PUBLIC MEETING AGENDA

Transportation Commission

MEETING DATE
Tuesday, May 14, 2019
7:30 a.m.

MEETING LOCATION
City of Tempe
Don Cassano Community Room
200. E. Fifth Street, 2nd floor
Tempe, Arizona

<table>
<thead>
<tr>
<th>AGENDA ITEM</th>
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| 1. Public Appearances
The Transportation Commission welcomes public comment for items listed on this agenda. There is a three-minute time limit per citizen. | Brian Fellows, Commission Chair | Information |
| 2. Approval of Meeting Minutes
The Commission will be asked to review and approve meeting minutes from the April 23, 2019 meeting. | Brian Fellows, Commission Chair | Action |
| 3. Bike Hero
Staff will request the Commission select a recipient for the city’s 2019 Bike Hero Award. | Sue Taaffe, Engineering & Transportation Department | Action |
(Bicycles, E-Bicycles, Human Powered Vehicles, Non-Human Powered Vehicles and Electric Personal Assistive Mobility Devices)
Staff will provide draft language to the Tempe City Code addressing alternative modes of travel. | Shelly Seyler, Engineering & Transportation Department | Information and Possible Action |
| 5. Tempe/Mesa Streetcar Feasibility Study Update
Staff will provide an update on the Tempe/Mesa Streetcar Feasibility Study. | Eric Iwersen, Engineering & Transportation Department | Information and Possible Action |
| 6. Grand Canal Multi-use Paths
Staff will present design concepts for the Grand Canal Multi-use paths | Chase Walman, Engineering & Transportation Department | Information and Possible Action |
| 7. Department & Regional Transportation Updates
Staff will provide updates and current issues being discussed at regional transportation and transit agencies. | Engineering & Transportation Department Staff | Information |
According to the Arizona Open Meeting Law, the Transportation Commission may only discuss matters listed on the agenda. The city of Tempe endeavors to make all public meetings accessible to persons with disabilities. With 48 hours advance notice, special assistance is available at public meetings for sight and/or hearing-impaired persons. Please call 350-4311 (voice) or for Relay Users: 711 to request an accommodation to participate in a public meeting.
Minutes of the meeting of Tempe Transportation Commission held on Tuesday, April 23, 2019, 7:30 a.m. in the Engineering and Transportation Conference Room located at 31. E. Fifth Street, Tempe, Arizona.

(MEMBERS) Present:
Susan Conklu
Jeremy Browning
JC Porter
Paul Hubbell
David A. King (via phone)
John Kissinger
Ryan Guzy
Lloyd Thomas
John Federico
Peter Schelstraete
Cyndi Streid (via phone)
Pam Goronkin (via phone)
Brian Fellows
Shana Ellis (via phone)

(MEMBERS) Absent:
Bonnie Gerepka

City Staff Present:
Shelly Seyler, Deputy Director Engineering & Transportation
Chase Walman, Planner II
Joe Clements, Transportation Financial Analyst
Vanessa Spartan, Planner II
Stephanie Deitrick, Geo Info System Manager
Lauren Kuby, Vice Mayor
Sue Taaffe, Senior Management Assistant
TaiAnna Yee, Public Information Officer
Laura Kajfez, Neighborhood Services Specialist
Bonnie Richardson, Principal Planner
Robbie Arron, Planner II

Guests Present:
Lorrie Luckinbill
Bree Boehlke
MaryAnn Miller
Syera Torain
Danial Laufer
Shea Lemar
Stephanie Peterson
Max Courval
Marty Ztech
Mehak Sachdeva
Denise Capasso da Silva

Commission Chair Brian Fellows called the meeting to order at 7:30 a.m.

Agenda Item 1 – Public Appearances
None

Agenda Item 2 – Minutes
Brian Fellows introduced the minutes of April 9, 2019 meeting of the Transportation Commission and asked for a motion for approval.
Motion: Commissioner JC Porter
Second: Commissioner Ryan Guzy

Decision: Approved by Commissioners:
Susan Conklu
Jeremy Browning
JC Porter
Paul Hubbell
David A. King (via phone)
John Kissinger
Ryan Guzy

Lloyd Thomas
John Federico
Peter Schelstraete
Cyndi Streid (via phone)
Pam Goronkin (via phone)
Brian Fellows
Shana Ellis (via phone)

Agenda Item 3 – FY 2019/20 Paid Media Plan
Lorrie Luckinbill and Stephanie Peterson with Zion & Zion along with TaiAnna Yee with the city of Tempe made a presentation about the 2019/20 paid media plan. Topics of the presentation included:

- Communication goals
- Target
- Media terms
- Current status
- New web users
- Paid media and effect on web use
- Budget
- Mediums
  - Out of home
  - Digital
  - Print
  - Video

Discussion included outreach to youth, Pandora statistics and cross promotions.

A motion was made for approval of the 2019/20 paid media plan.

Motion: Commissioner Susan Conklu
Second: Commissioner Lloyd Thomas

Decision: Approved by Commissioners:
Susan Conklu
Jeremy Browning
JC Porter
Paul Hubbell
David A. King (via phone)
John Kissinger
Ryan Guzy

Lloyd Thomas
John Federico
Peter Schelstraete
Cyndi Streid (via phone)
Pam Goronkin (via phone)
Brian Fellows
Shana Ellis (via phone)

Agenda Item 4 – 20-Minute City
Shea Lemar, Mehak Sachdeva, Max Courval, and Denise Capasso da Silva with Arizona State University along with Vanessa Spartan with the city of Tempe made a presentation about the 20-Minute City baseline assessment. Topics of the presentation included:
20-Minute City overview
Performance measure
Timeline
Baseline assessment
Data
- All-Street Networks
- Sidewalk Pedestrian Network
- All Street Bicycle Network
- Low-Stress Bicycle network
- Transit Network
Accessibility considerations

Discussion included shade, needs of bike and peds during different times of the year and methodology.

**Agenda Item 5 – Capital Improvements Project Update**
Shelly Seyler shared the Capital Improvements Project list and 10-year Transit fund budget. Topics of the presentation included:
- Transit Fund revenue and expenditures
- New projects
  - Vision Zero
  - Loop 202 & McClintock Feasibility Study
  - City Hall Restrooms and Parking
  - Broadway Road Revitalization Corridor
- Improvement projects
- Maintenance projects
- Multi-use paths
- Streetscapes

Discussion included the status of the bus shelter lighting, fund balance, recession impacts and council notification.

**Agenda Item 6 – Maricopa Association of Governments Design Assistance Grants**
Chase Walman and Vanessa Spartan made a presentation about three projects for the Commission to consider for Design Assistance Grants. Topics of the presentation included:
- Overview
- Projects under consideration
  - Priest Drive Bike and Pedestrian Improvements
  - Bikeshare/SATV System Evaluation
  - Urban Core Active Transportation Implementation Plan

A motion was made to allow staff to submit all three projects for grant funding with the preferred recommended order being:
- Bikeshare/SATV System Evaluation
- Urban Core Active Transportation Implementation Plan
- Priest Drive Bike and Pedestrian Improvements

**Motion:** Commissioner Susan Conklu
**Second:** Commissioner John Federico
Decision: Approved by Commissioners:

Susan Conklu  Lloyd Thomas
Jeremy Browning  John Federico
JC Porter  Peter Schelstraete
Paul Hubbell  Cyndi Streid (via phone)
David A. King (via phone)  Pam Goronkin (via phone)
John Kissinger  Brian Fellows
Ryan Guzy  Shana Ellis (via phone)

Agenda Item 7 – Department & Regional Transportation Updates
None

Agenda Item 8 - Future Agenda Items

- May 14
  - Bike Hero Award
  - Tempe/Mesa Streetcar Feasibility Study Update
  - Grand Canal Multi-use Path Update
  - Council Bike Safety Working Group – Bicycles, E-Bicycles, Human Powered and Non-Human Powered Vehicles, and Electric Personal Assistive Mobility Devices
- May 28
  - Climate Action Plan
- June 11
  - Transportation Overlay District
  - Speed Limits
  - DTA Update
  - I-10 Broadway Curve P3 Project Update
  - Alameda Drive Streetscape
- July 9
- August 13
  - Transit Security Update
  - Transportation Overlay District
  - Grand Canal Multi-use Path Project
  - Scooter Update
  - 3-Feet Bicycle Signage
- September 10
  - El Paso Multi-use Path Project
  - North/South Railroad Multi-use Path Project
  - McClintock Drive Project Update
  - Bus Shelter Design
- October 8
  - Annual Report
- November 12
  - Annual Report
  - Bus Shelter Design
- December 10
- January 14
  - Commission Business
- February 11
• March 10
• April 14
  o Paid Media Plan
• May 12
  o Bike Hero
  o Capital Improvements Project Update
  o MAG Design Assistance Grants

The next meeting is scheduled for May 14, 2019.

The meeting was adjourned at 9:29 a.m.

Prepared by: Sue Taaffe
Reviewed by: Shelly Seyler
DATE
May 14, 2019

SUBJECT
Tempe Bike Hero Award

PURPOSE
The purpose of this memo is to request that the Commission select a recipient for the city’s annual Bike Hero Award.

BACKGROUND
The purpose of the Tempe Bike Hero Award is to celebrate bicycling in Tempe, increase awareness of bicycling as an alternative mode of transportation, promote bicycling as an environmentally-friendly recreational activity and illustrate the dedication of Tempe residents and organizations to bicycling.

Award criteria include:
- Individuals who live or work in Tempe.
- Tempe-based organizations.
- Demonstration of how the nominee promotes bicycling in Tempe including listing his/her or the organization’s achievements and contributions to bicycling along with specific instances of bicycle advocacy. Contributions that could qualify for the award include, but aren’t limited to, the following:
  - demonstration of using a bicycle as a significant mode of transportation
  - consistent implementation of bike-friendly facilities at a business site
  - organization of bike events
  - bike-friendly elements in facility design
  - bike safety advocacy
  - youth involvement in bicycling
  - advocacy for bicycle-friendly roads

Nominees include:
1. Tim McKinstry
2. Dr. Carmen Bastek
3. Joel Terry
4. Jared Eisenhower
5. Gillian Gile
6. Steve Bass
7. Trisalyn Nelson
8. Kelly Nelson
Past winners include:
- JC Porter (2018)
- Broadmor Bobcats (2017)
- Bike Saviours (2016)
- Catherine Brubaker (2016)
- Eric and Rochelle Geryol (2015)
- Ryan and Jennifer Guzy (2014)
- Maja Wessels (2013)
- Patricia Berning (2012)
- Eric Iwersen (2011)
- Bicycle Cellar (2010)
- Sue Fassett (2009)
- Tempe Bicycle Action Group (2008)

The recipient will be presented with the award at a future Tempe City Council meeting.

**FISCAL IMPACT**
$125 for the award, which is budgeted in cost center 3916-6629.

**RECOMMENDATION**
Select a recipient for the 2019 bike hero award.

**CONTACT**
Sue Taaffe
Senior Management Assistant
480-350-8663
sue_taaffe@tempe.gov

**ATTACHMENTS**
Nominations
To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Timothy A McKinstry

Street Address: 4512 S. Kachina Dr.

City: Tempe State: AZ Zip Code: 85282

Phone: 480-209-9269 E-mail: timmckinstry@hotmail.com

The nominee (check all that apply):

[ ] Lives and/or works in Tempe
[ ] Lived and/or worked in Tempe at time of contribution
[ ] Is a Tempe based organization

Nominated by: (Self) Timothy A McKinstry

Street Address: 4512 S. Kachina Dr.

City: Tempe State: AZ Zip Code: 85282

Phone: 480-209-9269 E-mail: timmckinstry@hotmail.com

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
I am nominating myself for Bike Hero because I participate in several group rides in the city throughout the week. I attend cycling events in support of the participants. Papago Mtn bike race, IRON Man, Tour De Fat. I have served as ride leader for several “Loops” bike rides from the State Bicycle Rideshop in Tempe. I participate in TFR a weekly road bike ride starting in Tempe and riding to Camelback mountain on Friday mornings. I also attend TBL (The beginners Lane) a group ride leaving from Landis Cyclery in South Tempe. I join other riders from Tempe to ride in to Phoenix Thursdays to attend a weekly ride in Downtown Phoenix from Crescent Ballroom led by Heavy Pedal. I often hear people say “WOW you rode here from Tempe” I work Tuesday nights, but every time I have a Tuesday off I join the TIP ride (Tempe Inclusive Pedaling) I ride Tour De Tempe every year. I can only think of two years when I did NOT ride in Tour De Tempe; last year when I flew back East for my Fathers funeral and the year it was canceled 2012. I attend Tour De Fat every year and volunteer by serving beer or doing bike valet. I bike valet for various events during the year. I also shop local helping Tempe and local businesses (Landis on Southern, State Ride Shop on Apache an Bicycle Cellar at the Tempe Transit building). Please whoever is selected do NOT give it to a person who works for the city. Thanks, Tim
City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Timothy A McKinstry

Street Address: 4512 S. Kachina Dr.

City: Tempe State: AZ Zip Code: 85282

Phone: 480-209-9269 E-mail: timmckinstry@hotmail.com

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Dennis J Becker

Street Address: 

City: State: AZ Zip Code: 

Phone: E-mail: 

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
Tim is my Bike Hero because he participates in several group rides in the city throughout the week. He attends cycling events in support of the participants like Papago Mtn bike race, IRON Man, Tour De Fat. He has served as ride leader for several "Loops" bike rides from the State Bicycle Rideshop in Tempe. He participates in TFR a weekly road bike ride starting in Tempe and riding to Camelback mountain on Friday mornings. He is also a TBL (The beginners Lane) a group ride participant leaving from Landis Cyclery in South Tempe. HE joins other riders from Tempe to ride in to Phoenix Thursdays to attend a weekly ride in Downtown Phoenix from Crescent Ballroom led by Heavy Pedal. He normally works Tuesday nights, but every chance he gets he joins the TIP ride (Tempe Inclusive Pedaling) He rides Tour De Tempe every year. He only missed two of the last 20 years; last year when he flew back East for his Fathers funeral and the year it was canceled 2012. He attends Tour De Fat every year and volunteers by serving beer or bike valet. He bike valet for various events during the year. He also shops local helping Tempe and local businesses (Landis on Southern, State Ride Shop on Apache an Bicycle Cellar at the Tempe Transit building).
City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Joel Terry

Street Address: 1903 E. Velvet Dr.

City: Tempe State: AZ Zip Code: 85284

Phone: 480-329-0881 E-mail: mandenbar@gmail.com; joel.terry@asu.edu

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Tehrina Terry

Street Address: 1903 E. Velvet Dr.

City: Tempe State: AZ Zip Code: 85284

Phone: 928-308-1171 E-mail: tehrina@me.com

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
I'm nominating my husband, Joel Terry, for the Tempe Bike Hero Award. He is a total Bike Hero and very dedicated to bike commuting. We began bike commuting in April 2017 from our home in South Tempe 7.5 miles to work at ASU, and Joel has commuted to work every day since then whether it's triple digit heat or below freezing. When he occasionally has to go to the ASU Downtown campus for training, he finds a bike friendly route and continues to bike. Since beginning bike commuting for work, he has also incorporated it into his errands. He bikes to the library regularly, as well as quick trips to the grocery store. If he can find a bike trailer big enough, his next biking goal is his Costco trips!

When Joel first mentioned biking to work I was hesitant due to safety concerns. One Saturday evening I stayed up late reading about bike safety and the next morning I told Joel I would be open to bike commuting if we could find a safe route. Joel mapped a route out that day and we took a test ride to work. It was great, thanks to living in such a bike friendly community as Tempe. The next day was Monday and we drove to work for the last time. That evening after work we went to Landis Cyclery in Tempe and got bike lights for the front and back of our bikes, and we've bike commuted ever since. When I left ASU and we were looking for office space for me, being able to continue to bike commute was a priority, so when we first came to look at my space, Joel again mapped out a route along Tempe's many bike paths and found a safe route for me.

Joel also promotes bike safety by always wearing a helmet, a florescent reflective vest, daytime and nighttime bike lights, and following bike safety laws.

As a mental health counselor for the students at ASU, through his commitment to bike commuting, he is able to model a healthy lifestyle and promote the mind/body connection to overall health. Joel is also highly respected among his colleagues and so his biking to work has led to other colleagues biking occasionally as well.

Joel enjoys watching the odometer on our car very slowly creep up and always gives me updates. Just today he told me we've averaged 330 miles a month on our car over the past 12 months, and that is averaging in a road trip to Lake Arrowhead in August and getting married last April when we had to drive more due to having family in town. A typical month for us is about 150 miles. In this way, Joel is also reducing our carbon footprint and doing his part to reduce air pollutants in Tempe.

For all these reasons, and I'm sure many more I'm not even thinking of at this moment, Joel Terry is a Bike Hero.
City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Joel Terry

Street Address: 1903 E Velvet Drive

City: Tempe State: AZ Zip Code: 85284
Phone: 480-329-0881 E-mail: Mandenbar@gmail.com

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Lynda Weddle

Street Address: 2400 Renwick Avenue

City: Oklahoma City State: Ok Zip Code: 73128
Phone: 405-639-8849 E-mail: Dixiechicklv@sbcgloba

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Joel Terry

Street Address: 1903 E Velvet Dr

City: Tempe State: Az Zip Code: 85284

Phone: (480) 329-0881 E-mail: mandenbar@gmail.com

The nominee (check all that apply):

☑ Lives and/or works in Tempe

☐ Lived and/or worked in Tempe at time of contribution

☐ Is a Tempe based organization

Nominated by: Kit Halloff

Street Address: 1760 E Tyson St

City: Gilbert State: Az Zip Code: 85295

Phone: 480-559-9662 E-mail: kithalloff@gmail.com

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
City of Tempe  
Tempe Bike Hero Award Application

I'm nominating my friend, Joel Terry, for the Tempe Bike Hero Award. He is a total Bike Hero and very dedicated to bike commuting. He began bike commuting in April 2017 from his home in South Tempe 7.5 miles to work at ASU, and Joel has commuted to work every day since then whether it's triple digit heat or below freezing. When he occasionally has to go to the ASU Downtown campus for training, he finds a bike friendly route and continues to bike. Since beginning bike commuting for work, he has also incorporated it into his errands. He bikes to the library regularly, as well as quick trips to the grocery store. If he can find a bike trailer big enough, his next biking goal is his Costco trips! In the past, Joel has biked from his house in Tempe to my house in Gilbert.

Joel promotes bike safety by always wearing a helmet, a florescent reflective vest, daytime and nighttime bike lights, as well as following bike safety laws.

As a mental health counselor for the students at ASU, through his commitment to bike commuting, he is able to model a healthy lifestyle and promote the mind/body connection to overall health. Joel is also highly respected among his colleagues and so his biking to work has led to other colleagues biking occasionally as well.

For all these reasons, and I'm sure many more I'm not even thinking of at this moment, Joel Terry is a true Bike Hero.
City of Tempe  
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Joel Terry

Street Address: 1903 E. Velvet

City: Tempe
State: AZ
Zip Code: 85284

Phone: 480-329-0881 E-mail: mandenbar@gmail.com

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Art Blinick

Street Address: 3716 S. Grandview Ave.

City: Tempe
State: AZ
Zip Code: 85282

Phone: 480-244-9640 E-mail: alblinick@gmail.com

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
I nominate Joel Terry for Tempe's Bike Hero Award. Joel personifies someone who demonstrates devotion to cycling and models cycling as a primary mode of transportation. Joel is a manager at the ASU Student Counseling Services and has ridden his bike to work both at ASU Tempe and ASU Downtown, for two years, through cold rain, sweltering heat, and vicious monsoons, without driving his car once to work. He demonstrates to others, how to make use of bike-friendly facilities at work, and models how to make cycling to work doable. He also models for other counselors, how to integrate the meditative, mindfulness aspects of cycling into clinical practice and how counselors can use it as part of self-care, which is so important in that profession. Joel's quiet leadership serves as a role model for others to take up cycling for its many benefits.
bsiler@att.net  
Tue 4/30/2019 8:56 PM  
You

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Joel Terry

Street Address: 1903 E. Velvet Dr.

City: Tempe State: AZ Zip Code: 85264

Phone: 480-329-0881 E-mail: ?

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Barbara Siler

Street Address: 2212 Boston Blvd

City: Lansing State: MI Zip Code: 48910

Phone: 517-449-6898 E-mail: bsiler@att.net
City of Tempe
Tempe Bike Hero Award Application

I would like to submit the name Joel Terry for the 2019 Bike Hero award.

Joel is my niece's husband and he has been riding his bike to work at ASU since April of 2017. That is the only method of transportation he has used to get to work whether he was needing to be at either campus.

He is a dedicated cyclist for environmental and health reasons and drew to it that my niece Tehrina was well informed about these options for the betterment of self and community.

He makes it possible for her to also ride her bike to work by planning safe routes and keeping her bicycle in good condition and the tires properly inflated.

Thank you for considering Joel for Bike Hero

Submitted by
Barbara Siler
To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Jared Eisenhower

Street Address: 3700 S. Cottonwood Dr.

City: Tempe State: AZ Zip Code: 85282

Phone: 602-803-0490 E-mail: jared.m.eisenhower@gmail.com

The nominee (check all that apply):

☑ Lives and/or works in Tempe
☑ Lived and/or worked in Tempe at time of contribution
☑ Is a Tempe based organization

Nominated by: Simon Holzapfel

Street Address: 2346 E. Pecan Rd.

City: Phoenix State: AZ Zip Code: 85040

Phone: 423-329-3038 E-mail: simon.holzapfel@gmail.com

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
Dear Award Selection Committee,

Jared Eisenhower does at least 85% of his trips by bike. He lives near Southern Ave. and the 101 and he works at 2343 W Medtronic Way, Tempe, AZ 85281. This means his commute cuts all the way across Tempe from East to West. He does his 7.5 mi (one way) commute by bike every day which means that he commutes 75 mi each week by bike. In addition to that, he likes to make detours across Southmountain where he likes to ride his bike on the trails and he will ride on the Western Canal on his way home from Southmountain. He also rides every weekend by joining group road rides or by riding his mountain bike with buddies. I also ride with him on weekends and we discovered that the Rio Salado riverbed path now goes all the way from Alma School Rd. in Mesa to at least Central Ave. in Phoenix. This path serves as scenic and safe connection between us that is also good for some tempo work (i.e., intervals). Jared also completes his trips to the grocery store at Southern Ave. and McClintock Dr. by bicycle with a big backpack strapped to his back. All together, Jared rides between 150 and 200 mi every week.

In 2010, Jared was hit by a car while riding his bike near Tempe Market Place. He sustained a traumatic brain injury and was in the hospital for several weeks, followed by several months of outpatient therapy. He says it has permanently changed him and he has never quite been the same. It took him almost one year to start riding his bicycle again and needless to say he was very anxious in the beginning. However, his biking prowess returned and I first met him in October of 2013 at one of the hardest and fastest group rides in Scottsdale. His resilience and love for biking certainly make him my bike hero. In 2015, Jared and I completed our first Ironman together at Ironman Arizona in Tempe.

Jared has also participated in volunteer work to promote biking. The Chances for Children Triathlon was an afterschool program designed to teach kids that fitness is fun and to help them learn healthy habits. Jared volunteered for the triathlon and also helped build a custom storage area for the bikes used in the program. In 2017, Jared, myself, and another friend also participated in a Townhall meeting in Tempe regarding the bike lanes on McClintock drive in order to advocate for save biking routes for cyclists.

Thank you for considering Jared Eisenhower for the Tempe Bike Hero Award.

