grid (Comb) Rack				Only for bike valet use
“Wheel Bender” Rack			...bends wheel	No
Vertical Rack		Most efficient design		Yes

Do you feel safe locking your bike on campus?



Safety:

- Campus is heavily congested with:
 - Cars
 - Carts
 - Pedestrians
 - Buildings, landscaping, and infrastructure

According to surveys conducted through ASU's "Trip Reduction Program," approximately 10 percent of student trips were bicycle trips from 2007 to 2013. This number pales in comparison to the percentage of trips taken by single-occupant vehicles, approximately 52 percent.

Problem areas:

- University Drive deemed unsafe by many stakeholders
 - Paving in poor condition
- Walk-Only Zones inconvenient
 - However, necessary to ease congestion and promote safety and well-being
- Bike lanes on campus (mentioned in ASU Master Plan - in concordance with Walk-Only Zones)
- Bike parking on campus not sufficient during peak hours (slightly more than 50 percent of survey respondents agreed)
 - Ensure variety in parking options (some find vertical racks difficult to use)
- Bicycle Security
 - More than 70 percent of survey respondents thought bicycle parking could be more secure
- Maintain bicycle amenities

Downtown Phoenix Campus

Outreach Summary:

Research collection for the Downtown Phoenix campus began with two campus tours, one headed by Assistant Dean of Students Ronald Briggs and the other headed by the Public Safety Advisory Committee for the Downtown Phoenix campus.

Tabling events were held on Feb. 19 and Feb. 24, during which our student group informed passing students of their intention to write this master plan, discussed with them bicycle-related issues, and distributed surveys to those interested. Over the course of those two days, 57 surveys were completed.

On March 4, each member of the student group conducted a “handlebar survey,” a comprehensive bicycle tour of the campus to assess its infrastructure and amenities for bicyclists.

On March 30, we met with Bill McComas from “Phoenix Spokes People” to discuss downtown’s bicycle culture, known issues around the ASU campus, our project proposals, and the Phoenix Bicycle Master Plan proposals.

On April 6 and April 8, we met with Joseph Perez, a traffic engineer and bicycle coordinator for the city of Phoenix, to discuss street conditions and potential city and campus projects and developments.

Problem Areas:

- Insufficient signage around all campus sections
- Lack of education/knowledge of bicycle-related rules and amenities
 - how and why to register their bicycles
 - location of gated storage
 - bicycle laws
- Need for more integration of bicycle and transit networks
- Bicycle storage could be more secure
- Bicycle Co-Op lacks resources
- Some bike racks are poorly lit, underutilized

Polytechnic Campus

The campus malls throughout Polytechnic campus were designed to naturally separate pedestrians from wheeled vehicles. Most of the thoroughfares throughout campus are composed of two different materials. For pedestrians, gravel walkways are available throughout much of the campus. These walkways are complemented by paved sidewalks for wheeled vehicles, including maintenance carts, bicycles, skateboards and wheelchairs. No signage is present to inform students of each route's intended use, but instead is implied by the design. This passive design has been successful so far.

Outreach Summary:

Research collection for the Polytechnic campus began with a campus tour headed by Deb Graham, parking/transportation manager for ASU Parking and Transit Services on the Polytechnic campus. This tour was followed by a stakeholder meeting to garner further input into the bicycle and pedestrian environment on campus. Our student group met with the following people:

- Julie Kipper - President of Sun Devil Fitness Complex (SDFC)
- Ryan Olkes - President of the University Student Government
- Jeff Vance - SDFC Wellness
- Mustafa Demer - President of the Graduate and Professional Student Association

Our student group conducted two surveys to gather information regarding the bicycle culture and perceptions on the Polytechnic campus. The first survey was conducted in-person between 4:30 and 5:30 p.m. on March 2, 2015, and succeeded in gathering 100 responses. The second survey was conducted online, and 16 responses were submitted between March 4 and March 24.

Problem Areas:

- Insufficient signage around all campus sections
- Lack of education/knowledge of bicycle-related rules and amenities
 - how and why to register their bicycles
 - bicycle laws
- Some bike racks are poorly lit, underutilized
- Bike theft is generally low, but on the rise

West / Thunderbird Campuses

Outreach Summary:

On Feb. 23, a tabling event was held on the West campus in an effort to inform students of our intent to create a bicycle master plan and to elicit feedback relevant to our project. Although we did interact with a number of students, most were exchange students from Peru with little knowledge of bicycle amenities and policies on campus.

On Feb. 25, our student group met with the following stakeholders to discuss bicycle-related topics and growth strategies for West and Thunderbird campus:

- Purab Adabala - City of Glendale Transportation Planner
- Aaron Golub - ASU Tempe Professor
- Donna Lewandowski - ASU Bicycle Program Manager
- Chad Morgan - ASU West Director of SRC and Events
- Crystal Shanahan - Thunderbird Director of Administrative Services
- Cory Shapiro - ASU West Housing Director and NSO Director
- Sean Wiseman - ASU West Director of Student Engagement

A summary of the discussion can be found in the Appendix. Following this meeting, our student group participated in a handlebar survey, specifically assessing various routes between the West and Thunderbird campuses.

West campus currently lacks any noticeable bicycle culture. Despite various scenic bikeways in direct vicinity of the campus, student interest in bicycling seems extremely low, evidenced by the small number of bicycles found on campus. Students and staff cite a couple of reasons to explain the low bicycle usage. First, the relatively small campus size renders bicycles unnecessary for many students who prefer to walk from class to class. In addition, a large proportion of the student population not only lives off-campus, but lives several miles from campus, making the bicycle an impractical transportation option.

In January 2015, ASU finalized a deal with Thunderbird School of Global Management in Glendale to merge the two institutions. For over 70 years, Thunderbird has been a top-ranked global business school and attracts students from around the globe to pursue undergraduate and graduate degrees in the Valley. This merger presents ASU with unique challenges as it attempts to integrate the two campuses, in terms of curriculum as well as student life. As details emerge regarding how the two campuses will be utilized, it is important to consider the transportation options available to students to

travel between campuses. It is possible that programs will be offered in which classes are held at both campuses, in which case specified routes would be imperative. However, even if students are not traveling between campuses for classes, they will most certainly travel between them for other reasons. The Thunderbird campus lacks many of the amenities that are available at the West campus, including the Sun Devil Fitness Center, so students will almost certainly be moving between the two sites.

The Thunderbird campus lies about 2 miles northwest of ASU's West campus on the corner of West Greenway Road and 59th Avenue.

Problem Areas:

- Berm on south edge of campus blocks access
- How to encourage bicycling when students view it as unnecessary
- Decrease cost (bike share, used bike sales)
- Biking between ASU West and Thunderbird campuses unsafe
 - Multiple routes suggested (Route 3 may be the best)
 - Fence surrounding West campus makes connection more difficult