Sincerely,
Simon Holzapfel
To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Gillian Gile

Street Address: 125 E. Vista Del Cerro Drive
City: Tempe State: AZ Zip Code: 85224
Phone: 480-809-7337 E-mail: ggile@asu.edu

The nominee (check all that apply):
☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Kristín Ólafs

Street Address: 2970 W. Comstock Drive
City: Chandler State: AZ Zip Code: 85224
Phone: 602-509-7888 E-mail: kristin.olafs@asu.edu

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
For several years my husband and I have noticed Gillian Gile picking up her kid from KidZone at Broadmor Elementary where our son goes. We travel the same road down College from ASU to Broadmor and we have noticed her while cycling as well as during pickup at Broadmor when we arrive at a similar time. Something about her made us think about her when I heard the advertisement about nominating a bike hero, deciding that she was a worthy candidate.

Gillian's bike is hitched to a two-seat trailer where her kids can be secured during their trips. I think we noticed her because she always has a smile on her face and her kids seem to enjoy riding together very much. I also thought what a clever and sustainable idea it was to be able to bike around the neighborhood with your kids in tow.

We do not know Gillian and did not formally meet her until earlier this month when I (Kristin) introduced myself to her to learn more about her sustainable transportation for the family.

I found out from our talk that Gillian has been biking her kids to daycare/school every day since August 2015. At first it was both of them to Bright Horizons over on Rural & Terrace. Now, her youngest goes to preschool on the ASU Tempe campus and the oldest is at Broadmor.

Gillian is not the only biker in the family as her husband bikes their son to school in the morning while she picks up both their boys with the bike trailer. In addition to transfers to and from school, the family bikes to the library and around the neighborhood. The family was unfortunate enough to have their car stolen in December and were without a car for 3 weeks. They did not let that misfortune affect them and utilized the bike and the trailer for grocery shopping.

Gillian cares about sustainability and her bike choice is a logical one for her family and much more economical. “The real heroes are the ones who bike even though it takes longer than driving”.

Gillian is an assistant professor at ASU with the School of Life Science. By commuting from home to her kids' schools and to her work, Gillian not only utilizes an environmentally friendly transportation option but also creates a fun experience for her family. We believe she is a worthy candidate for a Bike Hero in Tempe.
City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Dr Carmen Bastek

Street Address: 128 W Cottage Ln

City: Tempe State: AZ Zip Code: 85282

Phone: 4809674721 E-mail: carmenbastek@msn.com

The nominee (check all that apply):
- [ ] Lives and/or works in Tempe
- [ ] Lived and/or worked in Tempe at time of contribution
- [ ] Is a Tempe based organization

Nominated by: Fairly Dickinson

Street Address: 18 W Cottage Ln

City: Tempe State: AZ Zip Code: 85282

Phone: 4808941424 E-mail: fairlyd@cox.net

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
Dr Carmen Bastek is a person who is passionate about bicycles! Weather permitting, Carmen rides her bicycle to work most days of the week even if we are having over 100-degree weather. She is a highly recognized Tempe veterinarian totally devoted to her job and the care of her patients yet despite difficult days in surgery or very long periods of work beginning before 6 or 7 AM, she is seen coming and going on our little street riding her bicycle to and from her office.

Evenings after hours of work at her clinic, Carmen's travels to local restaurants and establishments is also on one of her bicycles. On her days off, Carmen will be seen working on her bicycles within her garage.

Not only does Carmen utilize her bikes as transportation but also for recreation. Most weekends, she and her wife are on the hills around Phoenix Metro or within and without Arizona dirt biking for fun and exercise.

In the fourteen years that we have been neighbors with Carmen Bastek, she is typically seen on a bicycle and not in a four-wheel vehicle. This is a person who deserves recognition for not only being a good community member, but for being a great human being and caring enough about our environment and world to be a bicycle HERO!
Steve Bass lives in Tempe and lived in Tempe while he biked to work to his work in Mesa. His e-mail is steve.bass@mesacc.edu

My name is Jaime H. Herrera; I teach at MCC. My e-mail is jaime.herrera@mesacc.edu
I live in Mesa at 2603 S. Playa. Mesa, Az 85202.

Steve Bass retired last year from teaching Geology at Mesa Community College, where he taught for over twenty years. His focus in his classes, to his students, to the college community, and to the larger community was always about sustainability and about lessening one's footprint. But he did not just talk the talk, he walked the walk (or biked it). He rode his bike to school everyday for the majority of his career at MCC, and he even rode cross country one time to help raise awareness for sustainability. And just like a mail carrier, there was not a day he did not ride. He encouraged others to ride, both with his word and through his actions. In great part because of him and his example, I now ride to work a couple of times a week, and I often think of Steve as I meander my way from home to campus and back again. He is an excellent example of a Bike hero to me. Thank you. Jaime H. Herrera Mesa Community College
City of Tempe  
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: Dr. Trisalyn Nelson

Street Address: 975 S Myrtle Ave

City: Tempe  State: AZ  Zip Code: 85281

Phone: 480-727-5996  E-mail: trisalyn.nelson@asu.edu

The nominee (check all that apply):

☐ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: Aryn Musgrave

Street Address: 1826 W Goldfinch Way

City: Chandler  State: AZ  Zip Code: 85286

Phone: 480-965-9759  E-mail: aryn.musgrave@asu.edu

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
City of Tempe
Tempe Bike Hero Award Application

Dr. Trisalyn Nelson is an exceptional bicycle advocate in Tempe and her efforts to promote bicycle safety span worldwide. As the Director of the School of Geographical Sciences and Urban Planning at Arizona State University, Trisalyn sets a great example for the department faculty, students, and staff by riding her bike to work and encouraging others to ride their bikes as well. She inspires everyone with her endeavors to make bicycling safer and more accessible.

Trisalyn also organizes community events intended to promote bicycling as a form of transportation and recreational activity. In 2018, she hosted a luncheon to gather information from stakeholders about how they envision the future of bicycling in urban centers. It was an opportunity to reflect and share how the bicycle culture in Tempe has evolved and to discuss what needs to be done to keep bicyclists safe and happy in the future. Professionals, community members and bicycling advocates from across Arizona participated and intend to meet again on an annual basis to discuss how they can contribute to make their cities and organizations more bike-friendly.

While she is deeply committed to community-based efforts, her advocacy for bicycle safety reaches far beyond the boundaries of ASU and Tempe. Trisalyn is the founder of the website BikeMaps.org, which collects and analyzes data about bicycle safety from around the world. BikeMaps.org collects crowd-sourced data to track where bicycle crashes, thefts, and other incidents occur. Since 2014, more than 40 countries have contributed data to the website. By mapping the most dangerous spots, she hopes that planning officials can prioritize safety-related infrastructure upgrades. BikeMaps.org is also a great resource for citizens, allowing them to identify and potentially avoid hazardous areas along their preferred routes.

Trisalyn is an exemplary model for how we can all become more engaged in our community, by using bicycling as alternative transportation and increasing public awareness of the need for bicycle-friendly roads and other safety initiatives.
ASU School director recognized for research on bicycling safety

September 6, 2018

The Association of Pedestrian and Bicycle Professionals (APBP) announced the winners of its annual awards program to honor excellence in the profession. Among those being honored is Trisalyn Nelson, Foundation Professor and director of the School of Geographical Sciences and Urban Planning, who is being named the Research Professional of the Year.

“Dr. Nelson’s research contributing to improving bicycling safety data and methods to map bicycle ridership stand out in the field,” said the APBP in its announcement of the award. "Her BikeMaps.org project to capture crowdsourced and official bicycling safety data allows professionals to characterize conditions in which crashes versus near misses are reported and the development of safety predictors along multi-use pathways will have a long-lasting impact on our profession."

Trisalyn Nelson founded BikeMaps.org in 2014 after a near miss she experienced while riding her bike in Victoria, British Columbia.

Nelson founded BikeMaps.org in 2014 after a near miss she experienced while riding her bike. Following that incident, Nelson combined her GIS expertise and enthusiasm for biking to create a platform to collect crowdsourced data to identify where crashes, near misses, hazards and bike thefts were taking place. Today, data is being submitted from more than 40 countries.

This data is used to inform local governments of where there are areas of safety concerns. Nelson and her BikeMaps.org team recently worked with the city of Tempe to highlight the 12 most dangerous spots for cyclists.

Her research can also be seen on the ASU campus. Nelson, in collaboration with ASU Parking and Transit Services, installed two bike counters on the Tempe campus in January of this year. These counters collect real-time data that can help inform researchers and ASU officials of the amount of biking taking place on ASU’s Tempe campus.
“It is an honor to be recognized for research that I am so passionate about,” said Nelson. “BikeMaps.org is generating data that is helping planners make better decisions globally. This award recognizes the success of the entire BikeMaps.org team.”

Nelson will be recognized as the Research Professional of the Year at the APBP’s annual meeting in New Orleans later this month.

https://asunow.asu.edu/20180906-asu-school-director-recognized-research-bicycling-safety

* Excerpt from the announcement from the Association of Pedestrian & Bicycle Professionals of Dr. Trisalyn Nelson receiving the APBP Research Professional of the Year award in 2018.

Association of Pedestrian & Bicycle Professionals Announces 2018 Annual Award Winners

Monday, September 10, 2018
Posted by: Melanie Bowzer

“The Association of Pedestrian & Bicycle Professionals (APBP) announces the winners of its annual awards program to honor excellence in the profession. Three Professional of the Year awards and the 2018 Lifetime Achievement Award will be presented at the APBP annual meeting at Walk/Bike/Places in New Orleans, Louisiana on September 16, 2018.

The APBP Professional of the Year Awards recognize the achievements of pedestrian and bicycle professionals made in the last twelve months in the private and nonprofit sector and one young professional under the age of 30.

Dr. Trisalyn Nelson, Director and Professor at Arizona State University, receives the APBP Research Professional of the Year award. Dr. Nelson’s research contributing to improving bicycling safety data and methods to map bicycle ridership stand out in the field this year. Her project to capture crowdsourced and official bicycling safety data, www.BikeMaps.org, allows professionals to characterize conditions in which crashes versus near misses are reported, and development of safety predictors along multi-use pathways will have a long-lasting impact on our profession.”

City of Tempe
Tempe Bike Hero Award Application

To nominate a person or organization for the 2019 Tempe Bike Hero Award, please complete this form and provide the information requested below. If you wish to nominate more than one person/organization, please complete a form for each individual/organization that you wish to nominate.

I am nominating the following person/organization for the Tempe Bike Hero Award:

Name of Person/Organization Nominated: KELLY NELSON

Street Address: 3710 SOUTH WILSON STREET

City: TEMPE State: AZ Zip Code: 85282

Phone: (602) 402-7259 E-mail: KELLY.NELSON@ASU.EDU

The nominee (check all that apply):

☑ Lives and/or works in Tempe
☐ Lived and/or worked in Tempe at time of contribution
☐ Is a Tempe based organization

Nominated by: ROBERT MOORE

Street Address: 507 EAST DEL RIO DRIVE

City: TEMPE State: AZ Zip Code: 85282

Phone: (480) 709-2710 E-mail: RMOORE@ACCESSGEOGRAPHIC.COM

Describe on the next page why this person or organization should receive this award. Up to three additional supplemental pages are permitted. Supplements can include photos, newspaper articles, flyers or recommendations. Nominations will not be returned.
I am really honored to nominate Kelly Nelson for the 2019 Tempe Bike Hero Award. Not only is she a personal inspiration of mine but her dedication and creative spirit towards encouraging ‘biking culture’ within our community is highly commendable and worthy of this award.

It is difficult to describe Kelly Nelson without reference to a bicycle. It would be out of place for her to arrive at any meeting or event without a bike helmet on her head. It is more or less a signature fashion point, and she wears it proudly.

Impressively, Kelly has been making this visual statement consistently for some time, as she has strategically not owned a car for the past TWO DECADES. Following graduate school and accepting an instructor job at ASU, she opted to begin a long-term experiment of living life without a car - which was pretty brave for a New York transplant considering our Summers. Moreover, she had her bike stolen once on campus and again on Mill, which made her a regular customer at Domenic’s bike shop, but did not deter her mission. And, from this experience, not only has Kelly personally explored the realities and challenges of using a bike as a primary source of transportation, but has also helped others, including me, realize that if she can do it - maybe they can too.

Along the same lines, Kelly Nelson stays active with local events, activities and projects to help Tempe grow as a bike friendly community. Kelly helped coordinate Tempe’s first ‘Bike to Art Tour’ in 2017 and has participated in every Tempe bike count (until it was discontinued this year). She uses her community representation on the Tempe Municipal Arts Commission to make sure bicycle culture was effectively represented within public art initiatives and has participated in various transportation and public works projects with an eye on encouraging better integration of bike friendly elements.

On a literary level, Kelly has also contributed to bike positive awareness through her own projects. She is a contributing writer for Carusters Alternative Transportation Journal and created a regular series called “No-Car Oscar” that ranked Oscar nominated movies for the positive incorporation of biking culture and alternative transportation into their cinematic narrative and visualization. Needless to say, ‘Wolf of Wall Street’ didn’t fare very well, while movies such as ‘American Hustle’ was recognized for its use of alternative forms of transportation. She also penned 10 book reviews with an emphasis on biking culture including “Joyride: Pedaling Toward a Healthier Planet” (Mia Birk, 2010), “On Bicycles: 50 Ways the New Bike Culture Can Change Your Life” (Amy Walker, 2011), and “Bicycle: A Repair and Maintenance Manifesto” (Sam Tracy, 2013).

On a personal note, I have known Kelly Nelson for almost ten years now and her dedication to biking has had a direct impact on my awareness and decision-making when it comes to alternative transportation. Kelly’s passion and leadership has inspired me to use biking for daily trips to the grocery store and post office. More recently, I started longer bike rides across the Valley exceeding 30 miles, which for many experienced bikers might not seem like much, but for me it is a new frontier and again have Kelly to thank for the inspiration.

Overall, it is people like Kelly Nelson that dedicate themselves to biking, work to make Tempe a more bike friendly community, and use creativity to spread bike culture awareness while inspiring everyday people, like me, to expand their biking horizons. For these reasons, I sincerely recommend Kelly Nelson for the 2019 Tempe Bike Hero Award and appreciate the opportunity to share her story as my community bike hero!
Tempe Bike to Art Tour
MEMORANDUM
TRANSPORTATION COMMISSION

STAFF REPORT

AGENDA ITEM 4

DATE
May 14, 2019

SUBJECT
Council Bike Safety Working Group – Bicycles, E-Bicycles, Human Powered and Non-Human Powered Vehicles, and Electric Personal Assistive Mobility Devices

PURPOSE
The purpose of this memo and PowerPoint is to provide the Transportation Commission with an update on the status and recommendations of the Council Bike Safety Working Group.

BACKGROUND INFORMATION
On August 2, 2018, the Council formed a working group to examine Tempe’s rules of the road for bicycles and determine if any changes should be made to Tempe City Code to make the roads in Tempe safer for bicyclists. As the group formed and began to meet, the focus expanded to include a review of the ordinance language as it related to bicycles, e-bicycles, human powered vehicles and non-human powered vehicles as well as electric personal assistive mobility devices.

The working group found that over time, ordinance language had been added to Chapter 7 and Chapter 19 of the Tempe City Code addressing various vehicle types. The goal of the working group was to address the influx of dockless bikes and scooters on Tempe’s streets and update the ordinance language related to users.

Recommendations from the working group:
The following summarize the recommendations of the working group:

1. Eliminate Chapter 7, which addresses bicycles and light motorized vehicles from the Tempe City Code in order to combine with Chapter 19.

2. Expand and revise Chapter 19, which currently addresses motor vehicles and traffic to include the following areas.
   - Pedestrians and Human Powered Vehicles
   - Bicycles, E-Bicycles, and Non-Human Powered Vehicles
   - Electric Personal Assistive Mobility Devices

3. The working group also recommended that the definitions section of Chapter 19 be expanded to include Human Powered Vehicles and Non-Human Powered Vehicles as follows:
**Human Powered Vehicles** means movement accomplished or propelled by human power, such as walking, running, or by any vehicle or device which is designed and equipped to be propelled by human power, without any assistance by a motor or power unit. (e.g. bicycle, roller skates, skateboard)

**Non-Human Powered Vehicles** means movement accomplished or propelled by anything other than human power, such as electric, gas, or other combustion. This includes electric skateboards or item related to vehicles that do not meet the state’s definition of vehicles requiring registration.

1. A motorized Skateboard
2. An Electric Scooter
3. A Light Motorized Vehicle

4. The working group recommended identifying areas in the proposed Chapter 19 that would ensure a safe experience for all road users. Some highlights from those changes include:
   - Proposed changes to the city code include:
     - Bicycles, e-bikes and scooters are allowed on sidewalks only when there are no bike lanes and the speed limit is greater than 25 mph.
       - Bicycles, e-bikes and scooters must use a bike lane when a bike lane exists,
       - Bicycles, e-bikes and scooters must ride in the street when the speed limit is 25 mph or less, and
       - Bicycles, e-bikes and scooters must ride with the flow of traffic at all times.
     - In the situations that bicycles, e-bikes and scooters are allowed on sidewalks, they must:
       - Yield the right-of-way to any pedestrian,
       - Must slow down to 5 mph, and
       - Give an audible signal before passing.
     - Riders of non-human powered vehicles and bicycles are required to yield to motor vehicles upon entering a roadway or crosswalk when leaving a sidewalk.
     - Riders must be over the age of 16 to operate all non-human powered vehicles (scooters and other electric mobility devices).
     - Riders under the age of 18 are required to wear a helmet if operating a human powered or non-human powered vehicle.
     - No person operating a human powered or non-human powered vehicle shall operate in an unsafe manner so as to infringe upon the safety of themselves or the safety of other persons or property.

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<th></th>
<th>Bicycles</th>
<th>E-Bicycles</th>
<th>Non-Human Powered (Scooters)</th>
<th>Electric Personal Assistive Mobility Device (Segways)</th>
<th>Human Powered</th>
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<td>Same rights as vehicles</td>
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<td>Must have a helmet if under 18</td>
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<td>Must be 16 or older to operate</td>
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<td>Lamps (front &amp; back)</td>
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1. Given all rights and responsibilities of a bicycle
2. Where there is no bike lane and the speed limit is greater than 25mph
3. Must have motor disengaged
4. Can’t exceed 20mph
5. Must yield prior to entering
6. Must yield to pedestrians and EPAMD
7. Must Ride with the flow of traffic
8. Must have front light and rear reflector

STAKEHOLDER/PUBLIC OUTREACH
Throughout the process, the Working Group met numerous times to develop the modifications to the City Code.

- A public meeting was held on April 10, 2019 to get feedback from the public regarding the draft language.
- Online public comment was available from April 3-21, 2019.
- 111 survey responses were received with most respondents being Tempe residents (Attachment 2).
- The working group meet with stakeholders from ASU to address safe bicycle and scooter riding in Tempe.

The Tempe Transportation Commission provided feedback at their April 9, 2019 meeting. At that time, Commissioners expressed the following comments:

- Concerns about requirement of bicycles to yield prior to entering roadway/crosswalks.
- Concern regarding 20mph speed on multi-use paths (too high).
- Users should be allowed the opportunity to correct items prior to receiving fine, i.e. – bike helmet, lights (define in code).
- Helmets should be required for operators under the age of 18 to operate an Electric Personal Assistive Mobility Device or Human Powered Vehicle.

On April 29, working group members were provided with the public feedback to evaluate. Based on the working group conversation, members expanded the requirement for operators to wear helmets under the age of 18 when operating an Electric Personal Assistive Mobility Device or Human Powered Vehicle. Members did not decide to make any additional changes to the proposed ordinance for the following reasons:

- Current Tempe code provides bicyclists with all the rights and responsibilities of a motor vehicle and requires that any person operating a bicycle on a sidewalk who is about to enter or cross a roadway shall yield the right-of-way to all traffic on such roadway. Changing this requirement would put all the responsibility on the driver to judge the situation and yield no matter what speed a bicyclist chooses to enter the roadway. This coupled with bicycle crash data lead the group to determine the best way to create the safest environment is to have shared responsibility amongst all users.
- This speed limit is restricted to multi-use paths. These paths are wider than sidewalks and the most appropriate place to ride mobility devices at a higher speed.
- Fines and penalties associated with violations of the proposed code will be determined by the Courts.

NEXT STEPS
- May 16, 2019 – Work Study Session
- June 6, 2019 – First Public Hearing
- June 27, 2019 – Second Public Hearing
If approved by the City Council on May 16, the changes to the Tempe City Code will be brought forward for the City Council’s consideration at an upcoming Regular Council Meeting for consideration by way of an Ordinance.

FISCAL IMPACT
As included in the recommended supplemental budget, Tempe Police Department Traffic Bureau is requesting to add two Motor Officers and Motorcycles. These positions will add to the existing 3 Motor Sergeants and 12 solo Motor Officers in the Traffic Bureau. These positions will assist the community and multimodal safety efforts by conducting proactive traffic enforcement and collision investigations which will allow roadways to clear quicker thereby reducing the possibility of secondary collisions. It is estimated there are up to 2,500 – 3,000 scooters available for rental daily.

RECOMMENDATION
None.

CONTACT
Shelly Seyler
Deputy Engineering and Transportation Director
480-350-8854
Shelly_seyler@tempe.gov

ATTACHMENTS
PowerPoint
Public Comments
Micromobility Working Group

Bicycles, E-Bicycles, Human Powered and Non-Human Powered Vehicles and Electric Personal Assistive Mobility Devices

(Formerly known as Bicycle Safety Working Group)

Transportation Commission
May 14, 2019

Tempe
1. Eliminate Chapter 7, which addresses bicycles and light motorized vehicles from code in order to combine with Chapter 19

2. Expand and revise Chapter 19, which currently addresses motor vehicles and traffic to include the following areas:
   - Pedestrians and Human Powered Vehicles
   - Bicycles, E-Bicycles, and Non-Human Powered Vehicles
   - Electric Personal Assistive Mobility Devices
New Definitions – Human and Non-Human Powered Vehicles

Human Powered Vehicles

*Human-powered means* movement accomplished or propelled by human power, such as walking, running, or by any vehicle or device which is designed and equipped to be propelled by human power, without any assistance by a motor or power unit. (e.g. bicycle, roller skates, skateboard)

Non-Human Powered Vehicles

*Non-Human-powered means* movement accomplished or propelled by anything other than human power, such as electric, gas, or other combustion. This includes electric skateboards or item related to vehicles that do not meet the state’s definition of vehicles requiring registration.

a) A motorized Skateboard.
b) An Electric Scooter
c) A Light Motorized Vehicle
Bicycles

- Given all the rights and responsibilities of a vehicle (ARS)*
- Allowed on sidewalks where no bike lanes exist and speed limit is greater than 25 mph
  - Must ride with the flow of traffic*
  - Must yield to pedestrians and electric personal assistive mobility devices*
- Allowed in bike lanes*
- Allowed in crosswalks*
  - Must yield prior to entering the roadway*
- Allowed on multi-use paths*
- Must wear a helmet if under the age of 18*
- Nighttime equipment (ARS)
  - Must have front light and rear reflector (ARS)

* No change to existing ordinance proposed
Electric-Bicycles

- Given all the rights and responsibilities of a bicycle rider (ARS)*
- Allowed on sidewalks where no bike lanes exist and speed limit is greater than 25 mph
  - Must ride with the flow of traffic*
  - Must have motor disengaged*
  - Must yield to pedestrians and electric personal assistive mobility devices*
- Allowed in bike lanes*
- Allowed in crosswalks*
  - Must yield prior to entering the roadway*
- Allowed on multi-use paths*
  - Cannot exceed 20mph*
  - Must yield to pedestrians*
- Must be over the age of 16 to operate*
- Must wear a helmet if under the age of 18*
- Nighttime equipment*
  - Must have Lamps (front and back)*

* No change to existing ordinance proposed
Non-Human Powered Vehicles (scooters)

- Given all the rights and responsibilities of a bicycle
- Allowed on sidewalks where no bike lanes exist and speed limit is greater than 25 mph
  - Must ride with the flow of traffic
  - Must yield to pedestrians
- Allowed in bike lanes
- Allowed in crosswalks
  - Must yield prior to entering the roadway
- Allowed on multi-use paths
  - Cannot exceed 20mph
  - Must yield to pedestrians
- Must be over the age of 16 to operate
- Must wear a helmet if under the age of 18
- Nighttime equipment
  - Must have Lamps (front and back)
Given all the rights and responsibilities of a pedestrian (ARS)*

- Considered a mobility device
- Allowed on sidewalks*
- Allowed in bike lanes*
- Allowed in crosswalks*
- Allowed on multi-use paths*
- Must be over the age of 16 to operate (ARS)
- Must wear a helmet if under the age of 18
- Nighttime equipment *
  - Must have front light and rear reflector*

* No change to existing ordinance proposed
Human Powered Devices

• Given all the rights and responsibilities of a pedestrian
• Allowed on sidewalks
• Allowed in crosswalks
• Allowed on multi-use paths
• Must wear a helmet if under the age of 18
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<td>X</td>
</tr>
<tr>
<td>Allowed on multi-use paths</td>
<td>X</td>
<td>X4 6</td>
<td>X4 6</td>
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<tr>
<td>Lamps (front &amp; back)</td>
<td>X8</td>
<td>X</td>
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<td>X8</td>
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</tbody>
</table>

1. Given all rights and responsibilities of a bicycle
2. Where there is no bike lane and the speed limit is greater than 25mph
3. Must have motor disengaged
4. Can’t exceed 20mph
5. Must yield prior to entering
6. Must yield to pedestrians and EPAMD
7. Must Ride with the flow of traffic
8. Must have front light and rear reflector
Bicycles and scooters should be allowed on sidewalks where there is NO bike lane and the speed limit is greater than 25 MPH?

<table>
<thead>
<tr>
<th>Opinion</th>
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<th>Count</th>
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</thead>
<tbody>
<tr>
<td>Agree</td>
<td>41.4%</td>
<td>46</td>
</tr>
<tr>
<td>Somewhat agree</td>
<td>18.0%</td>
<td>20</td>
</tr>
<tr>
<td>Neutral</td>
<td>4.5%</td>
<td>5</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>7.2%</td>
<td>8</td>
</tr>
<tr>
<td>Disagree</td>
<td>28.8%</td>
<td>32</td>
</tr>
</tbody>
</table>
Survey Results

Bicycles and scooters should always ride in a bike lane when one is provided, regardless of the speed limit.

<table>
<thead>
<tr>
<th></th>
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<th>Count</th>
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<tr>
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<tr>
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<td>11</td>
</tr>
<tr>
<td>Disagree</td>
<td>23.4%</td>
<td>26</td>
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</tbody>
</table>
In general, how do you feel about designating sidewalks for pedestrians ONLY in areas with a speed limit of 25 MPH and under?

<table>
<thead>
<tr>
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<tr>
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<td>9.1%</td>
<td>10</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>8.2%</td>
<td>9</td>
</tr>
<tr>
<td>Disagree</td>
<td>20.0%</td>
<td>22</td>
</tr>
</tbody>
</table>
Scooters and other non-human powered mobility devices should have the same rights and regulations as bicycles?

<table>
<thead>
<tr>
<th>Opinion</th>
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<tbody>
<tr>
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<td>Somewhat disagree</td>
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</tr>
<tr>
<td>Disagree</td>
<td>19.1%</td>
<td>21</td>
</tr>
</tbody>
</table>
Process

- April 3, 2019 – April 21, 2019 - Tempe Forum activated for public comment
- April 9, 2019 - Transportation Commission Meeting
- April 10, 2019 - Public Meeting
- May 14, 2019 - Transportation Commission Meeting
- May 16, 2019 – Work Study Session
- June 6, 2019 – First Public Hearing
- June 27, 2019 – Second Public Hearing
- Education Campaign Planning with ASU and licensed SATV companies over the summer.
OVERVIEW

Feedback was collected about a proposed amendment to the Tempe City Code Chapter 19 – Motor Vehicles and Multimodal Traffic.

A public meeting was held on April 10, 2019 with 25 attendees signing in and the topic was posted from April 3 - 21 on Tempe Forum. A total of 111 unduplicated survey responses were received, 6 at the public meeting and 105 on Tempe Forum.

MAP OF TEMPE SURVEY RESPONDENTS
SURVEY RESULTS

The chart below was provided for additional context.

<table>
<thead>
<tr>
<th>Bicycles</th>
<th>E-Bicycles</th>
<th>Non-Human Powered (Scooters)</th>
<th>Electric Personal Assistive Mobility Device (Segways)</th>
<th>Human Powered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same rights as vehicles</td>
<td>X</td>
<td>X</td>
<td>X*</td>
<td></td>
</tr>
<tr>
<td>Allowed on sidewalks</td>
<td>X***</td>
<td>X***</td>
<td>X***</td>
<td>X</td>
</tr>
<tr>
<td>Allowed in bike lanes</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Allowed in crosswalks</td>
<td>X*</td>
<td>X*</td>
<td>X*</td>
<td>X</td>
</tr>
<tr>
<td>Must have a helmet if under 18</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Must be 16 or older to operate</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Allowed on multi-use paths</td>
<td>X</td>
<td>X**</td>
<td>X**</td>
<td>X</td>
</tr>
<tr>
<td>Lamps (front &amp; back)</td>
<td>X*</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

*Same rights as bicycles
*Must have motor disengaged
*Where there is no bike lane and the speed limit is greater than 25mph
*Can’t exceed 20mph

1. Bicycles and scooters should be allowed on sidewalks where there is NO bike lane and the speed limit is greater than 25 MPH?

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</tr>
<tr>
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<td>28.8%</td>
<td>32</td>
</tr>
</tbody>
</table>

Please explain:

Agree

1. Or at all times regardless of speed limit.
2. Moving with traffic (same direction) and giving right of way to pedestrians.
3. Agree totally. Not all cyclists and scooter riders are comfortable along side faster moving traffic. Even the best cyclists may have times when they’re tired, sore back,sick, don’t have their glasses, etc. and don’t feel up to cycling at top speed or next to traffic. Sometimes cyclists are next to pedestrians they’re talking to and because of physical issues feel more comfortable shifting to a low gear and staying with the pedestrians rather than dismounting.
4. Scooters and bikes should be in the bike lane when possible. If they don’t feel safe they should be on a sidewalk. They should also be prepared to yield to pedestrians or other slower moving vehicles. Be polite!

5. Bicycles and scooters that can’t go faster than 25 MPH should be allowed on sidewalks when there isn’t a bike lane because it’s dangerous for people who ride bikes and scooters to be on the road in car lanes with drivers driving faster than 25 MPH and it may frustrate drivers to have to drive slower for people riding bikes and scooters leading to drivers trying to go around these people and either killing them or causing accidents with other cars.

6. The streets without sidewalks, such as McClintock and Rural, are death traps otherwise. They’re borderline criminally dangerous for cars too.

7. People riding bikes are not safe on Tempe’s roads where cars go above 20 mph. Roads are wide, people driving go too fast and are not considerate and often aggressive to people riding their bikes -- even children.

8. Bicyclists are very vulnerable on shared road space. Without a bike lane bicyclists and operating in a lane with cars traveling at 25 mph there is no margin for error and bikers are even more vulnerable. Allowing bikers to use sidewalks in this scenario enables them to make sound judgements about their safety as needed.

9. Riding in the street can be an extremely dangerous proposition â€“ as anyone who’s ridden a bike on Broadway or Southern can tell you â€“ so riders should have the option to take the sidewalk if they judge it to be the safer course, provides of course that pedestrians are given proper space/notification at passing/etc.

10. Agree with the understanding that scooters should alert cyclists upon approaching due to the speed (15 mph) at which they can travel.

11. When it is unsafe to operate your bicycle on the roadway, bikes are often harassed by motorists, including police. Let us use whatever means to be safe.

12. Despite signs and rules cars do not let the bike use the whole lane. Fast traffic is scary and dangerous on a bike with out a bike lane.

13. Many people do not feel safe riding in the road when the speed limit is that high.

14. Even as a confident and experienced cyclist there are simply some parts of Tempe where I am terrified to say on the road (e.g. parts of Broadway with no bike lanes) DESPITE knowing that riding on the sidewalk is more dangerous. I do not agree with bundling bicycles and scooters together in this question.

15. It would be better if there were a bike lane.

16. Unfortunately, due to the number of distracted motorists and aggressive drivers exceeding the speed limit, the only safe zone for human powered vehicles is protected bike lanes or curbs. A line painted on the side of the road with speeding and distracted drivers is not sufficient.
17. It’s dangerous being in the road, the amount of people I’ve seen get hit/almost hit on a bike is ridiculous. I have been hit once even!
18. Even where there is a bike lane, I still almost get hit by cars for not staying in their lane. Cars drive aggressively if they see a bike in the far right lane.
19. As there is no other safe option for riding and there is a chronic speeding problem by motorists in Tempe with little enforcement making it unsafe to ride these on the road.
20. Riding in anything but a car on a high-speed road is terrifying and dangerous. I don’t trust vehicles to be safe around a scooter or a bike taking a lane.
21. When there is no bike line and the speed limit is greater than 25 mph, it is actually quite unsafe for bicycles to be on the road with traditional motor vehicles (cars, motorcycles, etc). Perhaps we should start introducing e-scooter lanes or something, in addition to traditional bike lanes...but if there is no bike lane, anything that can’t go over 25 mph should be on the sidewalk, for safety. Additionally, even e-scooters can slow down for pedestrians and maintain lower speeds easier than cars can, so the sidewalk is where they should be in this case!
22. If there is no bike lane, cyclists and other pedestrians deserve the right to feel safe regardless of their mode of transportation. Unless the City of Tempe plans to have the police man power to ticket all motorists not obeying the law and endangering life, this should be the law.
23. It’s a balance of dangers here. There should be a speed limit for these scooters and bikes, however. I suggest 10 mph.
24. When the sidewalks were installed and widened many years ago, they were made wide enough for both pedestrians and bicycles. They are still wide enough for both.
25. Most roads like Baseline are not bike friendly and there is not enough room for a car and bike.
26. Cars are the real threat to human life, not bicycles and scooters. No cyclist/scooterist should be forced to share the road with deadly cars at unsafe speeds.
27. Most destinations (library, grocery stores, restaurants, employers) are located along streets with speed limits greater than 25 mph and no bike lane. Allowing bicycles and scooters to utilize the sidewalk in such settings permits the user to evaluate their skill level and select an appropriate path. A maximum speed limit for bicycles and scooters on sidewalks is recommended.
28. There is no other option than to agree with this question. It is unsafe for people to operate bikes and scooters in vehicle traffic where cars are going 20mph to 35mph faster than the people riding scooters/bikes.
29. Roads without bike lanes are very dangerous to bikers. Even some roads with bike lanes are in such poor condition, it makes them dangerous. Price Rd both directions is a good example.
30. It is my understanding that this is the way the current regulations read. There is only a restriction from riding on the sidewalk where it is posted prohibited.  
31. Tempe roads, even with dedicated bike lanes, are excessively dangerous for cyclists. I have been swiped by inattentive drivers too many times and I fear being run over by an inattentive or murderous driver. Any law that assumes that drivers prioritize the well-being of cyclists over their commute time is naive. I take alleyways and sidewalks whenever possible not for convenience but because I fear for my general health.

**Somewhat Agree**
1. Any street with a speed limit over 25 should have a bike lane, preferably a protected one, so it’s hard to answer this question. The premise behind it is flawed.
2. But travelling at the speed of a pedestrian
3. You are more statistically likely to be hit on the sidewalk as a cyclist, and sidewalk riding creates safety issues for pedestrians. Our policies should reflect that truth. However, I don’t want to discourage bicycle use and if allowing sidewalk riding is what makes the difference then it can be okay in some cases, for example when the sidewalk is wide enough to constitute as a multi-use path. However this doesn’t reach the core of the matter.. that we need to provide more and better infrastructure as well as education, especially to motorists.
4. They should always give way to pedestrians and keep speeds under 10 MPH
5. depends on width of sidewalk and whether riders go in the same direction as vehicular traffic
6. I agree but think that pedestrians (on foot) should have the right of way (preference). Pedestrian safety is key.
7. If any e-powered device is allowed on the sidewalk with pedestrians, the sidewalk should be a certain width and have a barrier between the sidewalk and flowing traffic. If not, signage should be posted requiring e-devices be walked on the narrow sidewalk without barriers. Reference the 600 E block of McKellips Rd.
8. If motorized vehicle speed limits were enforced, I would take the lane on roads 35 mph or lower speed limits. If there are no bike lanes, there should be sharrows and signs indicating that bikes may take the lane on any non-freeway road.
9. On most streets where the speed limit is above 25 it is safer for bicycles to ride on the sidewalks. That being said ... it is also true that automobile drivers do not always see bicycles entering the roadway at intersections and thus making it more dangerous for the cyclists. Bicycle riders must be vigilant to ensure their own safety. Bike lanes in the streets are safer because the automobile drivers can more easily be aware of the presence of the bicyclists.
10. For safety reasons I'm open to allowing this with reservations. Some electric powered scooters are being driven in a reckless manner: too fast, weaving around people, multiple riders, underage riders. I believe that parents and/or drivers should be ticketed for unsafe driving. Also, drivers with multiple infractions should lose the right to rent. I do have reservations about the safety of some of the small wheeled scooters which looks to me like a accident waiting to happen with the speeds they are traveling and the roughness of our streets and sidewalks.

11. I do not think scooters should be allowed on the sidewalks in any case since they are a motorized vehicle.

12. As someone who spends a lot of time as both a cyclist and a pedestrian, I can understand riding on the sidewalk when there is no bike lane, but cyclists need to understand that they are a hazard to pedestrians.

13. They should be allowed under these circumstances, but subject to sidewalk appropriate speed limits and be required to ride in the same direction as traffic on the streets.

14. While it is a better solution for those who are less comfortable biking, the best answer is to add more bike lanes as much as practically possible. Riding on the sidewalk can also be dangerous with cars as they don't expect to see a bike there or it's not where you would naturally be looking while turning.

15. It should be a last resort but appropriate when bike lanes are not available or the road is very high speed and unsafe.

Neutral

1. Riding bicycles on the sidewalk is not safe above walking speeds. However, if the speed limit on the road is high, many people will not feel safe, riding on the road, and some may not be capable of riding on the road. For this reason people should be given many safe options of how and where to ride.

2. Having them on sidewalks is hard with pedestrians around. However, cars need to understand that bikes are allowed in the street even if no bike lane and need to provide 3 feet of space.

3. Human powered transportation should be allowed on sidewalks -- not motorized vehicles.

Somewhat Disagree

1. Only if the sidewalk has no hidden entry points, the scooter rider isn't wearing headphones, and both pedestrians and scooter riders can see each other from at least 30 feet away. Otherwise the scooters go too fast and are too dangerous. Inexperienced riders with inattentive pedestrians (i.e. pedestrians glued to their phones) are a recipe for disaster.
2. Most sidewalks are not wide enough to accommodate foot and bike/scooter traffic.
3. There should be a speed limit if used on a sidewalk, perhaps 5 mph.
4. Please prioritize getting all of these vehicles to travel on the correct direction with traffic. I'd prefer that the law be consistent regardless of bike lane availability, but riders NEED to wear helmets and travel WITH traffic every time. “Salmoning” is widespread and very dangerous to everyone.
5. Many of our sidewalks can't accommodate bikes and pedestrians, as is.
6. We live off of Rural Road and Southern where there are no bike lanes and no plans to have bike lanes. The bikers and scooter riders who use the sidewalks are a safety nightmare. They ride on the wrong side of the road for the flow of traffic, making it incredibly dangerous for everyone. I would rather that they just shared the road, as that would stop most of the wrong way riders. If they are allowed on the sidewalks, I would like to see greater enforcement for wrong way riding.
7. Bicycles and scooters move faster than pedestrians and this can cause user conflict and/or harm to cyclists, scooter users, or pedestrians.
8. Sometimes you really don't have a choice other than to be on the sidewalk for a while, but ultimately, biking on the sidewalk is much more dangerous because of cars pulling out of driveways. Salmoning (going the opposite direction of traffic) on the sidewalk should NEVER be allowed. And I really don't think scooters ever belong on the sidewalk either.

Disagree

1. Bicycles and scooters are not the same. Sidewalks don’t have speed limits. Enforcement will be an issue.
2. Scooters are inherently danger to public safety if they are on sidewalks.
3. They should be allowed on all sidewalks, regardless of the speed limit or presence of a bike lane.
4. The more you take bicycles off the road, the more motorist won't be used to seeing them! CYCLISTS RIDE ON THE ROADS LIKE VEHICLES! That is our right! BIKES DO NOT BELONG ON SIDEWALKS! Try riding your bike on the sidewalk, and tell me how many times cars pull out too far and hit you! Cars won't see a cyclist going 10mph on a sidewalk!
5. In many circumstances in Tempe, riding on the roadway puts a cyclist at greater risk compared with riding on the sidewalk. This risk is dependent on the rider’s abilities and on infrastructure specifics. Children, for example, often due not appreciate the danger associated with motor vehicles. Those who are learning to ride a bicycle, or who have not developed mastery of operation of the bicycle, may not be capable of riding in a straight line or in a predictable way to motorists, and would be safer themselves and for motorists to be on the sidewalk. This applies to roads with a speed limit of 25 mph or less as well.
as to roads with bike lanes, especially arterials and collector streets during high traffic use times. An example is University Drive east and west of Rural Road which has bike lanes, but traffic volume is often heavy. The bike lane is not protected, thereby resulting in unsafe riding conditions in the bike lane for all but highly competent riders. In many instances, and at the discretion of the bicyclist, the sidewalk may be a safer alternative than the roadway.

6. Please stop scooters from parking on sidewalks!!! No riding of motorized scooters allowed on sidewalks, not ever. Bikes ok if they follow the rules and respect people walking on sidewalk. People walking/jogging or disabled should have right of way on sidewalks.

7. Bicycles and scooters travel much faster than pedestrians. They come up from behind pedestrians with enough speed (and no warning) that the pedestrian (or their dog) might step aside and get injured by the bicycle or scooter. Where I came from, there were no bike lanes. Bicyclists learned to follow the rules of the road. When they drive on the sidewalk, they don’t come the rules of the road. Also, when they are on the sidewalk, they are traveling much faster than a pedestrian. I have been making a right hand turn, looked in my mirror to make sure no one was coming, but because the scooter was faster backand towards the far right portion on the sidewalk and traveling fast enough that they were coming from much farther back than a pedestrian, I did not see them. They should be in the bike lanes or in the side of the street traveling with the rules of the road. The world make them more visible to drivers. As a pedestrian, I feel that my safety is jeopardized by bicycles and scooters on the sidewalk.

8. Anything motorized (other than a wheelchair when used appropriately) is considered a vehicle. Because it is a vehicle, it is subject to some vehicle laws, including DUI. A motorized vehicle belongs in the street, especially when it can travel at 35 mph. Sidewalks should be for pedestrians, or disability equipment and not for fast-moving vehicles.

9. Sidewalks are intended for pedestrians going at pedestrian speeds. Putting other, higher speed and heavier, forms of transportation on the sidewalk makes it more dangerous for pedestrians, especially the elderly or disabled. Research indicates that cycling on the sidewalk is more dangerous for cyclists, as they become invisible to motorists and are more likely to experience intersection-related accidents as they come off sidewalks or at cross streets, especially if wrong-way riding. I believe these same risks apply to scooter riders, but even more so, do the smaller wheels, higher speeds, and their vertical stance that makes them look much more like a pedestrian. In addition, sidewalks have poles and other obstructions, and the crosswalks and curb cuts are not created for bicycle entering/exiting. Making sidewalks safe for bicycles would require a substantial investment in relocating obstructions, poles, and changing unsafe crosswalk or curb cut areas. These areas were designed for pedestrian safety, not bicycles. There are limited circumstances in which being
on a sidewalk can be safer for a cyclist when no bike lane exists (such as on narrow bridges or areas with long stretches of road uninterrupted by other roads or driveways). Save for the few bridges (such as on McClintock, and over the highways), there are few, if any, areas that meet this qualification in Tempe. If bicycles use sidewalks in these circumstances, it should be safety and speed limitations such as those mentioned below and wrong-way riding should be prohibited for cyclist and pedestrian safety. The issue of non-human powered transportation, such as e-scooters, needs to be separated from bicycles, as they have very different needs and safety issues. Most cyclists cannot ride at maximum speeds for an entire trip. It takes skill, training, and balance to ride at full speed. After stopping, cyclists must slowly build up speed. Any e-scooter rider could reach the maximum speed of the vehicle and can quickly accelerate, with no skill, training, or control. These capabilities are absolutely incompatible with pedestrians. If the city decides to allow bicycles or scooters on sidewalks, the speed limit of 20 MPH is much too high. Sidewalks are for pedestrians. If bicyclists or scooter riders are allowed to ride on sidewalks, then they must ride at speeds safe for a pedestrian. For example, the fastest pedestrians (joggers/runners) on a sidewalk move at about 6 to 8 MPH. Your average walker only moves at about 3 MPH. All other forms of transportation should be limited to this maximum pedestrian user speed or they need to use the roadway. Bird scooters can have speed limitations set using geo-fencing or absolute limits within Tempe. Personal owners of an e-scooter can manage their own speed using speedometers on their phone utilizing a hands-free mount or using speedometers intended for bicycles. Exceeding jogger speeds should constitute unsafe driving on the sidewalk and be explicitly included in the policy as part of the unsafe/reckless limitation if they are allowed on the sidewalk. The safety of cyclists or e-scooter riders should not be prioritized over the safety needs of pedestrians. There is no other space for pedestrians to use for travel other than the sidewalks. Adding faster and heavier modes of transportation to the sidewalk makes pedestrians less safe. A fair balance needs to be struck between the safety of these other commuters and pedestrians. Making the sidewalk less safe for pedestrians to add cyclists or scooter riders, who are actually safer in the street, is a poor balance of these needs. I agree that the major roads without bike lanes can be dangerous for cyclists and commuters on non-human powered machines. However, the solution to that is the implementation of safe bike lanes, bike routes, increased safety at intersections, and education campaigns (for drivers, cyclists, and other commuters). There are many cities around the country and around the world that have successful examples of bike safety infrastructure and education campaigns (see also Priority Pyramids for commuters). I think looking to these outstanding examples could help Tempe address concerns regarding commuter safety to find real solutions, not stop-gap measures that make all non-car users less safe. The overall goal is to decrease car usage and
increase other methods of commuting. Pitting non-car users against each other undermines this goal. For an excellent review of issues and outline of (and links to) some research from the Missouri Bicycle & Pedestrian Federation and Cornell University, please see the following:

10. Scooters and bicyclists can and do meet and exceed (notwithstanding published claims to the contrary) speeds of 15 mph (scooters) and 20 mph (bicycles routinely, oftentimes on sidewalks. Both are found as often as not traveling against as opposed to with traffic. Both kinds of operators are often using cellphones, and operate "hands free" (bi) one hand (scooters). Bicyclists as often as not wear dark colors and have no front or rear lights and ignore hand signals. Cyclists In the downtown and "character 3" area a bike or scooter can appear out of nowhere. Scooters in particular have low profiles and are obscured by landscaping. Pedestrians frequently have no escape route from approaching bikes and scooters and should not be forced to yield to them even when they can step off the sidewalk. There is a reason we call them sidewalks not scooter paths or bike ways.

11. This puts the pedestrian in arms way.

12. I believe it violates good principles of designing a walkable city to permit o

13. Who designed this survey? Bicycles are allowed on sidewalks. Motorized vehicles are not. The survey question misleads respondents about the real issue, motorized vehicles on sidewalks. It is purposely designed to get responses that the staff and council members wanted and is shameful.

14. The only problem is the cars on the road intimidate bicyclists that use the road when their is no bike lane.

15. I’m fine with it

16. Bicycles and scooters are usually too fast for sidewalks. In any case, they need to move _with_ the direction of the traffic, that is, ON THE RIGHT SIDE OF THE ROAD. Riding on the sidewalk dilutes this requirement and is a bad idea.

17. Bicycles and scooters are not the same thing--bicycles are not motorized. Also, sidewalks don’t have speed limits. Enforcement will also be an issue. I don’t think we have enough traffic officers to enforce the speed limits and traffic direction violations.

18. Bikes and scooters on the sidewalk show little care for the pedestrians walking or cars stopped at signs. If they’re going to act like they are on the road they should drive on the road where people expect them to be.

19. I do not believe that is safe for pedestrians

20. We already have enough idiots riding bicycles the wrong way on sidewalks and blowing right through stop signs. They don’t need further validation.

21. It leaves no safe area for pedestrians. Especially for those of us walking with small children or pets.

22. Motorized vehicles are unsafe for pedestrians, especially at high speeds
23. Get rid of the damned scooters!
24. Bicycles and scooters on sidewalks is inherently dangerous and should not be allowed. Vehicle pull out beyond the frontage zone and into the pedestrian zone before pulling out into traffic. Also cars are not expecting vehicles going that speed in the pedestrian zone and neither are other pedestrians.
25. Sidewalks are for pedestrians and individuals using wheelchairs (electric or human powered) NOT bikes and scooters. Tempe and other cities have a long way to go to foster respectful driving (and make sure motorists know the rights of cyclists) and create safe bike lanes on more roads, but the law stipulates that cyclists obey the same rules of the road as cars and may use an entire lane. Given this allowance, there is no need for cyclists and scooter riders to occupy a pedestrian zone.
26. Sidewalks should only be for pedestrians. Separate infrastructure for bicycles should be created.
27. It’s not clear to my why scooters, which are likely to be going faster than bicycles, are grouped with them here. It’s also not clear to me why the presumption is scooters should be legal at all (especially without helmet laws), which is the clear premise of this question.
28. At this time, I have been appalled that bicycles, E-scooters, skateboards, and other wheeled transportation devices are used without concern for pedestrians. It is dangerous for pedestrian and riders alike if certain “rules of the road” are ignored or not respected at ALL times.
29. Bike should be allowed, but scooters go too fast for sidewalks.
30. A bicycle is classified as a vehicle and should be treated as such. Bicycles can move at greater than walking speeds and sidewalks can be removed from the road by several yards creating a hazard when the bicycle is approaching an intersection.
31. I have to disagree. Scooters and bicycles should not be lumped together. E-scooters are motorized. Pedestrians walk at about 3 miles an hour, and are the most vulnerable. The e-scooter will be allowed to travel at about 7 times that speed. If there are no bike lanes, e-scooters should be limited to to no more than 6 mph...twice the speed of a walking pedestrian. Allowing the e-scooters to travel at 7 times the speed of a walking pedestrian will be deadly. A professional two-hundred pound running back can’t even run at a rate of 20 mph. Imagine a child on the sidewalk getting blindsided by a professional football running back going full speed, but worse. That’s the possibility the City is creating. If the City is serious about safety being the #1 priority and it’s Vision 0 plan, then prove it.

2. Bicycles and scooters should always ride in a bike lane when one is provided, regardless of the speed limit.
**Agree**

1. Strongly agree!
2. Doesn’t matter how fast a car is going… 20mph, 25mph, 49mph… If a car hits you whole rising your bike, the cars wins regardless of speed limit! SPEED LIMIT IS NOT A FACTOR IN CYCLISTS RISING ON THE ROAD AS THEY HAVE A RIGHT TOO!
3. Why is pedestrian safety a lower priority at all? Why are we even asking this question? Fast moving transport devices belong on the road. They should follow the rules of the road and take some responsibility for they’re own safety.
4. I believe bicycles and scooters should use the bike lane for the same reasons discussed above. I believe exceptions should be considered for younger children on bicycles (under age 9-10). More research or information from an expert should be solicited on this subject, but I do not believe most children of this age are safe riding in the road due to their smaller size (and reduced visibility), physical skill and strength limitations, and their level of cognitive development. Children with more experience cycling may be fine, but children overall should have the option to ride on the sidewalk, especially on the major roads over 25 mph. I do not believe these exceptions should be blanket considered for children riding non-human powered transportation, such as personal e-scooters. Due to the power of an e-scooter and the possible max speeds, the scooters could cause major injury to pedestrians.
5. Pedestrians walk on sidewalks, bikes and scooters are “vehicles” and belong on the roadway.
6. Education of motorists should accompany changes in the laws.
7. As long as the bike lane is wide enough and in good shape.
8. Even with bike lanes, sometimes they are too small or full of pot holes and the best option is the sidewalk. Ideally the bike lanes are wide enough or protected.
9. Scooter riders must follow traffic laws as well as the bicycles. Scooter riders should also be required to wear a helmet as should bicycle riders.
10. It’s safest for everyone.
11. If a bike lane is available, scooters and bikes need to stay in it, for the safety of pedestrians. Dockless scooters should not be allowed to block the sidewalk. I think any scooters left blocking the sidewalk should be impounded or fined, just like cars.
12. It’s a motorized device and it should be on the street.
13. That’s what a bike lane is for. The city really needs to start requiring biking licenses.
14. If there is a safe bike lane then yes. As of yet there is none, buses block bike lanes all the time making it extremely unsafe to use the lanes.
15. Sidewalks should be designated for pedestrian traffic only.
16. Get rid of the damned scooters!
17. They should have to follow the laws of vehicles. They ride on the sidewalk, going the wrong way and fly through pedestrians. I have almost been hit a few time and almost hit a few scooter riders when driving due to their irresponsible driving.
18. It is safer for them on the road. When they are on the sidewalks, it’s much harder to see them when entering a road or making a turn. Especially if they are riding in the wrong direction, which happens frequently. There should be stronger enforcement of people who ride the wrong way in bike lanes.
19. Keeping bicycles and scooters in a bike lane keeps like traffic together, making sidewalks and streets safer for everyone, particularly in light of braking speeds and traditional velocity.
20. Bike lanes are not just for the safety of bike/scooter riders. They should be used to reduce risk to pedestrians on sidewalks and to make auto drivers more aware of their presence at intersections.
21. Share the road.
22. The lane is there for a reason.
23. Yes, obviously. Why is this even a question on the survey-- if Safety is the #1 priority and Vision 0 are truly important to the City.
24. I agree, but we STILL need to educate motorists on staying out of the bike lane. University has a bike lane but I refuse to use it because people drive so carelessly on University. I just take a different and often longer route.

Somewhat Agree

1. Both arrive in the flow with the flow. I have ridden my bike on bike lane and scooters have passed on the opposite flow.
2. Bicycles and scooters are not the same thing.
3. Provided the bike lane is well maintained and clear. Bike lanes need to be in both directions on a road. Riding in a bike lane going against traffic should be illegal.
4. Unless there is debris and or construction and chaos in bike lane.
5. The bike lane is always the safest place for people riding bikes. But if a person is moving slowly, they should have the option of using the sidewalk as well if the conditions warrant it.
6. That assumes the bike lane is properly designed and maintained. When a bike lane is too avant-garde to be practical (e.g. Hardy) or full of debris, it’s easy to understand why some users avoid it.
7. Bike lanes should be wider and made safer.
8. Always an exception somewhere.
9. I believe this depends on the Bike lane infrastructure.
10. I tend to agree with this statement; however protected bike lanes would be preferred in high speed zones.
11. In general bicycles and scooters should be kept off sidewalks as a principle of safety for both pedestrians and cyclists. We should not allow, or in the very least highly discourage sidewalk riding, but in order to do so, we need to provide the appropriate infrastructure. Cambridge just passed a law to add protected bike lanes when reconstructing roads.
13. Oftentimes there is debris on the side of the road (that’s where it goes after street sweepers run the roadway, or as cars run over garbage, gravel, etc). Sometimes it is unsafe to use the bike lane.
14. Making left turns across major streets is not viable for bikes, They may need to use the sidewalk for the last leg in order to reach the destination.
15. I agree but think that this choice should be the rider’s, based on the rider’s sense of safety/condition of bike lane.
16. Riding in a bike lane is preferable to riding on the sidewalk, but occasionally something like a left turn or debris or parked cars in the bike lane will require a cyclist to take a road lane. That should be allowed for.
17. Only if barriers or driver-alert are in place so drivers are alerted if they veer out of their lane.
18. This will help reduce injuries with pedestrians and other crashes with variables that are on sidewalks.
19. This is part of a larger problem with bike lanes placed on major roads instead of alternative low stress routes. Bikes should have safe alternatives to these busy roads so that youth and families with children on bikes (or in bike trailer) can safely travel through the city on bike.
20. Cars still use the bike lane as a turning lane, where they start to merge right into the bike path cutting off or almost hitting the biker.
21. The default should be ride only in the bike lane, with very little exceptions.
22. Depending on the experience of the rider, it may be best for them to stay on the sidewalk. From a driver perspective, I think scooters and their riders are unpredictable enough that they should stay on the sidewalk.
23. Agree, with the caveat that cyclists (who have the same rights as vehicles) may safely merge across lanes in order to occupy and use a protected left or right turn lane.

24. Although a bike lane is preferred over a sidewalk for cyclists, I believe the real issue to be that scooter users prove to be reckless and take no regard for either pedestrians or cyclists when using the sidewalks and/or bike lane. Additionally, motorists in the City of Tempe often treat the bike, without any type of protection, as an additional lane to be used causing dangerous conditions for cyclists resulting in the sidewalk being a safer option.

25. Adult cyclists and scooter users should use the bike lane whenever there is one available.

26. Some bike lanes are not honored by motorists, e.g. parts of McClintock. This poses dangers for non-car travel.

27. If there are absolutely no pedestrians on a sidewalk, and no possibility of them there, it would be OK.

28. Agreed if the bicycle lane is continuous (no intersection breaks) and consistently meets minimum width requirements.

29. Language that restricts bicycle usage to a narrow strip of pavement may limit some potential users from using alternative transportation methods. The wording is too restrictive, what if a bicyclists needs to make a left turn or merge to avoid road hazards or debris. Police already over enforce or misinterpret the state AFRAP regulation putting bicyclists in a potentially hazardous situation.

Neutral

1. When there is a large bike lane that is safe and available for bicycles and scooters they should be riding in the bike lane and not on the sidewalk. There should be more enforcement of this because there are many times where pedestrians on the sidewalk are forced to move out of the way of fast bikes and scooters, which can cause accidents. On roads with higher speed limits there should be protected bike lanes though so people riding bikes and scooters feel safe as well.

2. Traffic and safety should be a consideration.

Somewhat Disagree

1. There are times when it is safer for a bike to be on the sidewalk, even when a bike lane is available. For example, today on College Ave - A designated bike route for the city - I kept having to avoid a lost Uber/Lift driver who kept using the bike lane to try and find where he should be going. He never came to a complete stop but I had to slow down/speed up to avoid being hit by the driver. Eventually, I ended up moving to the sidewalk to eliminate the risk from
the driver. Also - there are portions of the road where the paved surface and the curbing are not level which makes it dangerous for a bike who might get their tire stuck on the lip of the paved surface, causing an accident. When too risky I will move to a sidewalk. I think it would be better if it were written so when a sidewalk and a bike lane are both available the pedestrians (on foot) have the right away over bikes. Bikes/scooters should be expected to stop and walk through a crowd of people if they choose to not use the available bike lane.

2. Arizona drivers are scary. If they don't feel safe, don't force them to be next to SUVs going 50 mph on a 30 mph road

3. If traffic is busy and I don't feel safe in a bike lane, I, on a non-motorized bicycle/scooter, should be allowed on the sidewalk. Not motorized, though.

4. Not in Tempe, especially south Tempe. Cars speed, treating arterials like freeways and are uneducated on how vulnerable it feels to have speeding cars go by you. Drivers are unaware of the 3 feet rule. The bike lanes are too narrow.

5. This should only apply if the speed limit is 35 mph and below and it is ENFORCED so that motorized vehicle traffic does not exceed 35 mph. Speed delta kills. Tempe roads are full of aggressive speeding drivers.

6. Bicycles and scooters are not the same thing. Not all the same rules should apply to both.

7. Not always the most practical especially if it's later at night.

8. Sometimes a cyclist must take shelter from the road if the traffic is too dangerous to ridden in. Non motorized travelers face very different realities on the road including death. An accident with a motor vehicle has a very good chance of serious injury or death that a motorized user doesn't face in a motor vehicle - non motor vehicle accident.

Disagree

1. To be safe you need to be as far away from traffic as you can.

2. Not every type of rider or user is comfortable riding in the streets. Also, conditions vary on all streets at different times, so some people may choose to use the sidewalk at certain times.

3. Our bike lanes are not safe, in my opinion.

4. As noted above, there are times cyclists prefer to be on the sidewalk. Sometimes it’s to bike slow and talk to their friends. Sometimes it’s because of physical issues they don’t want to be next to traffic. Sometimes it’s because of confidence. For example I bike often but easily tire. I don't want to be mandated to be in the bike lane on hills, eg., on Mill between Broadway and Apache, on McClintock between Broadway and Apache, on ___ by Papago Park, n Rural heading up into a Scottsdale from the 202.
5. In many circumstances in Tempe, riding on the roadway puts a cyclist at greater risk compared with riding on the sidewalk. This risk is dependent on the rider's abilities and on infrastructure specifics. Children, for example, often due not appreciate the danger associated with motor vehicles. Those who are learning to ride a bicycle, or who have not developed mastery of operation of the bicycle, may not be capable of riding in a straight line or in a predictable way to motorists, and would be safer themselves and for motorists to be on the sidewalk. This applies to roads with a speed limit of 25 mph or less as well as to roads with bike lanes, especially arterials and collector streets during high traffic use times. An example is University Drive east and west of Rural Road which has bike lanes, but traffic volume is often heavy. The bike lane is not protected, thereby resulting in unsafe riding conditions in the bike lane for all but highly competent riders. In many instances, and at the discretion of the bicyclist, the sidewalk may be a safer alternative than the roadway.

6. Most of our sidewalks aren't used. Many people first get into biking by biking on the sidewalk. They're understandably fearful of side mirrors, loose chains on construction vehicles, errant spray nozzles on pesticide trucks. No need to penalize somebody. Also, children don't have the confidence to bike or use scooters in bike lanes. However on Rural approaching University--heading north from Apache--will become a problem area again once scooters are allowed back. I was pushed into traffic--while biking--from scooters coming against traffic on the sidewalk. They weave in and out of people. And for various reasons the riders are often even afraid to move to the side for elderly citizens and those in wheelchairs. I was on the sidewalk then... I moved from the street because there is no bike lane. Busy areas should probably have signs, like speed limit signs, telling bikers and scooter riders what to do.

7. People riding bikes are not safe on Tempe's roads where cars go above 20 mph. Unless the bike lane is protected, it's not safe.

8. I suspect you asked the wrong question. I suspect you meant to ask -- Should bikes/scooters be PROHIBITED FROM the sidewalk when there is a BL available? but I will answer what you asked: STRONGLY disagree because...There are a myriad of reasons why a bicyclist might not be using a BL -- to prepare to turn left, debris, garbage/recycle bins, when next to parked vehicles (unexpected door opening), safety/visibility bicyclists are more visible to other road users this is defensive driving, thus avoiding the most common crashes (turning and crossing path conflicts). Tempe has some sub-standard width bike lanes that are not wide enough to safely use; tempe also indulges in fake bike lanes in some places (edge lines that appear to be bike lane stripes). As a result, when bicycling I often leave a BL and use another through lane on the roadway. Other bicyclists when confronted with these conditions on a road with BLs will choose to use the sidewalk.

9. While I am a big proponent of using the bike lane when provided, I have had occasion to use the sidewalk when the roads are particularly congested and
drivers are driving aggressively. This generally occurs during rush hour when drivers want to get home and seem to be particularly distracted with texting while driving. Because bikers are vulnerable users they should have the option to make the decision re. safety.

10. Sometimes the safest way to arrive at a destination/leave a starting point or travel certain sections of road is the sidewalk. This can especially be true at night. Discretion should be allowed. The biggest key to safety is education around how to ride safely.

11. It is not always inherently safe to ride in the bike lane. Often there may be obstructions, glass, parked cars, other hazards. Therefore, cyclists need as much flexibility in order to choose the SAFEST position on the road, which, sadly is not always the bike lane. I do not agree with bundling bicycles and scooters together in this question.

12. Safer sometimes to go sidewalk

13. I find most bike lanes too narrow, too rough, too dirty, or otherwise unacceptable. Door Zone Bike Lanes are particularly objectionable, and should be used by NO ONE.

14. Only if you provide physical barriers between traffic and bikes. I ride my bike 23 miles daily and have been nearly hit several times in the bike lane by cars and trucks drifting into my lane.

15. Anything that might suppress ridership is something I’d disagree with. I’m a bike commuter and am very comfortable biking on streets with sharrows and bike lanes, but even I sometimes use sidewalks instead of a bike lane for short distances on 45 mph streets.

16. Bicycle lane should be for bicycles. They already have to compete with cars. These motorized scooters are a menace.

17. Again, why are scooters being protected from scrutiny by being placed in these questions with bicycles?

18. Automobile drivers do not pay attention to the bicycle lanes. I rarely see cyclists using the lanes either. I see them being used for turn lanes more often than as a bicycle lane. Bicycles and scooters should be moved to the sidewalks and return the bicycles lanes to auto lanes. Since adding the lanes to McClintock drive, traffic has been awful! Bicycles still use the sidewalks and cars use the lanes as turn lanes.

19. It is not safe to ride in a bike lane next to high speed traffic (40MPH or faster) without a barrier.

20. The presence of a bike lane does not guarantee the survival of a cyclist/scooterist. We should be less focused on punishing cyclists/scooterists for avoiding deadly cars and more focused on making sufficient safe space in roads AND intersections for cyclists/scooterists to feel safe off of the sidewalk.

21. As a confident bike rider, I am not comfortable slowly riding a ‘cruiser’ bike in a bike lane along our city’s major arterials. For Arterials, as a general rule, if I’m biking about 10mph or less, I ride on the sidewalk. If I am riding 15mph or
more, I ride in the bike lane. I do not allow my kids (8,10,12) to ride in the bike lanes on roads with speed limits above 35mph. In the situations where my kids are riding on the sidewalk, I ride on the sidewalk with them I would never ride an e-scooter in an arterial street unbuffered bike lane.

22. I have been a car free bike commuter in Tempe for nearly 9 years. When I first started bike commuting I was pretty uncomfortable on a bike and did not ride very fast. It took me about two years to become comfortable enough to ride on the road in a bike lane. After two years I bought a road bike which allowed me to ride around town much faster and now I ride exclusively in bike lanes, on the road, or on canal paths. I don’t think I would have ever started riding my bike beyond the ASU campus if I had to ride on the road.

23. Even some roads with bike lanes are in such poor condition, it makes them dangerous. Price Rd both directions is a good example.

24. Contemporary bike lanes in Tempe are exceptionally dangerous! High visibility paint will not protect a cyclist from neglectful and inattentive drivers. Bike lanes need to be physically protected or the sidewalk will always be safer.

3. In general, how do you feel about designating sidewalks for pedestrians ONLY in areas with a speed limit of 25 MPH and under?

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Please explain:

Agree

1. No speed limits on sidewalks. Enforcement issues.
2. Absolutely! Must be done for public safety.
3. Sidewalks are for pedestrians only, regardless of speed limit!!!
4. Sidewalks should always be pedestrians only. Pedestrians have a right to feel safe when they are using the sidewalk no matter what the spread limit is.
5. I think that the busiest pedestrian locations have speed limits of 25 mph and under and that bicycles and scooters should not be on the sidewalk in these areas.
6. It’s called sideWALK.
7. I tend to believe sidewalks should be for foot traffic only because other modes of transportation can discourage foot traffic.
8. In areas with a low-speed limit, the roads are even safer for cyclists. As already mentioned above, the research indicates that cycling on the sidewalk is not as safe for cyclists as being in the road. In lower speed areas, the sidewalks are being used heavily by pedestrians and include populations at increased risk of conflict with a cyclist or scooter rider (children alone, families walking with young children, people with disabilities or who are elder, and people walking dogs). The safety of cyclists and scooter riders should not be prioritized at the expense of pedestrians, and cycling on the sidewalk does not actually make cyclists any safer. Exceptions for children may be needed, especially very young children in neighborhoods. I do not believe non-human powered transportation methods should be on the sidewalk for any reason, regardless of decisions made for bicycles. They are simply too powerful to be compatible with pedestrian usage.

9. You can walk your scooter or bike on a sidewalk. If you want to make Tempe a "walkable city" act like it.

10. Yes, this makes sense because it raises awareness about sidewalk riding, and cyclists will never learn to bike properly on the roads unless they are pushed out of their perceived comfort zones to do it. A low speed area is an ideal place for them to get comfortable in a bike lane, and could build confidence for them to ride on the higher speed roads.

11. In residential areas, with the lower speed limits, sidewalks tend to be narrower, and the risk to those using bikes and scooters by riding on the edge of the roadway are less.

12. My understanding was that sidewalks were already pedestrian only.

13. E scooters should not be on sidewalks. They are motorized vehicles.

14. I was driving in my own neighborhood recently and the e-scooter/skateboard was traveling faster than my vehicle and appeared to be going faster than the posted speed limit. Also too many children, families walking with pets and enjoying their neighborhood are at risk if these are allowed on sidewalks in residential areas of 25mph or less.

15. I would be very upset if a scooter ran into me or others with me. I should not have to walk defensively because of a motorized vehicle.

16. Sidewalks should be for pedestrians safety, not for bikes and scooters to be able to get from one place to the next faster.

17. As long as the car is driving the appropriate speed limit because I will be on streets where cars are going 10 miles above the speed limit and not getting stopped.

18. I’m sick of almost getting plowed over by bikes and those dumb scooters whizzing around. It makes living in Tempe a hazard and going out to enjoy the improvements the city is making less appealing.

19. In low-speed areas, especially with traffic calmings, sharrows or bike lanes, it seems very reasonable to require scooters and bikes to be on the street.

20. Sidewalks should only be designated for pedestrians.
21. Get rid of the damned scooters!
22. See first response.
23. There have been too many accidents and near misses with the large quantity of wheeled devices, especially around ASU
24. Sidewalks are already for pedestrians and should be used as such.
25. Off limits except for personal mobility devices. Wheel chairs or scooters, not segways or skateboards.
26. Good idea.
27. Yes. But we still need to educate drivers more that cyclists can take the lane.
28. When vehicle traffic is under 25mph there is minimal reason to ride on sidewalks

Somewhat Agree

1. If there is not a bike lane and the sidewalk is relatively unpopulated, the scooter rider should have the option to use the sidewalk.
2. Many of the same reasons as my previous answer. Pasted here for your convenience: There are times when it is safer for a bike to be on the sidewalk, even when a bike lane is available. For example, today on College Ave - A designated bike route for the city - I kept having to avoid a lost Uber/Lift driver who kept using the bike lane to try and find where he should be going. He never came to a complete stop but I had to slow down/speed up to avoid being hit by the driver. Eventually, I ended up moving to the sidewalk to eliminate the risk from the driver. Also - there are portions of the road where the paved surface and the curbing are not level which makes it dangerous for a bike who might get their tire stuck on the lip of the paved surface, causing an accident. When too risky I will move to a sidewalk. I think it would be better if it were written so when a sidewalk and a bike lane are both available the pedestrians (on foot) have the right away over bikes. Bikes/scooters should be expected to stop and walk through a crowd of people if they choose to not use the available bike lane.
3. This would be good only if appropriate bike / scooter infrastructure were adopted throughout Tempe.
4. People with children on bikes should be allowed on sidewalks. Please stop scooter parking on sidewalks!!!
5. Same as for question #1
6. This is highly dependent on the condition of the road, the amount of traffic on the road, and how respectful the traffic is of the posted speed limit. There are many neighborhood streets in south Tempe that are marked as 25mph, but drivers routinely go 45+. Additionally, there are many neighborhood streets in North Tempe - especially in the Riverside Neighborhood - that are highly crowded with parked cars and experience high through traffic, making certain riders uncomfortable riding in the streets at certain times.
7. I would be happier to agree with this if I could trust that the speed limit would be enforced.
8. I am comfortable taking the lane if there are no bike lanes, again, need signage and sharrows to let drivers know it's okay for cyclists to take the lane. Usually on these roads there may be painted bike lanes, combined with parking for cars. There is a danger of getting doored if unaware cyclists bike only in the bike lane and are afraid to take the lane in these situations. Not all cyclists feel comfortable on even low speed roads.
9. I think that really young bicyclists can ride safer on the sidewalks than in the street/bike lane
10. In areas with low traffic this would be ideal.
11. Bicycles and e-scooters are not the same thing. Sidewalks do not have speed limits. Enforcement will be an issue.
12. I've experiences these in other places I've lived and often leads to greater frustration as people walk in the bike lane or cycle in the walk lane.
13. Same as answer above. I prefer not see any vehicles on sidewalks, even bikes and scooters. If they MUST be there, better enforcement of traffic rules, especially in regards to wrong way riding
14. Children should be on sidewalk, regardless of whether they are on a bicycle, skateboard, or walking.
15. There are times regardless of the speed limit when it is safer for bikes on the sidewalk. In construction zones when streets are narrowed down for example.
16. It's hard to ride a bike on the sidewalk safely with pedestrians
17. Perhaps there should be an exception for children learning to operate a bicycle.
18. I would feel more comfortable if we designated sidewalks for pedestrians ONLY in areas with a speed limit of 20 mph and under.

19. At a speed limit of 25 or under, I feel safer as a biker even not in a bike lane. As long as the limit is enforced for the safety of both drivers and cyclists. This is especially important if Vision Zero is going to make more road stretches 25mph or less.
20. It's one thing in a pedestrian congested area like downtown Mill but over on Alameda or 13th Street or some of the other secondary streets I would not support such a restriction. Parents leading children on bicycles through their neighborhoods would not be able to use the sidewalk?

Neutral
1. Depends on the location and other factors. For example, downtown during peak times, or all times, may be better for pedestrians only. Residential streets should not restrict users.
2. Are there accommodations or route ways for bicyclists and scooters and others to traverse the area, in close proximity?
3. I think if a person is moving at the same speed as a pedestrian they should be allowed to use the sidewalk, even though it may be less safe overall from turning cars.
4. Children’s bicycles are bicycles, even the little ones (in tempe); how would that be handled (residential areas are 25mph)
5. I would be ok with small kids using the sidewalks for riding bicycles.
6. Not sure what this means - no sidewalks if the speed limit is higher? That would negate a LOT of sidewalks and walking areas.
7. Assuming that scooters won’t be outlawed in general it is probably safer to have them on the sidewalks than in a traffic lanes. That said, there should be set speed limits for sidewalk operation. Scooters are capable of speeds well above what is safe in crowded pedestrian areas such as the ASU campus.
8. Way too many joggers feel the need to use the bike lane to run against the flow of traffic which sometimes forces the decision of sidewalk or traffic.

Somewhat Disagree
1. Again, I don't believe all bike lanes are safe in Tempe.
2. See previous answers. But I will add that bikers should yield and be courteous to non-bike pedestrians.
3. Make more bike lanes on our high speed roadways. And stop tearing them out after you put them in. And stop putting textured pavement treatments in bike lanes. It’s dangerous for thin road bike tires.
4. Kids will still bike on the sidewalk.
5. Relative
6. If there is no bike lane, use of a sidewalk should be optional.
7. Not understanding this question very much.

Disagree
1. Bicycles hitting pedestrians is never lethal. Cars hitting bicycles is always lethal.
2. Tempe likes to think of itself as bicycle friendly. It’s hard for parents to teach their kids about bicycles if they can’t be there with them on the sidewalk. Also I’ve seen nothing in this which indicates it only applicable to adults or to adults and older teens.
3. In many circumstances in Tempe, riding on the roadway puts a cyclist at greater risk compared with riding on the sidewalk. This risk is dependent on the rider’s abilities and on infrastructure specifics. Children, for example, often due not appreciate the danger associated with motor vehicles. Those who are
learning to ride a bicycle, or who have not developed mastery of operation of the bicycle, may not be capable of riding in a straight line or in a predictable way to motorists, and would be safer themselves and for motorists to be on the sidewalk. This applies to roads with a speed limit of 25 mph or less as well as to roads with bike lanes, especially arterial streets and collector streets during high traffic use times. An example is University Drive east and west of Rural Road which has bike lanes, but traffic volume is often heavy. The bike lane is not protected, thereby resulting in unsafe riding conditions in the bike lane for all but highly competent riders. In many instances, and at the discretion of the bicyclist, the sidewalk may be a safer alternative than the roadway.

4. We should expand access for non-cars, not limit it.
5. If a bicyclist is not riding recklessly, they should be allowed on any sidewalk.
6. This is ridiculous. I live on Dorsey and see senior citizens, children, citizens getting in to fitness using the sidewalks with roller skates, bikes, even an Elliptico. These Bird scooters have a tendency to dominate, though. Despite their promise they actually create very dangerous conditions for others. I don't know why but the behavior of scooter riders changes.... It's almost like how drivers get road rage and speed blindness. Scooter riders become stunt people and are quite reckless. Also, they were destroying the duck pond at Tempe Business Plaza on Dorsey and Southern. They were used in the grass and the sidewalk around the park. There are a lot of ducks, turtles, and people there. But back to the question... people are understandably afraid of our roads. Cars can't seem to coexist with other cars. It's a mistake to think they can peacefully blend with non drivers. The multi modal system will not allow Vision Zero to be fulfilled. On Dorsey, for instance, I see people race up and down all the time, and they always cut into the bike lane at high speeds when the dip occurs.

7. People riding bikes are not safe on Tempe's roads where cars go above 20 mph. Unless the bike lane is protected, it's not safe. Even our sidewalks are not safe from speeding drivers. Separated riding & walking areas.
8. See above.
9. Sidewalks are for pedestrians only.
10. So, when the Speed Limit is over 25 I'm "supposed to" use the sidewalk? Excuse my French, but screw that.
11. See above. How we since scooters tend to go much faster than bikes I would require that they use the street.
12. Bikers can move around same way pedestrians can see a biker coming.
13. If there is no bike lane, then bikes and scooters should be allowed on sidewalks for safety.
14. Again, especially when in older neighborhoods, the sidewalks barely accommodate two people side by side.
15. If the streets are particularly narrow or cars are parking on the street in areas where the speed limit is 25mph or under, it can be somewhat dangerous for
bikes to be on the street...if there is no bike lane on the street, the bicycles should be allowed to ride on the sidewalk, for safety.

16. If all motorists obeyed the speed limit in areas with speed limits under 25 mph, such as residential neighborhoods, this could in theory be a great idea. But with college aged drivers being the main motorist on the road in these areas, traffic laws such as the speed limit are rarely obeyed and can make the sidewalk a safer option for cyclists who do not want to be hurt or lose their lives to these motorists.

17. They are wide enough for both pedestrians and cyclists and were designed as such. Honestly, there are few enough of both on the major streets and should coexist on the sidewalks.

18. I support previous commenters’ beliefs that we would be better off enforcing a speed limit in such areas rather than punishing cyclists/scooterists for avoiding cars. Even at such low speeds, cars are still the greatest public safety threat here.

19. I welcome those who agree to this proposal to be struck by an SUV traveling at 24 mph. Probably not lethal! Probably.

4. Scooters and other non-human powered mobility devices should have the same rights and regulations as bicycles?

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Please explain:

Agree

1. What else can they be?
2. They have similar speeds.
3. Might need to look at powered wheel chairs and scooters, they need to travel with pedestrians.
4. I think if a person is using a mode of transportation other than a car, that is a good thing and that will reduce traffic. I think that any person should be protected by the law regardless of the type of vehicle.
5. They can go the same speed as cyclists, and should be on the road as such! Side walks are for WALKING and human power no machine movement!
6. Except for powered wheelchairs which should be treated as pedestrians.
7. The rules should be the same, scooters are similar to bikes are similar to skateboards. Grouping them together can expand access for all.
8. They are moving much faster than pedestrians so they should follow the same regulations as bicycles. Bicycles should be expected to file the rules of the road as well. They need to behave like responsible citizens. Of course, the exception on disability motorized devices (which travel much slower than bicycles or scooters) are an exception.
9. Bad question, You should except from this requirement battery operated wheelchairs (non human powered mobility devices "by disabled persons."
10. I consider this to be more a question of max speed than a question of if the device is human powered or not.
11. Electric bikes.
12. This is provided that their speed is capped at something comparable to a bicycle (-15 mph)
13. Same rights and RESPONSIBILITIES
14. This should not include motorized scooters for the handicap people. Also, they need to ride them with the flow of traffic just like bicycles. Many ride them as if they are pedestrians always believing they have the right of way. 1 violation should suspended their account for a week.
15. These would be the SAME RIGHTS AS CARS, but claiming that those are afforded to bicycles drives me to sarcasm.
16. Safely is still the main concern here, it shouldn’t matter what vehicle you are using.
17. Scooters should not be on sidewalks and abide by the same stop signs and hand gestures that cyclists are required to use.
18. Those scooters are dangerous. The city should start heavily taxing them if they’re gonna continue to run.
19. Yes they should as it is a supplement to the public transport network.
20. Get rid of the damned scooters!
21. Bicycles have to obey the same rules of the road as automobiles, so it makes sense scooters should as well.
23. Absolutely. This far, the scooters have been a mess with people riding them anywhere they want, in any direction they want. I have been in multiple near misses with the new scooters
24. Provided they can’t go over a certain mph...25 mph, for instance, they should be treated just like any other human-powered bicycle. If they can reach higher speeds, then perhaps they should be treated more like the other motor vehicles on the road travelling at similar speeds with similar braking times and distances.
25. Moving vehicles, bicycles, scooters, segway, etc. should all abide by the same laws.
26. Share the road and everyone should drive responsibly
27. To have the same rights as bicycles on bike lanes and multi-use paths, scooters and other non-human powered mobility devices should have maximum speed limit of 15 mph.

28. Pedestrians and motor vehicles are regulated all means of transportation on public roadways should be regulated for the safety of all.

29. Especially riding with traffic and not against

30. NOTE: I don’t believe the included table is correct. You are not legally required to dismount your bike when crossing a crosswalk. http://azbikelaw.org/sidewalk-cycling-in-arizona/ I strongly believe there should be as much uniformity as possible in the rights and regulations of similar mobility devices. (so there is less confusion of the rules). To be clear: = you should be allowed to operate e-scooters and e-bikes under the age of 16 = you should be allowed to cross at a crosswalk without dismounting = you should not be required to wear a helmet when operating an e-scooter, if over 18 years of age

31. If it’s got wheels and won’t kill anyone when operated poorly, it’s essentially a bicycle.

Somewhat Agree

1. Some bicyclists / bicycles can go faster than the scooters. For example, in Central Park in New York City, there have been numerous pedestrian-cyclist collisions. In several cases, the cyclists were going greater than the allowed 35 mph.

2. “Non-human powered mobility device” should be more clearly defined.

3. It makes sense to make some places human powered only. Eg multi-use paths.

4. Upright scooters such as should have the same regulations as bicycles. Mobility scooters, such as the ones for people with difficulty walking, should not.

5. Seems reasonable.

6. A 15 mph scooter should be required to alert a bicycle rider when approaching from behind

7. Let us be

8. Non-human powered vehicles should have top speed of 10 mph on sidewalks.

9. Scooters are an important form of transit, and they should be treated similarly to bikes.

10. Scooters should not be operated on the same path or lane as bicycles unless they are only operated at a similar speed that most people operate their bicycle. Scooters are too fast to operate on canal paths with slow moving pedestrians and bicycles.

11. All personal mobility devices that travel at a reasonable speed should be entitled to the same safe travel space that cyclists deserve, but regulations should be tailored to the relevant technology as needed.
12. I’m not a user of those scooters or e bikes. However, I think they move too fast for the sidewalks. They can be dangerous for both pedestrians and other drivers are making turns across sidewalks or crosswalks.

13. While scooters can maintain a fairly high speed (by bicyclists standards) they are far more maneuverable (skittish) and are likely to be ‘piloted’ by less experienced road users. While this option is probably more sensible than expecting them to behave like pedestrians I’m somewhat dissatisfactioned and would try to explore some third category (before finally coming around to R&R as bicycles)

Neutral

1. I am not sure what other non-human powered modes entail or all the rights and regulations on bikes to answer this. However, given the chart above I’d say my largest concern is the lack of lamp usage on bikes and other modes of transportation, particularly at night. As a driver, bicyclist, and walker, I have had multiple encounter of individuals riding in the dark with no lights on S Farmer which is concerning for both parties.

2. Often mobility scooters are quite wide and are dangerous to pass.

3. In principle yes, but I have serious safety concerns given the fact that electric scooters permit many people to go much faster than they're capable of going on a bike powered only by their physical capabilities and there's a much more lax safety culture about scooters.

Somewhat Disagree

1. For the most part, I agree. However, my experience has been that typically scooters are used in a less serious manner, primarily a result of "rental" mentality and they are trendy. During a recent outing to Gammage my family walked down Mill avenue. Most were fine but there were a few instances where they had 2-3 people attempting to ride one scooter. This was not safe for them or for the other pedestrians around them. One proposal I would make that differentiates them is to limit scooters to one person. Alternatively, since there is added risk of an accident if there are two or more riders, requirements that if two or more riders are on a single scooter then helmets are required for any age.

2. They're different and the same rules may not always be practical or applicable.

3. It's not okay for a 35 mph scooter to ram a person peddling slower in the bike lane. However, it is really not okay to be on a sidewalk. They are vehicles and should be in the street, when possible.

4. Reckless riding on sidewalks is rampant and should be regulated.

5. Scooter users are more nimble in terms of being able to dismount their device and they also travel at higher speeds. They should use bike lane not sidewalk.
6. Generally speaking, scooters travel faster than most cyclists, and people are generally less informed around how to ride them, so having greater restrictions on who can use them (i.e., age) and where and how likely makes sense, even if they are treated as bicycles in some ways.

7. Scooters are able to go way faster than bicycles without the control aspect. Drunk college students on scooters are much different than cyclists. Scooters are more dangerous and should have more regulation.

8. I think that

9. Anything motorized or electrically powered has more potential of unforeseen issues that could cause harm to the driver as well as those nearby. What are the maintenance requirements for these e-scooters, etc. and how does the city monitor this for the safety of its citizens. More stringent rules should apply to e-scooters, segways, etc...

10. When you add a motor to any type of mobility device more judgement and liability are incurred. People tend to push motorized vehicles, just look at our roads. As people go faster many people don’t realize the the shortcomings of their transports ability to avoid obstacles or stop.

11. Bicycles are human-powered, these other vehicles are not. They should be considered separately.

12. Some e bikes scooters are incredibly fast. It’s not appropriate for them to share space with pedestrians and bicycles. They should not be allowed on sidewalks or paths at any time.

13. Because of the speed, scooters should be held to a higher standard. You must have a driver’s license and be at least 16. Parent permission should not obviate this rule.

14. There are many different use cases for the different types of vehicles and a one size fits all rules statement will not properly address the concerns of their use.

15. They usually go much faster than bikes, especially around ASU, where they are used disrespectfully and thrown down any place they stop, such as on sidewalks, on driveways, etc. Bicycle riders seem to be more respectful than E-scooter riders and follow the rules of the road. The E-Scooter companies need to improve their instructions for riders, especially in the “common courtesy” type of instructions.

16. What kind of question is this?

**Disagree**

1. They are motor powered, the treatment should be different.

2. Bikes don’t have motors.

3. People who have the capability to ride at higher speed (>15 mph) on bicycles on flat or nearly flat terrain will necessarily have experience riding to develop the strength needed. Propulsion by motor does not confer the same level of
experience on riders. It is possible for someone with absolutely no experience to achieve close to top speed for the powered device. Therefore, the speed limit for powered devices in bike lanes and multi-use paths should speed limits, for example 15 mph (not 20).

4. Motorized scooters should be treated like motorized vehicles. They are a safety hazard because they ride irresponsibly and do not pay any attention to their surroundings or people and cars they encounter. They go too fast and do not belong on sidewalks ever. There are currently no rules governing use of motorized scooters and no one is enforcing safety or hazardous behavior on scooters. Also no one is educating scooter riders about safety and respect for rules of the road. Cyclist breaking traffic & safety rules are regularly ticketed, hence regulated. Please stop scooters parking on sidewalks!

5. Non-human powered devices are too easily uncontrolled and need more regulation than human powered bicycles.

6. Clearly motorized scooters for our disabled residents shouldn’t be forced into the streets. Scooters should probably not be allowed on streets. I don’t want to be one of these restriction people, but I have a feeling the companies know their scooters cause reckless behavior. It is not clear to me that their intended use is transportation. The last mile argument is probably a lie. These are used for fun and stunts. They seem more closely related to skateboards than bikes, but because of their speeds and false sense of ease of use they are vastly more dangerous than skateboards. Ebikes should be treated as bikes. Motorized bikes though will eventually kill somebody. The amount of carbon monoxide they emit is deadly. That’s true for cars too. However people leave motorized bikes running at park benches, bus stops, and the exhaust is right at the level of a young child or stroller. It’s only a matter of time until an infant dies of carbon monoxide poisoning while at the park or bus stop.

7. As mentioned above, scooters and other non-human powered devices have different capabilities and needs. Bicycle riders are generally slower moving and generally lighter than the non-human powered vehicles. They should have safety priority over other forms of transportation and should have right of way over something non-human powered. It is harder for a cyclist to build up speed, reach maximum speed, and change speed, having to use their own body and skill to do so. Any e-scooter rider could hop on and reach maximum speed very quickly with no exertion. This ability to easily reach high speeds with no effort gives them extensive advantages over bicycles and could make them dangerous to bicycle users. Especially due to the proliferation of ride-share scooters, many of these scooter users could be less skilled in the use of the device than a regular bicycle commuter. Although scooters available through the ride-share companies can be speed limited, modern personal e-scooters can reach maximum speeds suitable for roadway usage and should never be on a sidewalk (max speed from 18-25 mph on the low end, and 35-55 mph for newer and higher end scooters).
8. What the clever survey designer calls “non-human powered mobility devices” are motorized vehicles. They should never be allowed on sidewalks, they are not bicycles, and they are, by Tempe's own definition “inherently dangerous.” Clever again, and shameful. The staff, who have been trained in appropriate survey techniques and in honesty in public service, should be ashamed of themselves for putting together this tendentious survey.

9. Scooters have a much higher capacity to inflict harm than bicycles. I do not agree with bundling all non-human powered mobility devices and scooters together in this question as the former can be a health mobility aid.

10. As a cyclist I don't like the idea of motorized devices sharing the bike lane. They can move far too fast and should not be treated as bikes.

11. Unfortunately, the drivers of these electric motorized vehicles do not follow traffic rules and have a general disregard for pedestrians.

12. I have been hit as a pedestrian by a scooter. People often rent them and do not know how to ride or operate. They should however, have a helmet to ride them.

13. They should be regulated as to where they can be parked. Bikes are not left strewn everywhere across sidewalks.

14. I believe that sidewalks are for pedestrians. And the sidewalks should be a little more narrow and you should have a designated area for bike and motorized devices.

15. They should have more regulations. They are motorized. You should have to be an appropriate age. You should have to ride where motorized vehicles ride -- in the road -- not in the bike paths.

16. They go much faster than bicycles and are harder to control.

17. They should have to follow the same laws as vehicles.

18. Cyclists are considered vehicles of the road but scooters do not adhere to these or pedestrian laws. Most scooter users in the Tempe area are extremely negligent and fail to comply with even the simplest of traffic laws. These types of behavior, without any accountability on law enforcements part, result in reckless behavior.

19. Objects do not have "rights." Individuals should be allowed to walk or run on sidewalks, and bicycle in bike lanes or in specific instances on sidewalks; individuals should be required to wear helmets when riding bikes but not when walking. This kind of discussion is not possible when you phrase the question as if mobility devices themselves have rights.

20. This question assumes that the regs for bikes and scooters are sufficient. Suggested regs for both are insufficient. E-scooters should require a driver's license, 18 y.o minimum. Motorized vehicles should require a license. Helmets required for both! Following the same traffic rules for both as motorcycles and cars is important...stops, stoplights, traveling on the right side of the road etc. Again, is safety the #1 priority, Vision 0?
21. No. These are completely different modes of transportation. Scooters go much faster than people normally ride bikes.

5. How often do you ride a bike?

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6. Have you used an electric scooter or non-human powered mobility device?

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7. If yes, how often do you use an electric scooter or non-human powered mobility device?

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8. Additional comments

1. Build a reverse traffic pyramid to illustrate the different types of mobilities. Illustrate distinction between bikes and e-scooters, not the same. Very necessary. More bike lanes in more streets! Illustrate types of transport, size, motor or human powered, emissions, risks they pose to other modes.

2. Even more bike paths would be good must increase enforcement. Will there be signage? Also, when someone is injured by an uninsured scooter rider, the City will be sued.

3. Revisiting Vision Zero it is clear that these proposals fly in the face of what has just been endorsed by City Council, which talks about safety. Quote, it is a basic right of citizens to be assured of their safety as they move about their city. These proposals neglect to do that!
4. I do not live in Tempe but was recently in Tempe / Mesa for a wedding. It was my first time on a scooter. I used both Lyft and Bird scooters. I ride bicycle and a Vespa. I have a motorcycle license for the Vespa. I consider myself a very informed and experienced rider. I can easily see how people can get hurt, both riders and pedestrians. I did like the scooters and will be riding them again when the opportunity presents itself.

5. Bicyclists, e-bicyclists and scooter users should not be required to operate as pedestrians at crosswalks. Also, how do the Hardy bike lanes fit into this? Requiring helmets for all minors could negatively impact low income families more, even while improving safety. Scooter and e-bikes on path, don’t give just a 20 mph speed, it should require reasonable and prudent speed under the conditions as the time. Is unsafe manner better than reasonable and prudent speed? Good sections are requiring e-bikes to disengage motor on sidewalks and have an age limit and Sec. 19-56 requiring drivers to yield to sidewalk users before driving across the sidewalk except it should strike through lawfully upon the sidewalk.

6. My wife and I often ride scooters around Tempe. It’s fun and cuts down on traffic.

7. Scooters are inevitable, need rules of the road and parking away from sidewalks and ADA corner ramps.

8. If a person is on a bike, a scooter, or any other human powered or non human powered mobility device, they need to be protected when they have the right-of-way in a crosswalk. It doesn’t matter if they are walking or riding, if they have the right of way and are hit by a car, they are not at fault. The driver of the car is at fault for violating their right of way. This is critical if you are going to allow people to ride on the sidewalk when the speed limit is over 25mph. When they reach a crosswalk they will physically have to use the crosswalk, and if they are not protected there, they will not be able to ride safely. This is also a problem at many intersections in Tempe where people on bikes and scooters have no choice but to use the sidewalk, like T-intersections, and bike path crossings. Please add this concern to the ordinance update. It needs to be based on things like who entered the intersection first, who has to yield based on that, and whether or not the walk signal is illuminated if it is a signalized crosswalk. The current ordinance makes Tempe unique, in that it is the only city in the region that makes it dangerous for anyone not walking in the crosswalk, and specifically removes legal protection of that person. Please update this portion to increase the protection for scooters and non-human powered vehicles, and when the time comes, update it for bike riders too.

9. Cyclists have the same rights as vehicles! Sadly I’m afraid to ride in Tempe because if I road in the road like I’m lawfully supposed too, cars would honk at me! I do not ride on the sidewalk because I’m going 15-20mph!! Cars pull out to the sidewalk because they have to to see traffic, but they cannot adjust to me coming so fast. ADD MORE BIKE LANES! MAKE SCOOTERS RIDE IN BIKE
LANES! GETS CARS USED TO SEE CYCLISTS AND SCOOTERS and leaves sidewalks open for pedestrians (much slower traffic) win-win! Oh- get undercover cops riding the streets and see how many times they get harassed by motorosts, or don't give 3 FEET WHICH IS THE LAW! START TICKETING THOSE DRIVERS, ENFORCE THE LAW! Tempe can become a bike friendly city- but laws and order only work when enforced!

10. I’ve also not seen anything making it clear that the ADA supersedes Tempe ordinance. That wheel chairs, motorized wheelchairs, ADA persons on bicycles, electric bicycles, skateboards and scooters can go anywhere a pedestrian can and should be yielded to wherever a pedestrian would be.

11. Erosion of bicycle rights in the City of Tempe. The City of Tempe has proposed an amendment to the Tempe City Code Chapter 19 under the banner of “bicycle safety”. The working group includes Mayor Mark Mitchell and Councilmembers Randy Keating and Joel Navarro. This proposal, presented in public meetings on April 9 and 10, should be called “motor vehicle operator liability reduction working group”, or “bike unfriendly working group” because it takes away bicycle rights and thereby grants operators of motor vehicles a get-out-of-jail card for hitting bicyclists in these cases. The City wants to make it illegal for bicyclists a) to ride in a crosswalk; b) to ride on sidewalks if a bike lane is available or if the speed limit is greater than 25 mph; and c) to ride without a front light and rear reflector (no stipulation for nighttime use only). These new proposed rules are in addition to the existing rule Sec. 7-52 (c) that prohibits operation of a bicycle on the sidewalk in any direction except that permitted by vehicular traffic, unless signed or marked otherwise. This existing rule should be reviewed for removal from City code. If the City is serious about reducing bicycle and pedestrian collisions with motor vehicles, the City should reduce speed limits in congested areas and enforce motor vehicle traffic laws with a focus on eliminating aggressive driving. Crosswalk: On arterials, especially during high traffic times, crosswalks are a safe haven for bicyclists and pedestrians. An example is Rural Road north and south of University Drive. For many cyclists, walking is cumbersome due to physical limitations or due to use of special shoes that clip into pedals. In addition, bicyclists will clear the intersection more quickly when riding the bicycle, thus benefiting motorists. Ref: “ARS 28-815(A) â€“ The Most Incorrectly Used Citation: Riding a Bicycle in a Crosswalk IS Permissive and Lawful in Arizona,” by attorney Eric Post, http://azbikelaw.org/cases/CrosswalksEricPost.pdf. Sidewalk: In many circumstances in Tempe, riding on the roadway puts a cyclist at greater risk compared with riding on the sidewalk. This risk is dependent on the rider's abilities and on infrastructure specifics. Children, for example, often due not appreciate the danger associated with motor vehicles. Those who are learning to ride a bicycle, or who have not developed mastery of operation of the bicycle, may not be capable of riding in a straight line or in a predictable way to motorists, and would be safer themselves and for motorists to be on the
sidewalk. This applies to roads with a speed limit of 25 mph or less as well as to roads with bike lanes, especially arterials and collector streets during high traffic use times. An example is University Drive east and west of Rural Road which has bike lanes, but traffic volume is often heavy. The bike lane is not protected, thereby resulting in unsafe riding conditions in the bike lane for all but highly competent riders. In many instances, and at the discretion of the bicyclist, the sidewalk may be a safer alternative than the roadway. Front light and rear reflector: AZ 28-817 requires a front lamp and red rear reflector for nighttime use. Applying this requirement at all times is an undue burden.

Riding on the sidewalk opposing traffic: Note that AZ 28-812 requires that a person riding a bicycle on a roadway or on a shoulder adjoining a roadway is subject to all of the duties applicable to the driver of a vehicle. Therefore, bicyclists shall ride in the same direction as that permitted by vehicular traffic on the roadway or shoulder. Thus, this discussion is only about riding on the sidewalk opposing traffic. In arguments against riding opposing traffic on sidewalks, statistics may be quoted about the fraction of crashes in which the bicyclist was riding opposing traffic. However, for this statistic to be useful, the rate of sidewalk riding opposing traffic must be known, but this is not always presented. The Tempe Bike Count Report 2017 shows wrong way fraction at or above â...“ for 9 locations (http://www.biketempe.org/bike-count-data/). With a high rate of wrong way riding, the expectation should be that the fraction of collisions with wrong way riding would also be high even without wrong way riding being a cause. In addition, data suggesting that riding on the sidewalk opposing traffic is associated with a higher collision rate in Tempe is biased by the presence of the existing ordinance. Motorists who know the rules may use this to their own advantage and take action that puts bicyclists at risk that might not occur without this ordinance. Motorists need to look both ways when crossing sidewalks. Pedestrians, including runners, are sidewalk users. Runners often travel at up to around 10 mph. Giving motorists the impression that they do not need to look both ways, by disallowing bicycle riding on sidewalks opposing traffic, puts pedestrians at risk. The bottom line about the risk of riding on sidewalks opposing traffic is that it depends on circumstances. A single rule disallowing this applied throughout the City makes riding less safe in many circumstances. Specific locations where riding on sidewalk opposing traffic may be safer: McClintock Drive, west side, between University Drive and Rio Salado Parkway; Rural Road, east and west side, between University Drive and Rio Salado Parkway; Scottsdale Road, east and west side, between Rio Salado Parkway and Curry Road; Mill Avenue, east side, north of Curry Road (connect to Crosscut Canal Path); Southern Avenue, west of Tempe Canal; Elliot Road, west of Price Road; These are just a few examples and not meant to be all inclusive. Another argument in favor of removing the restriction against riding opposing traffic on sidewalks is to make Tempe code similar to that of neighboring municipalities, thus reducing code confusion for
both bicyclists and motorists. An example of a popular, marked, two-way multi-use path adjacent to a roadway (looks like sidewalk to motorists) is in Scottsdale on Hayden Road north of Indian School Road. To be fair, there are circumstances where riding on the sidewalk is safer when done with the flow of traffic. Specific restrictions can be imposed through signage. Examples could be high pedestrian use areas or where sidewalks are too narrow to allow bicyclists traveling in opposite directions. Other comments on the proposed ordinance. People who have the capability to ride at higher speed (>15 mph) on bicycles on flat or nearly flat terrain will necessarily have experience riding to develop the strength needed. Propulsion by motor does not confer the same level of experience on riders. It is possible for someone with absolutely no experience to achieve close to top speed for the powered device. Therefore, the speed limit for powered devices in bike lanes and multi-use paths should speed limits, for example 15 mph (not 20). A requirement should be included whereby powered devices shall have a functioning speedometer which is visible to the operator hands-free. Operation of skateboards and rollerblades should be allowed in bike lanes. Disengagement of motor on sidewalks for e-bikes is a good idea. Key focus areas of the Bicycle Safety Working Group: Education (of schoolchildren, pedestrians, and operators of bikes, e-bikes, skateboards, e-scooters, and motor vehicles); Subsidize lights and helmets for those in need.; Enforcement of motor vehicle laws affecting bike and pedestrian safety (right hook, crosswalks, 3-foot rule);.; Tightened regulations on motor vehicle use in congested areas to protect vulnerable travelers, i.e., pedestrians and human-powered bicycles. Specifically: lower speed limits, and clarification of pedestrian and bicycle right of way in crosswalks relative to motor vehicles. Removal of regulations on bicycle riding in Tempe to the level allowed by Arizona state statute. Specifically, Sec. 7-52 (c) should be scrapped (“No person shall ride or operate a bicycle ... in any direction except that permitted by vehicular traffic on the same side of the roadway where the sidewalk or bicycle lane exists”). Exceptions can be made on routes of high pedestrian density, including operation on sidewalks on either side of the street, for example on Mill Avenue between University Drive and Rio Salado Parkway. Address pedestrian responsibilities on multi-use paths. For example, users of headphones on sidewalks and multi-use paths should stay right as far as is practical because they often cannot hear the bicyclist audible alert. Speed limit of 10 mph on sidewalks when pedestrians are present for non-human powered, e-bikes, and EPAMD. No speed limit restriction for human-powered. Enforce e-scooter parking restrictions on sidewalk right-of-way. Implementation of protected bikeways and multi-use paths. For example: Country Club Way grade-separated crossing at CSX RR. Above-grade crossings at arterials for access to ASU, for example bridge over Rural Road south of University Drive (8th Street or Terrace Road).
12. I was recently encouraged by Lauren to purchase a bike and to consider commuting by bike to my office. (On the corner of Mill and Rio Salado) I have been exploring the different paths for Tempe and must say we have a great bike system, but not perfect. With the street car being developed I would like to see additional considerations for bike commuters who are required to travel along the construction route. Possibly a bike lane protected by temporary construction barriers. One final note for a possible improvement is to consider making “bike stops” on Tempe’s designated bike routes. These “bike stops” could have a fountain to fill water bottles, a bike pump for flat tires, and a shaded bench to rest for those who commute longer distances or just need a break. Maybe just use existing bus stops for the shaded benches and add a bike pump and water fountain to enhance them to also serve as “Bike Stops”

13. Expand bike lanes, bike racks, all alternative infrastructure.

14. Unlike bicycles, scooters can cause as many problems when parked as when they are in use.

15. There needs to be more respect for pedestrians by keeping sidewalks hazard-free. 3 feet of clear sidewalks is not a lot to ask for. People walking shouldn't have to walk in the street to get around scooters & cars parked on the sidewalks. Sidewalks are for people only and never for parking any vehicles, not for parking anything. Not for parking cars, not for parking scooters or bikes. There should be nothing parked on sidewalks ever. No trash cans, recycle bins, debris, trash furniture, etc. We devote huge swaths of land to vehicles, more than is deserved. Please enforce keeping the sidewalks free parked scooters. If the city wants people to walk more, if they want a more walkable city then they must provide and enforce safe walkable sidewalks and paths devoted to pedestrians only. Please stop scooters parking on the sidewalks.

16. I am handicapped and use a walker or cane. I don't even have a sidewalk in front of my home. I don't know why the ADA has not challenged Tempe on it's “progressive” stance on handicapped issues, when a lack of sidewalks exists in the City. It is a glaring problem, and definitely a discriminatory issue, when certain people cannot get out of the way of a fast moving vehicle. Now, it may be scooters as well.

17. More than never but not as frequent as monthly.

18. Not even one year ago I biked everywhere. But I stopped because I don't like my bike seat and haven’t found a new one yet. I went out two nights ago to try a new seat... down Southern from Dorsey. I used to have the skill and confidence to ride on Southern--there's no bike lane--but this time used the sidewalk. One really does have to be a road warrior to ride on Tempe streets. The key issue is cars. This multi modal stuff still treats non drivers as lower class citizens and leaves them open to injury or death by cars. Drivers are affected too when they hit somebody. Imagine the emotional trauma a driver feels when they injure or kill somebody. College ave is great, but none of our
other streets are like College. University should be turned into another College ave, and when it goes through campus there should be no cars except for university vehicles. McClintock--especially near the high school--should be a College Ave also. There are a lot of pedestrians on McClintock, and with these new apartments there will be more. Some streets should be car free. If college, for instance, was closed to pass through traffic and the street was opened for scooters and bikes then people would probably stop using them on Rural, going to College instead.

19. I am a regular walker within my neighborhood, but due to the speed, high traffic, and lack of bike lanes on the major roads surrounding where I live, I do not cycle on them. I would like to see an increase in safe cycling space on the major roads in Tempe to encourage cycling to restaurants and grocery stores. Increased access to some shopping centers from within the centers of the neighborhoods would also allow cyclists to travel within the neighborhoods and then pop out closer to grocery stores or restaurants. Identifying locations where this kind of bicycle access could be encouraged or created may be valuable.

20. I'd like to try one :-) 

21. Safety as it relates to scooters is multi-faceted. For one, having these dockless devices can compromise the safety of others using various modes of transportation (including walking) by their careless placement in bike lanes, crossing lanes, and sidewalks. There also seems to be less thought by riders around what their place might be in the transportation ecosystem. One of the biggest safety issues I've come across as a cyclist is scooter riders riding wrong way in the bike lane with the expectation that I should be the one to move. This forces someone to get on the sidewalk or move into car traffic at times when that shouldn't be the case. I'd suggest the city consider extensive signage if scooters are here to stay and non-auto modes of transportation are being considered. Perhaps something like the right or way signs you see hiking showing who yields to whom between horses/mountain bikes/hikers could be useful with scooters, given their speed and greater unpredictability needing to always yield, followed by bikes. Also, better markings around wrong ways. Finally, if the idea is to push bike and scooter traffic as exclusively into bike lanes as possible, the city needs way more available routes and ideally needs them to be safer with barriers, etc. I'd also recommend getting rid of right red rights to automobiles. Cars routinely roll right into crosswalks and can often not stop before turning, compromising vulnerable citizens not in cars that would be riding all the way to the right most of the time.

22. Pedestrians should be the only ones on the sidewalks downtown. For example from west of Ash Ave to College and from north of University to Veterans Way. That would be about 3 square miles of pedestrian safety. Have parking areas on the perimeter so that bikes and scooters can park and have a short walk to wear they want to go.
23. A review of the regulations being placed on these inherently dangerous electric scooters in other jurisdictions shows just how far away from reality Tempe has become. On the very scooter I once rode, I received the following rules: wear a helmet, do not ride on sidewalks.

24. For E-bikes consider rules similar to Europe and only allow bikes that are class 1 pedal assist on multi-use paths and not allow throttle assist bikes, with gas or electric motors on multi-use paths or bike lanes.  

25. I have used them twice.

26. e-scooters present a danger to pedestrian and vehicular traffic without clear regulations. Stringent regulations and enforcement should be in place and education for those using them should be required.

27. It's great

28. I haven’t yet rented one and they look somewhat unstable to me. I will probably stick to my bicycle.

29. Tried it. Don’t like it. I prefer to get my exercise using my own power.

30. EVERYONE (bicyclists AND automobile operators) needs better education on the interaction between autos and slower vehicles. Most of the problems between bicycles and other road users could be solved by bicyclists acting like vehicles. But they’d have to do that in the street, and we can’t have the motorists delayed by the slower bicycles.....

31. While it is most likely a few evil doers that are giving scooters and e-bikes a bad name the problems are not small. Injuries are happening. Sidewalks are being blocked. Bikes and scooters are being left in not appropriate places. Have you talked to landscapers to see how much time they spend moving these motorized vehicles so they can do their job. This is our chance to set in place common sense rules that will benefit this new industry and allow for the sharing of sidewalks and roads.

32. I don’t ride a bicycle now, due to age and injury, but in the past I have ridden daily. I have ridden a Segway once, which resulted in my broken ankle.

33. The danger I feel is scooters are not aware of places where a pedestrian is walking and can either cause harm to the pedestrian or themselves. The breaking on a scooter is not instant and cannot react fast enough to a possible collision.

34. The city has taken great strides by bringing in a Whole Foods, upping the quality of rental units and making it safer by reducing the poverty in the area. It’s time to make this place more walkable so it can actually be enjoyed. Free up the sidewalks, get rid of those awful scooters, and hold cyclists accountable.

35. All of these new and old modes of transport can co-exist and the more alternative options for transport the better in a society which will reduce the carbon footprint of the valley. People do not seem to see the value in ad-hoc
transportation in Tempe as of late. However riders should be made dismount when entering or using cross walks as often drivers don't see these modes of transport until the last second with rules such as right on red in place.

36. The draft ordinance is not practical to administer. How would an e-scooter rider know they are to slow down to 5 mph when passing a pedestrian? Will they even do this? How are the police going to enforce this? Do you think signs will work?

37. All motorized vehicles should be ridden only in streets or bike lanes

38. Get rid of the damned scooters!

39. These scooters have become the same nuisance that bikes were. They are being left in the streets, blocking the sidewalks and in people's yards. Also, many of the individuals riding them (often in groups) down the middle of the street and/or in the opposite direction of traffic. They certainly make me nervous when driving near them.

40. They seemed like a bit of fun when I first saw the scooters, but after having been in multiple neat misses with poor riders, I won't be trying them. They look so dangerous

41. There once was a time when cars were not allowed on certain roads for fear of spooking the horses. Humans keep moving forward, and part of allowing progress to continue is recognizing changing needs and lifestyles. Perhaps the introduction of e-scooter lanes in addition to bike lanes (where it can be accommodated) is something that should be considered in future. I don't believe e-scooters are going away anytime soon - and we already know that the number of active drivers on the road in general have begun to decline nationwide in light of the rise of smaller more individual rides...perhaps we should embrace that change.

42. I am not a scooter user, but see the benefit for some. I hope that the city can find an acceptable rules system for their use. Also, I hope that this will not adversely affect cycling lanes and paths in Tempe. Also, I want there to be a better way for scooter users to not block sidewalks and paths with their discarded scooters.

43. These questions, though I presume they were written in good faith, seem designed to make it impossible to have a direct citizens' discussion of e-scooters, even though Tempe's citizens are intensely and specifically interested in e-scooters.

44. If the scooters only operated at a max speed of say 12 mph then I think mixing them in with bicycles and pedestrians would be reasonable, but they are too fast as they are to mix into paved paths and bike lanes.

45. I understand that right now a lot of sidewalk-users (the general population really, but especially people who have physical impediments and can't avoid the sidewalk) feel that cyclists and scooterists are infringing upon their already limited space. That is reasonable. What is not reasonable is to expect those same cyclists and scooterists to then share space with motorists driving
deadly cars who cannot be trusted to give them space because all that space is designed primarily for cars - even when there are bike lanes, because right now those don't protect cyclists/scooterists in the middle of intersections. What we need to do as a city is to make space so that more cyclists/scooterists will feel safe getting off the sidewalks and more motorists feel comfortable trading in their cars. Our city stands to benefit because it will lead to less car usage, and therefore lower accident costs and less wear on our roads. If combined with increased affordable housing supply, it should also increase city revenue over time by encouraging more people to live AND work here in Tempe.

46. Thank you for the opportunity to provide input.
47. Redesign handicap sidewalk ramps for wheel chairs and mobility scooters only. Mostly to prevent skateboards and escooters.
48. The survey questions are limited. Corners on the City look like garbage heaps. The City’s own fire department’s injury data shows these e-scooters are unsafe. The City has admitted these e-scooters are “inherently dangerous” in its own contract with the scooter companies. Consumer Reports and the UCLA study show e-scooters to be much more prone to accidents with injuries than motorcycles and cars. How does all of this square with "safety is the #1 priority" and Vision 0. So far, Arizona’s other major University city, Tucson, has taken a much more measured approach for safety...currently conducting a pilot test for e-scooters. Calling into the City regarding e-scooter violations is useless. The City is slow to respond, and if a citizen sees a violation in action, there’s no license plate to identify and all the e-scooters or razor bikes...they all look identical. If these vehicles are left improperly on the sidewalk, why can’t a city vehicle, a truck, just come around and pick them up at the company cost. It’s obvious. Citizens should not have to call the City for these obvious ADA violations. It’s costly to enforce, but I don’t see the City doing much to keep the sidewalks clear. I’m concerned that the City is going to enforce any safety regulations involving e-scooters. I’ll have more to share after the meeting on April 10
49. I commute 11 miles each way from Chandler to Tempe on a daily basis using a road bike and an ebike in warmer weather. We actually sold a car to commit more to biking. It saves us money, reduces time in traffic, reduces my carbon emission, keeps me in shape and means one less car contributing to the horrible traffic around my workplace near the US60-I10. I hope that any legislation regarding ebikes will be responsible. Rather than simply adhering to Class I/II/III, I like the idea of max speed limits. For example, there was legislation that I think may not have passed which simply stated that ebikes must remain at 20 mph or below on multi-use paths, but had a 28 mph limitation for major streets with a bike path. As a cyclist, I support the idea of posting speed limits on the paths to foster a better interaction since I know
that everyone is entitled to use it. I go out of my way to slow for pedestrians, use a bell, and move over as much as possible in order to be respectful.

50. Regarding sec 19-214,

(D) IT SHALL BE UNLAWFUL TO USE AN ELECTRIC BICYCLE OR NON-HUMAN POWERED VEHICLE TO CARRY MORE PERSONS AT ONE TIME THAN THE NUMBER FOR WHICH IT IS DESIGNED AND EQUIPPED.

What negative outcome is the city trying to prevent with this sub-section? The word “design” is a loaded word for someone that designs things. An item is designed for a primary function and it is designed to not catastrophically fail. There is a lot of gray area in between. Most bikes are probably not specifically designed to carry child seats. Child seats are designed to work with only a standard range of bike geometries. The user makes the judgement if adding the additional person carrying capability works for their situation. Every child seat design may not work with every bike design. Additionally, pegs on the back of a BMX bike can be very convenient in giving your friend a lift down the street. For most people that have ridden a bike with pegs, this would be a very reasonable thing to do. I would assume that electric scooters are designed with the possibility that they will be ridden by two people together. I would think that the foot bed is made as large as possible within design constraints, and there is ‘empty’ handlebar area left available for a second rider to hold on to. Even if a situation isn’t a primary design consideration, it doesn’t mean that it wasn’t designed for. Let’s say you are an adult with 6 and 8 year old kids at the Tempe Transportation Center. What is a quickest safe way, as pedestrians, to get to Gammage Auditorium? (a) have the kids ride their bikes (b) have the kids each ride regular kick scooters (c) load them both up on one Bird scooter and ride them to Gammage. I would say (c), and it’s not even close. You could argue that this triplet couldn’t maneuver very well. However, that’s the exact goal, to limit the mobility of the passengers, to limit risk, as compared to the other available options. (This would also be an example of a situation where creating more 7-year-old friendly ROW infrastructure would be helpful). In general, I think the city needs to try to match pedestrian/bike/scooter user behavior with right-of-way infrastructure. So what priorities would I have: = i would lower the max speed limit in central Tempe to 35mph for arterial streets. (bounded by I-10/202/101/60); = i would put unbuffered (at a minimum) bike lanes on all arterials in central Tempe (bounded by I-10/202/101/60); = i would put geofenced speed limiting on e-scooters in high pedestrian zones (ASU campus, Mill St)

51. Several bike lanes are poorly maintained and don’t allow for safe crossing at intersections. Price Rd is an example. There needs to be some protection where people turn right onto E-W main roads. Thanks for considering.

52. Adding more regulation to the city code that duplicates language in the state code can be both confusing and conflicting (where the language is not 100%
identical). It would be better to let the state code stand without clear reason for writing near identical regulations for the city.

53. Why are pedestrians shunted off to the side of the road? In areas like downtown Tempe, pedestrians should have full right-of-way at all times. Why is most of our city reserved for the exclusive use of those who own cars? It's not just silly, but tragic. There would be no traffic deaths if we didn't prioritize automobile commute times over peoples lives.
DATE
May 14, 2019

SUBJECT
Tempe/Mesa Streetcar Feasibility Study

PURPOSE
The purpose of this memo is to provide the Transportation Commission with information and an update on the Tempe/Mesa Streetcar Feasibility Study.

BACKGROUND INFORMATION:
Through a partnership between the City of Tempe, City of Mesa and Valley Metro, the Tempe/Mesa Streetcar Feasibility Study is evaluating the potential of a future streetcar system to connect the current Tempe Streetcar route in downtown Tempe with other points of interest, planned development and emerging transit corridors. The budget for the study is $600,000 and is co-funded by Tempe and Mesa. The Tempe/Mesa Streetcar Feasibility Study (TMSFS) will identify potential corridors as part of a future streetcar system to serve Tempe and Mesa. The study will inform a future regional funding initiative for transit capital investments.

The study area is bounded by State Route 202 (Loop 202) to the north, Country Club Drive to the east, Baseline Road to the south and Priest Drive to the west.

The purpose of a future streetcar system extension is to improve mobility by providing a dependable and efficient transit option that serves employment and activity centers, educational facilities and residential areas in and around Mesa Riverview, Fiesta District, Tempe Marketplace, Marina Heights, Arizona State University, downtown Tempe, downtown Mesa, Tempe Public Library and the developing Novus Innovation Corridor.

Expansion of the streetcar system in the study area would:
- Extend the streetcar system from downtown Tempe and Arizona State University to additional residential areas and destinations.
- Connect major regional destinations, downtowns, public facilities, university/community college campuses, employment cores and multi-unit residential areas.
- Aid mobility of transit-dependent populations.
- Assist with travel demand within the study area and between downtown Tempe and downtown Mesa.
- Support growing population and employment in the study area, along with the local planning priorities for transportation, land use and economic development.
- Further the momentum of economic and transit-oriented development in the study area.
- Enhance high-capacity transit connectivity by interfacing with existing light rail and potential future projects in the Fiesta District and along the Arizona Avenue corridor in the city of Chandler.
- Enhance multi-modal connectivity between streetcar, high-ridership bus and circulator routes, and pedestrian and bicycle facilities.

The study uses a tiered approach that includes: Initial Screening, Tier 1 Evaluation, Tier 2 Evaluation and Corridor Recommendation.
Initial Screening
The Initial Screening identified corridors that meet the project’s purpose and have high propensity for transit improvements. The screening evaluated potential streetcar corridors, including:

- identifying major north/south and east/west roadways in the study area with potential for segmentation at logical terminus points, including major intersections and freeways; and
- examining potential corridors outside roadway footprints, particularly the Tempe Town Lake south bank as an alternative to a portion of Rio Salado Parkway.

Corridors were then divided into logical segments for the Tier 1 Evaluation, developed in accordance with the Purpose and in collaboration with the Project Management Team (PMT).

Tier 1 Evaluation
After completing the initial screening of arterials, the remaining corridors were subdivided into smaller segments for the Tier 1 Evaluation, a quantitative high-level analysis that assessed general impacts to the physical environment, cost assumptions and operating characteristics, with streetcar as the assumed mode.

Tier 1 Evaluation criteria categories included: ridership potential, land use and economic development, physical and engineering constraints, and transportation network integrity and functionality. The Tier 1 Evaluation was completed in March, with the following alternative corridors identified for advancement to Tier 2:

- Rio Salado Parkway
- Dobson Road
- Rural Road
- Southern Avenue
- Country Club Drive
- Mill Avenue

![Map of corridors](image-url)
Tier 2 Evaluation
As the study advances to the Tier 2 Evaluation, a quantitative in-depth analysis, the study team will develop conceptual designs of the streetcar alternatives, including corresponding stop/station locations, which will generally be based on typical spacing affiliated with streetcar, access to activity centers and connections to existing transit service. Tier 2 Evaluation criteria categories include: mobility improvements, access, impacts, land use and economic development, cost, efficiencies and community support. The study will result in recommended corridors for future regional transit funding.

Community Outreach
Targeted community outreach for Tier 1 included: key stakeholders and property owners, website, information at public meetings for related projects, and presentations to relevant boards and commissions, including:
- Commission on Disability Concerns
- Historic Preservation Commission
- Tempe Sustainability Commission
- Tempe Transportation Commission
- Neighborhood Advisory Commission
- Parks, Recreation and Golf Advisory Board
- Development Review Commission
- Arts and Culture Commission

Community outreach for Tier 2 will be more expansive, with broader engagement through public meetings, businesses and community organizations, online questionnaires and feedback.

FISCAL IMPACT
None

RECOMMENDATION
None

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ATTACHMENTS
PowerPoint
Tier 1 Evaluation Report
• Partners: Tempe, Mesa, Valley Metro
• Purpose: Evaluate Streetcar as high-capacity transit option, further extensions
• Budget: $600,000 co-funded by Tempe & Mesa
Overview & Purpose

• Evaluate possible streetcar extension(s) to Tempe & Mesa
  • Link Tempe Streetcar with key regional activity centers, employment, residential

• Public & stakeholder outreach

• Identify potential next steps
  • Prepare for next phase of regional funding (Prop 400E)
Outreach & Key Stakeholders

- ASU | TCA | Marketplace | Tempe Public Library Complex | Mesa Riverview | Chicago Cubs/Sloan Park | Mesa Community College | Fiesta District | Banner Desert | SRPMIC | Phoenix Rising

- Boards & Commissions
Study Area

- Loop 202
- Baseline Road
- Priest Drive
- Country Club Drive
Initial Phase Evaluation Criteria

• **Data used in evaluation**
  • Ridership potential and demand
    • Existing and future transit service
  • Existing and future employment and residential densities
  • Transit-oriented land use & economic development potential
  • Arterial & collector street system impacts (traffic and right of way)
  • Utility, engineering, roadway constraints
First Phase Evaluation Results

- Top performing corridors to advance for detailed review:
  - Rio Salado Parkway (Tempe, Mesa)
  - Dobson Road (Mesa)
  - Southern Avenue (Tempe, Mesa)
  - Country Club Drive (Mesa)
  - Mill Avenue (Tempe)
  - Rural Road (Tempe)
Next Steps

- **Detailed analysis**
  - Ridership forecasts
  - Cost estimates
  - Detailed land use & economic development
  - Cost

- **Stakeholder outreach**

- **Corridor recommendations for future regional funding/Prop 400E**

- **Council Direction & Regional Support**
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1.0 INTRODUCTION

Valley Metro, with the cities of Tempe and Mesa, is evaluating the potential of a future streetcar system to connect the current Tempe Streetcar route in downtown Tempe with other points of interest, planned development and emerging transit corridors. The Tempe/Mesa Streetcar Feasibility Study (TMSFS) will identify potential corridors as part of a future streetcar system to serve Tempe and Mesa, and inform a future regional funding initiative for transit capital investments. The study area for TMSFS is defined as the area bounded by State Route 202 (Loop 202) to the north, Country Club Drive to the east, Baseline Road to the south and Priest Drive to the west (Figure 1).

FIGURE 1: TEMPE/MESA STREETCAR FEASIBILITY STUDY AREA MAP

This report summarizes the Tier 1 Evaluation results and provides a definition of the alternative corridors that are recommended for advancement to the Tier 2 Evaluation.
2.0 PURPOSE

The purpose of the streetcar system extension is to improve mobility by providing a dependable and efficient transit option that serves employment, activity centers, educational facilities and residential areas in and around Mesa Riverview, Fiesta District, Tempe Marketplace, Marina Heights, Arizona State University, downtown Tempe, downtown Mesa, Tempe Public Library and the developing Novus Innovation Corridor. Expansion of the streetcar system in the study area would:

- Extend the streetcar system from downtown Tempe and Arizona State University to additional residential areas and destinations.
- Connect major regional destinations, downtowns, public facilities, university/community college campuses, employment cores and multi-unit residential areas.
- Aid mobility of transit-dependent populations.
- Assist with travel demand within the study area and between downtown Tempe and downtown Mesa.
- Support growing population and employment in the study area, along with the local planning priorities for transportation, land use and economic development.
- Further the momentum of economic and transit-oriented development in the study area.
- Enhance high-capacity transit connectivity by interfacing with existing light rail and potential future projects in the Fiesta District and along the Arizona Avenue corridor in the city of Chandler.
- Enhance multi-modal connectivity between streetcar, high-ridership bus and circulator routes, and pedestrian and bicycle facilities.
- Identify potential improvements that can be adopted to make the corridors more competitive for future transit investments.
- Support regional efforts for congestion mitigation and air quality improvement.
3.0 EVALUATION METHODOLOGY

For the purpose of the TMSFS, the study team will use a two-tiered screening process to evaluate potential streetcar corridors. Figure 2 illustrates the overall structure of the evaluation methodology.

FIGURE 2: EVALUATION METHODOLOGY

During initial screening, the study team identified major north/south and east/west roadways in the study area with potential for segmentation at logical terminus points, including major intersections and freeways. The evaluation also examined potential corridors outside roadway footprints, particularly the Tempe Town Lake south bank as an alternative to a portion of Rio Salado Parkway.

Corridors were then divided into logical segments for the Tier 1 Evaluation, developed in accordance with the Purpose and in collaboration with the Project Management Team (PMT). The Tier 1 Evaluation assessed general impacts to the physical environment, cost assumptions, ridership potential and operating characteristics affiliated with streetcar as the assumed transit mode.

As the study advances to the Tier 2 Evaluation, the study team will develop conceptual designs of the streetcar alignment alternatives, including corresponding stop/station locations. Stops/stations will generally be based on typical spacing affiliated with streetcar, access to activity centers and connections to existing transit service.
4.0 INITIAL SCREENING AND RESULTS

4.1 INITIAL SCREENING

After the identification of preliminary corridors based on major roadways, transit propensity was assessed based on input from the Phase I Screening Results from: the MAG Regional Transit Framework Study (RTFS) provided in February 2018 (http://www.azmag.gov/Programs/Transportation/Transit/Regional-Transit-Framework-Study); the Valley Metro Transit Standards and Performance Measures (TSPM) Transit Propensity Tool; and compatibility to local transportation or transit master plans. Table 1 lists these corridors.

TABLE 1: INITIAL CORRIDORS SCREENED

<table>
<thead>
<tr>
<th>Label</th>
<th>Corridor</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rio Salado Parkway</td>
<td>Marina Heights</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>2</td>
<td>Rio Salado Parkway</td>
<td>Priest Drive</td>
<td>Ash Avenue</td>
</tr>
<tr>
<td>3</td>
<td>University Drive</td>
<td>Mill Avenue</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>4</td>
<td>Broadway Road</td>
<td>Mill Avenue</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>5</td>
<td>Southern Avenue</td>
<td>Mill Avenue</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>6</td>
<td>Baseline Road</td>
<td>Mill Avenue</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>7</td>
<td>Mill Avenue</td>
<td>Apache Boulevard</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>8</td>
<td>Rural Road</td>
<td>Loop 202</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>9</td>
<td>McClintock Drive</td>
<td>Loop 202</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>10</td>
<td>Dobson Road</td>
<td>Loop 202</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>11</td>
<td>Alma School Road</td>
<td>Bass Pro Drive</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>12</td>
<td>Extension Road</td>
<td>University Drive</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>13</td>
<td>Country Club Drive</td>
<td>Brown Road</td>
<td>Baseline Road</td>
</tr>
</tbody>
</table>

4.2 RESULTS

Figure 3 shows the results of the initial screening. Each corridor was assigned a qualitative assessment describing its compatibility with the project’s goals and objectives (low, medium or high). The four corridors with the poorest performance in the initial screening received an evaluation of “Low” and were removed from consideration for the Tier 1 analysis. These corridors included Baseline Road, McClintock Drive, Alma School Road and Extension Road. An off-road segment running along the south bank of Tempe Town Lake was also identified by the PMT to advance to the Tier 1 Evaluation. Appendix A includes the full Initial Screening Results Matrix, which details the preliminary evaluation results and data for each corridor.
FIGURE 3: INITIAL SCREENING RATINGS
5.0 TIER 1 EVALUATION AND RESULTS

5.1 SEGMENT DEFINITION

After completing the initial screening of arterials, the remaining corridors were subdivided into smaller segments. The higher performing segments, based on the Tier 1 analysis, are then joined and advanced as corridors into the Tier 2 Evaluation. Figure 4 shows the segments within the study area. Table 2 also describes the segments and their boundaries.

FIGURE 4: TIER 1 SEGMENTS
TABLE 2: TIER 1 SEGMENTS

<table>
<thead>
<tr>
<th>Label</th>
<th>Corridor</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Rio Salado Parkway</td>
<td>Marina Heights</td>
<td>Dobson Road</td>
</tr>
<tr>
<td>1b</td>
<td>Rio Salado Parkway</td>
<td>Dobson Road</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>1c</td>
<td>Tempe Town Lake South Bank</td>
<td>Marina Heights</td>
<td>Rio Salado Parkway</td>
</tr>
<tr>
<td>2a</td>
<td>Rio Salado Parkway</td>
<td>Priest Drive</td>
<td>Ash Avenue</td>
</tr>
<tr>
<td>3a</td>
<td>University Drive</td>
<td>Mill Avenue</td>
<td>Rural Road</td>
</tr>
<tr>
<td>3b</td>
<td>University Drive</td>
<td>Rural Road</td>
<td>Dobson Road</td>
</tr>
<tr>
<td>3c</td>
<td>University Drive</td>
<td>Dobson Road</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>4a</td>
<td>Broadway Road</td>
<td>Mill Avenue</td>
<td>Rural Road</td>
</tr>
<tr>
<td>4b</td>
<td>Broadway Road</td>
<td>Rural Road</td>
<td>Dobson Road</td>
</tr>
<tr>
<td>4c</td>
<td>Broadway Road</td>
<td>Dobson Road</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>5a</td>
<td>Southern Avenue</td>
<td>Mill Avenue</td>
<td>Rural Road</td>
</tr>
<tr>
<td>5b</td>
<td>Southern Avenue</td>
<td>Rural Road</td>
<td>Dobson Road</td>
</tr>
<tr>
<td>5c</td>
<td>Southern Avenue</td>
<td>Dobson Road</td>
<td>Country Club Drive</td>
</tr>
<tr>
<td>7a</td>
<td>Mill Avenue</td>
<td>Apache Boulevard</td>
<td>Southern Avenue</td>
</tr>
<tr>
<td>7b</td>
<td>Mill Avenue</td>
<td>Southern Avenue</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>8a</td>
<td>Rural Road</td>
<td>Loop 202</td>
<td>Apache Boulevard</td>
</tr>
<tr>
<td>8b</td>
<td>Rural Road</td>
<td>Apache Boulevard</td>
<td>Southern Avenue</td>
</tr>
<tr>
<td>8c</td>
<td>Rural Road</td>
<td>Southern Avenue</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>10a</td>
<td>Dobson Road</td>
<td>Loop 202</td>
<td>Main Street</td>
</tr>
<tr>
<td>10b</td>
<td>Dobson Road</td>
<td>Main Street</td>
<td>Southern Avenue</td>
</tr>
<tr>
<td>10c</td>
<td>Dobson Road</td>
<td>Southern Avenue</td>
<td>Baseline Road</td>
</tr>
<tr>
<td>13a</td>
<td>Country Club Drive</td>
<td>Brown Road</td>
<td>Main Street</td>
</tr>
<tr>
<td>13b</td>
<td>Country Club Drive</td>
<td>Main Street</td>
<td>Southern Avenue</td>
</tr>
<tr>
<td>13c</td>
<td>Country Club Drive</td>
<td>Southern Avenue</td>
<td>Baseline Road</td>
</tr>
</tbody>
</table>

5.2 EVALUATION CRITERIA

The Tier 1 Evaluation is a generally qualitative analysis of the segments. Table 3 identifies the Tier 1 Evaluation criteria and associated elements. This set of criteria determines whether the alternatives meet the goals and objectives of the TMSFS and the Purpose Statement.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Elements of Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridership Potential</td>
<td>Population Density</td>
<td>Total population per square mile within ¼-mile of segment (2016 American Community Survey).</td>
</tr>
<tr>
<td></td>
<td>Low-Income Population Density</td>
<td>Population at 100% poverty level or under per square mile within ¼-mile of segment (2016 American Community Survey).</td>
</tr>
<tr>
<td></td>
<td>Zero-car Household Density</td>
<td>Number of households with zero cars per square mile within ¼-mile of segment (2016 American Community Survey).</td>
</tr>
<tr>
<td></td>
<td>Employment Density</td>
<td>Future employment data (jobs per square mile) within ¼-mile of segment (2040 Maricopa Association of Governments).</td>
</tr>
<tr>
<td></td>
<td>Activity Center Destinations Served</td>
<td>Number of activity centers and destinations potentially serving segment (macro-level).</td>
</tr>
<tr>
<td></td>
<td>Existing and Future Transit Connections</td>
<td>Number of transit routes interfacing within ¼-mile buffer of segment (Valley Metro 2018).</td>
</tr>
<tr>
<td></td>
<td>Existing Transit Ridership</td>
<td>Bus stop-level average weekday boardings per stop and light rail average boardings for all days per station within ¼-mile of segment (Valley Metro January - March 2018).</td>
</tr>
<tr>
<td>Land Use and Economic Development</td>
<td>Consistency with Land Use Plans and Policies</td>
<td>Segment’s consistency with existing city and regional economic plans/policies (Tempe future land use and density maps, Mesa 2040 General Plan, and MAG Future Land Use Map).</td>
</tr>
<tr>
<td></td>
<td>Redevelopment Opportunities</td>
<td>Acres of land (per mile) compatible for redevelopment (commercial, public, or vacant) within ¼-mile of segment (2016 MAG Land Use file).</td>
</tr>
<tr>
<td>Criteria</td>
<td>Elements of Criteria</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Physical and Engineering Constraints</td>
<td>Railroad Crossings</td>
<td>Number of freight railroad crossings either at or above/below grade.</td>
</tr>
<tr>
<td></td>
<td>Freeway Crossings</td>
<td>Number of freeway crossings either at or above/below grade.</td>
</tr>
<tr>
<td></td>
<td>Potential Right of Way Issues</td>
<td>Identification of areas with narrow right-of-way along the segment (based on Maricopa County Assessor’s parcel data).</td>
</tr>
<tr>
<td></td>
<td>Potential Environmental Issues</td>
<td>List of environmental issues that may require mitigation within ½-mile of segment.</td>
</tr>
<tr>
<td>Transportation Network Integrity and Functionality</td>
<td>Traffic Congestion of Segment</td>
<td>Volume over capacity ratio or Level of Service (LOS) of arterial segment (forecasted 2040 LOS).</td>
</tr>
<tr>
<td></td>
<td>Transit Speed and Reliability Impediments</td>
<td>List of obvious transit speed and reliability impediments (signaled intersections, turning conflicts, special events, etc.).</td>
</tr>
<tr>
<td></td>
<td>Transportation Plan Consistency</td>
<td>Consistency with Mesa Transit Plan 2040, City of Tempe Transportation Master Plan and regional transportation studies.</td>
</tr>
<tr>
<td></td>
<td>Volume to Capacity</td>
<td>Qualitative assessment of volume over capacity ratio based on Average Daily Traffic and number of through traffic lanes along segment.</td>
</tr>
</tbody>
</table>

Each segment was analyzed and assigned a score for each of the 17 criteria elements. Seven of the elements were selected in collaboration with the PMT to have a higher weighted score. Those criteria were selected because they aligned with the Purpose of the TMSFS. The criteria elements that were assigned higher weights were:

- Low-income population density
- Zero-car household density
- Activity center destinations served
- Land use plan/policy consistency
- Potential right of way issues
- Transportation plan consistency
- Volume to capacity
For each segment, the individual scores for each criteria were totaled to produce an overall score. The segments’ scores were ranked to determine which segments would be most compatible for future streetcar service and justified for further analysis in the Tier 2 Evaluation.

5.3 RESULTS

Figure 5 shows how each segment performed by ranking. Table 4 summarizes the results for the segments recommended for advancement to Tier 2, while Table 5 summarizes the results for the segments not recommended for advancement. Generally, the segments with higher scores are recommended to advance to Tier 2. Both tables also include details for the recommendation of each segment. Appendix B provides the full Tier 1 Evaluation Matrix, which shows the details and data for each criteria.

FIGURE 5: TIER 1 RESULTS
### TABLE 4: TIER 1 SEGMENTS RECOMMENDED FOR ADVANCEMENT

<table>
<thead>
<tr>
<th>Label</th>
<th>Corridor</th>
<th>Segment</th>
<th>Ridership</th>
<th>Economic</th>
<th>Physical</th>
<th>Transportation</th>
<th>Justification</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Rio Salado Pkwy</td>
<td>Marina Heights to Dobson Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Connects to major activity centers and future development in Tempe and Mesa, such as ASU Main Campus, Novus Innovation Corridor, Tempe Marketplace and Mesa Riverview.</td>
<td>10</td>
</tr>
<tr>
<td>2a</td>
<td>Rio Salado Pkwy</td>
<td>Priest Dr. to Ash Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Connects to major activity centers in Tempe such as Tempe Beach Park, Tempe Center for the Arts, and future economic development, such as I.D.E.A. Tempe Campus.</td>
<td>5</td>
</tr>
<tr>
<td>5a</td>
<td>Southern Ave.</td>
<td>Mill Ave. to Rural Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Connects to major activity centers such as the Tempe Public Library and the Tempe History Museum with good transportation integration potential into existing roadway.</td>
<td>8</td>
</tr>
<tr>
<td>5c</td>
<td>Southern Ave.</td>
<td>Dobson Rd. to Country Club Dr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Top performing segment that connects to major activity centers such as Banner Desert Medical Center and Mesa Community College, and has future economic development potential at the former Fiesta Mall.</td>
<td>2</td>
</tr>
<tr>
<td>7a</td>
<td>Mill Ave.</td>
<td>Apache Blvd. to Southern Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Connects to major activity centers, such as Tempe High School and Tempe St. Luke’s Hospital. Provides access from Tempe Streetcar to a top performing segment and additional activity centers on Southern Avenue. Identified in previous plans and studies for high capacity transit.</td>
<td>18</td>
</tr>
<tr>
<td>8a</td>
<td>Rural Rd.</td>
<td>Loop 202 to Apache Blvd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Top performing segment with good to moderate performance in all criteria. Connects to Marina Heights, ASU Main Campus and Novus Innovation Corridor. Intersects with existing light rail.</td>
<td>1</td>
</tr>
<tr>
<td>8b</td>
<td>Rural Rd.</td>
<td>Apache Blvd. to Southern Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Top performing segment with good to moderate performance in all criteria. Connects to Marina Heights, ASU Main Campus and Novus Innovation Corridor. Intersects with existing light rail.</td>
<td>7</td>
</tr>
<tr>
<td>10a</td>
<td>Dobson Rd.</td>
<td>Loop 202 to Main St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Connects to major activity centers such as Mesa Riverview and the Dobson Business Corridor. Good transportation integration with connection to existing light rail.</td>
<td>12</td>
</tr>
<tr>
<td>10b</td>
<td>Dobson Rd.</td>
<td>Main St. to Southern Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Top performing segment with connection to major activity centers such as Dobson Business Corridor and Banner Desert Medical Center. Intersects with existing light rail.</td>
<td>4</td>
</tr>
<tr>
<td>13b</td>
<td>Country Club Dr.</td>
<td>Main St. to Southern Ave.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Top performing segment with connection to downtown Mesa and identified for future high capacity transit investments. Intersects with existing light rail.</td>
<td>2</td>
</tr>
</tbody>
</table>

- Optimal Performance; ▲ Moderate Performance; ◆ Substandard Performance
### TABLE 5: TIER 1 SEGMENTS NOT RECOMMENDED FOR ADVANCEMENT

<table>
<thead>
<tr>
<th>Label</th>
<th>Corridor</th>
<th>Segment</th>
<th>Ridership</th>
<th>Economic</th>
<th>Physical</th>
<th>Transportation</th>
<th>Justification</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b</td>
<td>Rio Salado Pkwy</td>
<td>Dobson Rd. to Country Club Dr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria with primarily single-family residential development. This segment has not been recommended for future high-capacity transit in previous plans and studies.</td>
<td>23</td>
</tr>
<tr>
<td>1c</td>
<td>Tempe Town Lake</td>
<td>Marina Heights to Rio Salado</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Poor ridership potential and transportation integration due to difficulty accessing properties on south side of Rio Salado. Physical constraint issues due to location along river embankment and existing McClintock Dr. Bridge.</td>
<td>15</td>
</tr>
<tr>
<td>3a</td>
<td>University Dr.</td>
<td>Mill Ave. to Rural Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Physical constraint issues due to limited and congested public right of way. Area already served by high-capacity and frequent transit services.</td>
<td>5</td>
</tr>
<tr>
<td>3b</td>
<td>University Dr.</td>
<td>Rural Rd. to Dobson Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria. Runs parallel to existing light rail.</td>
<td>15</td>
</tr>
<tr>
<td>3c</td>
<td>University Dr.</td>
<td>Dobson Rd. to Country Club Dr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria. Lack of economic development opportunities and low ridership potential. Land use is not ideal for high capacity transit.</td>
<td>21</td>
</tr>
<tr>
<td>4a</td>
<td>Broadway Rd.</td>
<td>Mill Ave. to Rural Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria. Segment was not identified in plans or studies for future high capacity transit investments. Lack of economic development opportunities.</td>
<td>21</td>
</tr>
<tr>
<td>4b</td>
<td>Broadway Rd.</td>
<td>Rural Rd. to Dobson Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Good ridership potential with substantial multi-family housing, but travel market already served by existing light rail running parallel on Apache Boulevard/Main Street.</td>
<td>8</td>
</tr>
<tr>
<td>4c</td>
<td>Broadway Rd.</td>
<td>Dobson Rd. to Country Club Dr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moderate performance similar to 4b, but travel market already served by existing light rail running parallel on Main Street.</td>
<td>12</td>
</tr>
<tr>
<td>5b</td>
<td>Southern Ave.</td>
<td>Rural Rd. to Dobson Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria. Primarily single-family residential land use along segment is not conducive to high-capacity transit investment. Could be analyzed for future enhanced transit services.</td>
<td>18</td>
</tr>
<tr>
<td>7b</td>
<td>Mill Ave.</td>
<td>Southern Ave. to Baseline Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low performance in all criteria due to poor transit-oriented land use surrounding US Route 60. No significant opportunities for economic development or connecting major activity centers.</td>
<td>23</td>
</tr>
<tr>
<td>8c</td>
<td>Rural Rd.</td>
<td>Southern Ave. to Baseline Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low performance in all criteria due to poor transit-oriented land use surrounding US Route 60. No significant opportunities for economic development or connecting major activity centers.</td>
<td>20</td>
</tr>
<tr>
<td>10c</td>
<td>Dobson Rd.</td>
<td>Southern Ave. to Baseline Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low performance in all criteria due to poor transit-oriented land use surrounding US Route 60. No significant opportunities for economic development or connecting major activity centers.</td>
<td>15</td>
</tr>
<tr>
<td>13a</td>
<td>Country Club Dr.</td>
<td>Brown Rd. to Main St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low to moderate performance in all criteria. Lack of economic development opportunities and low ridership potential. Land use is not ideal for high capacity transit.</td>
<td>12</td>
</tr>
<tr>
<td>13c</td>
<td>Country Club Dr.</td>
<td>Southern Ave. to Baseline Rd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Poor ridership potential due to a lack of residential uses and transportation integration issues due to proximity to US Route 60.</td>
<td>10</td>
</tr>
</tbody>
</table>

- ● Optimal Performance
- ▲ Moderate Performance
- ◆ Substandard Performance
6.0 TIER 2 ALTERNATIVES AND EVALUATION CRITERIA
6.1 ALTERNATIVES DEFINITION

Given the results of the Tier 1 Evaluation, the PMT identified five potential alternatives to advance to Tier 2 Evaluation for further analysis. Figure 6 maps these Tier 2 Alternatives. The proposed alternatives contain one or more segments from the Tier 1 Evaluation as follows:

**Alternative 1a** is composed of segment 1a, beginning at the end of the Tempe Streetcar line at Marina Heights and running east along Rio Salado Parkway to Dobson Road. This alternative is approximately 3.4 miles long and connects downtown Tempe, Arizona State University, Tempe Marketplace and Mesa Riverview District. This alternative also runs along the planned Novus Innovation Corridor, and can be phased with Alternative 1b to connect to additional activity centers in Mesa.

**Alternative 1b** is composed of segments 10a, 10b, 5c and 13b. This alternative begins at Dobson Road/Rio Salado Parkway where Alternative 1a ends, travels south on Dobson Road to Southern Avenue, then travels east to Country Club Drive where it turns north and ends at Country Club Drive/Main Street. This alternative is approximately 6.0 miles long and connects Mesa Riverview District, East Valley Institute of Technology, Dobson Business Corridor, Fiesta District and downtown Mesa.

**Alternative 2** is composed of segments 7a and 5a, beginning at Apache Boulevard/Mill Avenue and going south to Southern Avenue. The alternative then heads east before ending at Southern Avenue/Rural Road. This alternative is approximately 2.5 miles long and connects downtown Tempe, Arizona State University and the Tempe Public Library and History Museum.

**Alternative 3** is composed of segments 8a, 8b and 5a. Beginning at the end of the Tempe Streetcar line at Marina Heights, this alternative travels south on Rural Road to Southern Avenue, turning west and ending at Southern Avenue/Mill Avenue. This alternative is approximately 3.2 miles long and connects Arizona State University, Novus Innovation District and the Tempe Public Library and History Museum.

**Alternative 4** is composed of segment 2a, running along Rio Salado Parkway from Priest Drive to Ash Avenue. This alternative is approximately 1.2 miles long and connects the Tempe Center for the Arts and Tempe Beach Park.

A series of maps in Appendix C illustrates the performance of the identified alternatives with data used in the Tier 1 Evaluation.
FIGURE 6: RECOMMENDED TIER 2 ALTERNATIVES

6.2 POTENTIAL FUTURE STREETCAR OPPORTUNITIES

Despite the elimination of certain segments resulting from the Tier 1 Evaluation, unanticipated future circumstances may warrant reevaluating these corridors. For example, future development or activity centers in the study area could drive a desire to serve these areas with a streetcar travel mode. Figure 7 presents the segments that could warrant future streetcar consideration:

- Rio Salado Parkway between Dobson Road to Country Club Drive
- Southern Avenue between Rural Road and Dobson Road
- Country Club Drive between Rio Salado Parkway and Main Street
- Rio Salado Parkway west of Priest Drive
- Mill Avenue north of Rio Salado Parkway
- Rural Road north of Rio Salado Parkway
6.3 EVALUATION CRITERIA

The Tier 2 Evaluation is the secondary screening of the potential streetcar alternatives identified in Tier 1. The recommended alternatives will undergo a detailed, generally quantitative analysis. Table 6 identifies the Tier 2 Evaluation criteria and associated elements. These criteria may be updated, expanded or modified in collaboration with the PMT.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Elements of Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobility Improvements</strong></td>
<td></td>
</tr>
<tr>
<td>Forecasted daily transit trips</td>
<td></td>
</tr>
<tr>
<td>Forecasted zero-car transit trips</td>
<td></td>
</tr>
<tr>
<td>Peak period travel time</td>
<td></td>
</tr>
<tr>
<td>Connectivity with other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>regional high capacity transit</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td></td>
</tr>
<tr>
<td>Population in study area</td>
<td></td>
</tr>
<tr>
<td>Employment in study area</td>
<td></td>
</tr>
<tr>
<td>Publicly-supported housing in</td>
<td></td>
</tr>
<tr>
<td>study area</td>
<td></td>
</tr>
<tr>
<td>Connections with other transit</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>routes</td>
<td></td>
</tr>
<tr>
<td>Connections with bikeways/multi-</td>
<td></td>
</tr>
<tr>
<td>use paths</td>
<td></td>
</tr>
<tr>
<td><strong>Impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Non-transit vehicle lanes</td>
<td></td>
</tr>
<tr>
<td>Right of way/land acquisition</td>
<td></td>
</tr>
<tr>
<td>Historical and cultural resources</td>
<td></td>
</tr>
<tr>
<td>Section 4(f) resources</td>
<td></td>
</tr>
<tr>
<td>Environmental issues</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
</tr>
<tr>
<td><strong>Land Use and Economic</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Development</strong></td>
<td></td>
</tr>
<tr>
<td>Consistency with adopted land</td>
<td></td>
</tr>
<tr>
<td>use plans and policies</td>
<td></td>
</tr>
<tr>
<td>Redevelopment/transit-oriented</td>
<td></td>
</tr>
<tr>
<td>development opportunities</td>
<td></td>
</tr>
<tr>
<td>Opportunity for integration into</td>
<td></td>
</tr>
<tr>
<td>emerging developments</td>
<td></td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td></td>
</tr>
<tr>
<td>Rough order-of-magnitude</td>
<td></td>
</tr>
<tr>
<td>capital cost</td>
<td></td>
</tr>
<tr>
<td>Rough order-of-magnitude</td>
<td></td>
</tr>
<tr>
<td>operations and maintenance</td>
<td></td>
</tr>
<tr>
<td>cost</td>
<td></td>
</tr>
<tr>
<td>Cost effectiveness</td>
<td></td>
</tr>
<tr>
<td>Opportunity for financial</td>
<td></td>
</tr>
<tr>
<td>partnerships/shared costs</td>
<td></td>
</tr>
<tr>
<td><strong>Efficiencies</strong></td>
<td></td>
</tr>
<tr>
<td>Operating efficiency</td>
<td></td>
</tr>
<tr>
<td>Transit speed and reliability</td>
<td></td>
</tr>
<tr>
<td>impediments and improvements</td>
<td></td>
</tr>
<tr>
<td>Scalability</td>
<td></td>
</tr>
<tr>
<td><strong>Public Support</strong></td>
<td></td>
</tr>
<tr>
<td>Community and stakeholder</td>
<td></td>
</tr>
<tr>
<td>support</td>
<td></td>
</tr>
</tbody>
</table>
7.0 STAKEHOLDER OUTREACH

From late 2018 through early 2019, Valley Metro, city of Mesa and city of Tempe conducted community outreach through a series of meetings that provided a high-level introduction to the study including information about process, next steps to advance alternatives and timeline for community to actively provide feedback at future updates. The project team provided updates at local board and commission meetings and partnered with other project/study teams to present streetcar extension study information at their public meetings within the study area (Table 7). Particular areas of interest from community members included future project funding and how the streetcar extension study fits into the existing transit system. In general, community members reacted positively to the study purpose and goals and many expressed interest in the results of the study and next steps.

TABLE 7: STAKEHOLDER OUTREACH EVENTS

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Date of Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Meeting: Tempe Streetcar Final Design Open House</td>
<td>June 20, 2018</td>
</tr>
<tr>
<td>Public Meeting: Tempe Urban Core Master Plan</td>
<td>September 20, 2018</td>
</tr>
<tr>
<td>Public Meeting: Tempe Urban Core Master Plan</td>
<td>September 20, 2018</td>
</tr>
<tr>
<td>Public Meeting: Tempe Urban Core Master Plan</td>
<td>September 22, 2018</td>
</tr>
<tr>
<td>Public Meeting: Tempe Streetcar Construction Open House</td>
<td>November 8, 2018</td>
</tr>
<tr>
<td>City of Mesa: Transportation Advisory Board</td>
<td>November 20, 2018</td>
</tr>
<tr>
<td>City of Mesa: Economic Development Advisory Board</td>
<td>December 4, 2018</td>
</tr>
<tr>
<td>City of Tempe: Transportation Commission</td>
<td>December 11, 2018</td>
</tr>
<tr>
<td>City of Tempe: Development Review Commission</td>
<td>December 11, 2018</td>
</tr>
<tr>
<td>City of Tempe: Neighborhood Advisory Commission</td>
<td>December 12, 2018</td>
</tr>
<tr>
<td>City of Tempe: Parks, Recreation and Golf Advisory Board</td>
<td>December 19, 2018</td>
</tr>
<tr>
<td>City of Tempe: Historic Preservation Commission</td>
<td>January 9, 2019</td>
</tr>
<tr>
<td>City of Tempe: Sustainability Commission</td>
<td>January 14, 2019</td>
</tr>
<tr>
<td>Stakeholder Meeting: ASU Novus Corridor</td>
<td>January 14, 2019</td>
</tr>
<tr>
<td>City of Tempe: Commission on Disability Concerns</td>
<td>February 4, 2019</td>
</tr>
<tr>
<td>City of Tempe: Arts and Culture Commission</td>
<td>February 13, 2019</td>
</tr>
</tbody>
</table>
8.0 NEXT STEPS

Design concepts will be developed for each alternative advancing to Tier 2. Identification of station locations, capital and operating cost estimates, and ridership forecasting will be conducted for the Tier 2 alternatives. The project team will use this information for the Tier 2 Evaluation and recommend potential streetcar corridors for future regional transit funding. Additionally, stakeholder outreach will continue throughout the process to inform the identification of a recommended alternative.
APPENDIX A:
INITIAL SCREENING MATRIX
<table>
<thead>
<tr>
<th>No.</th>
<th>Corridor</th>
<th>Corridor Limits</th>
<th>Rating</th>
<th>Detail</th>
<th>Rating</th>
<th>Detail</th>
<th>Rating</th>
<th>Detail</th>
<th>Rating</th>
<th>Detail</th>
<th>Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rio Salado Pkwy (East)</td>
<td>Marina Heights to Country Club Dr</td>
<td>3</td>
<td>Tempe Streetcar extension to Tempe Marketplace</td>
<td>2</td>
<td>Route 96 extension along Rio Salado</td>
<td>2</td>
<td>High/Medium west of McClintock, Low/Medium east of McClintock</td>
<td>3</td>
<td>Very High</td>
<td>2.4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Rio Salado Pkwy (West)</td>
<td>Ash Ave to Priest Dr</td>
<td>3</td>
<td>Tempe Streetcar extension to Priest Dr</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>Low west of Ash</td>
<td>3</td>
<td>Very High</td>
<td>2.3</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>University Dr</td>
<td>Mill Ave to Country Club Dr</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>2</td>
<td>High west of McClintock, Medium east of McClintock</td>
<td>3</td>
<td>Very High</td>
<td>1.8</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Broadway Rd</td>
<td>Mill Ave to Country Club Dr</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>3</td>
<td>High</td>
<td>3</td>
<td>Very High west of Dobson, High east of Dobson</td>
<td>2.0</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Southern Ave</td>
<td>Mill Ave to Country Club Dr</td>
<td>3</td>
<td>Premium Bus</td>
<td>3</td>
<td>Premium Bus west of Country Club</td>
<td>3</td>
<td>High west of McClintock, Medium McClintock to Dobson, High east of Dobson</td>
<td>3</td>
<td>High</td>
<td>2.9</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Baseline Rd</td>
<td>Mill Ave to Country Club Dr</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>1</td>
<td>Medium west of Rural, Low east of Rural</td>
<td>3</td>
<td>High</td>
<td>1.5</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Mill Ave</td>
<td>Apache Blvd to Baseline Rd</td>
<td>3</td>
<td>Tempe Streetcar extension to Southern</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>Medium north of Broadway, Low south of Broadway</td>
<td>3</td>
<td>Very High</td>
<td>2.4</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Rural Rd</td>
<td>Loop 202 to Baseline Rd</td>
<td>3</td>
<td>Premium Bus, then HCT on Rural north of Baseline</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>High</td>
<td>3</td>
<td>High</td>
<td>3.0</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>McClintock Dr</td>
<td>Loop 202 to Baseline Rd</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>N/A</td>
<td>N/A</td>
<td>2</td>
<td>High north of Broadway, Medium Broadway to Southern, Low south of Southern</td>
<td>2</td>
<td>High north of Broadway, not included south of Broadway</td>
<td>1.6</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>Dobson Rd</td>
<td>Loop 202 to Baseline Rd</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>Premium Bus, then HCT on Dobson between Main and Southern</td>
<td>2</td>
<td>Medium north of University, High University to Broadway, Medium south of Broadway</td>
<td>2</td>
<td>Very High north of US 60, not included south of US 60</td>
<td>2.3</td>
<td>7</td>
</tr>
<tr>
<td>11</td>
<td>Alma School Rd</td>
<td>Bass Pro Dr to Baseline Rd</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>No HCT or Premium Bus identified, frequency improvements only</td>
<td>2</td>
<td>Medium</td>
<td>0</td>
<td>Not included</td>
<td>1.0</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>Extension Rd</td>
<td>University Dr to Baseline Rd</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>No HCT or Premium Bus identified</td>
<td>2</td>
<td>Medium</td>
<td>0</td>
<td>Not included</td>
<td>1.0</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>Country Club Dr</td>
<td>Brown Rd to Baseline Rd</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td>Premium Bus, then HCT on Country Club between Main and Southern, although Mesa prefers Dobson</td>
<td>2</td>
<td>Medium</td>
<td>3</td>
<td>Very High</td>
<td>2.3</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Tempe Town Lake/Rio Salado Dr</td>
<td>Marina Heights to Country Club Dr</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
</table>

**Rating:**
3 = Optimal Performance, 2 = Moderate Performance, 1 = Substandard Performance
APPENDIX B:
TIER 1 EVALUATION MATRIX
<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Description</th>
<th>Assumptions</th>
<th>Evaluation Criteria Weight</th>
<th>Option 1a Rio Salado Pkwy</th>
<th>Option 1b Rio Salado Pkwy</th>
<th>Option 1c Tempe Town Lake</th>
<th>Option 2a Rio Salado Pkwy</th>
<th>Option 2b Rio Salado Pkwy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population Density</td>
<td>Total population per square mile within 1/2 mile</td>
<td>(&lt;1,500; 1; 5,000-7,000; 2; \geq 7,000)</td>
<td>1</td>
<td>1</td>
<td>1,830</td>
<td>3</td>
<td>1,849</td>
</tr>
<tr>
<td>2</td>
<td>Low-Income Population Density</td>
<td>Population at 20% poverty level or lower per square mile</td>
<td>(&lt;0.60; 1; \geq 0.60, &lt;2.000; 2; \geq 2.000)</td>
<td>2</td>
<td>1</td>
<td>462</td>
<td>2</td>
<td>1,330</td>
</tr>
<tr>
<td>3</td>
<td>Zero-car Household Density</td>
<td>Number of zero-car households per square mile within 1/2 mile</td>
<td>(&lt;35; 1; 50-250; 2; \geq 250)</td>
<td>2</td>
<td>1</td>
<td>56</td>
<td>2</td>
<td>208</td>
</tr>
<tr>
<td>4</td>
<td>Employment Density</td>
<td>Future employment density at MAG (jobs per square mile) within 1/2 mile</td>
<td>(&lt;1,500; 1; 5,000-6,000; 2; \geq 6,000)</td>
<td>1</td>
<td>1</td>
<td>7,406</td>
<td>1</td>
<td>2,440</td>
</tr>
<tr>
<td>5</td>
<td>Activity Center Derivation</td>
<td>Number of activity centers within 0.5 mile</td>
<td>One</td>
<td>2</td>
<td>5</td>
<td>Rio Marina Height, ASU, Novus, Tempe Marketplace, Baseline Districts</td>
<td>3</td>
<td>Two</td>
</tr>
<tr>
<td>6</td>
<td>Existing and Future Transit Connections</td>
<td>Number of transit stops within 0.5 mile</td>
<td>(&lt;2; 1; 3-4; 2; \geq 5)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1 Connection; Ewing, 4 local, 4 transit</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Existing Rail Transit Ridership</td>
<td>Share of area average weekday ridership per stop</td>
<td>(&lt;1,500; 1; 2,000-3,000; 2; \geq 3,000)</td>
<td>1</td>
<td>1</td>
<td>436</td>
<td>1</td>
<td>436</td>
</tr>
</tbody>
</table>

| Subtotal | 9 | 15 | 17 | 24 |

| 8 | Land Use Plan/Policy Consistency | Segments' consistency with existing city regulations and policies, Future Land use and density maps, DMC Plan, Mesa (City) General Plan, NAG, Future Land Use Map | Poor consistency in land use plans for transit 1; Somewhat consistent in land use plans for transit 2; Transit-friendly land use plans 3 | 2 | 5 | ULI Mixed Use: Commercial, Industrial, Residential, and Open Space; DENNY High density high urban centers (5-6 blocks) and high density (25-50) 1-2 blocks in western portion. Low to medium intensity, mixed use activity district 4-5 blocks | ULI Commercial, Residential, and Educational; DENNY Low to medium intensity, some mixed use activity district 4 blocks in eastern portion 3 | ULI Mixed Use, Open Space, Recreation, and Commercial. DENNY Medium to high up to 2 blocks and high density up to 5 blocks, also includes green space | 3 | ULI Mixed Use, Open Space, Recreation, and Commercial. DENNY Medium to high up to 2 blocks and high density up to 5 blocks, also includes green space |

| 9 | Redevelopment Opportunities | Areas of land compatible for redevelopment (commercial, public, social) within 0.5 mile | \(<0.60; 1; 0.75-1.75; 2; \geq 1.75\) | 1 | 2 | 96 | 1 | 117 | 2 | 164 | 2 | 207 |

| Subtotal | 9 | 6 | 8 | 8 |

| 10 | Railroad Crossings | Number of freight/rapid rail crossings both on- and off-rail below grade | At grade = 1, Above/below grade = 2, No Crossings = 3 | 1 | 5 | 0 | 2 | 0 | 3 | 3 | 8 |
| 11 | Freeway Crossings | Number of freeway crossings both on- and off-rail below grade | \(<1; 1; 2-3; 2; \geq 3\) | 1 | 2 | 2 | 1 | 2 | 0 | 2 | 0 |
| 12 | Potential ROW Issues | Normal ROW taking to property exists, Minimum width of right-of-way based on County Access Standards | Based on minimum ROW: 20 feet = 1, 20-30 feet = 2 | 2 | 1 | 10 | 1 | 28 | 1 | 2 |
| 13 | Potential Environmental Issues | List environmental issues that may need mitigation | Relative magnitude or number of potential issues | 1 | 5 | 2 | 3 | 2 | 0 | 2 | 0 |

| Subtotal | 10 | 10 | 9 | 11 |

| 14 | Traffic Congestion of Interest | Volume over capacity ratio or Level of Service (LOS) of arterial segment | Forecasted 2040 LOS: O = 5, L = 4, D = 3; LOS of U.S. segments with U.S. LOS are located based on current LOS | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 2 |
| 15 | Transit Speed and Reliability Indicators | List relative transit speed and reliability indicators, 18 of 20 indicated | \(<40; 1; 41-60; 2; \geq 61\) | 1 | 2 | 15 | 1 | 15 | 2 | 15 |
| 16 | Transportation Plan Consistency | Consistency with the Transit Plan (TMTA, City of Tempe, Transportation Master Plan (TMAP), and regional transportation studies) | Description of plans in which the segment has been identified for HTCT (1 = new plan, 2 = no plan, 3 = no) | 2 | 2 | 2 | 2 | 2 | 2 |
| 17 | Volume to Capacity | General assessment of V/C | Based on HTCT volume and number of through lanes along segments | 2 | 2 | Moderate | 2 | Moderate | 2 | Moderate |

| Subtotal | 13 | 10 | 14 | 14 |

| Scoring | 5 = Optimal Performance, 2 = Moderate Performance, 1 = Substandard Performance |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Total  | 55     | 42     | 49     | 97     |
| Rank   | 25     | 21     | 25     | 5      |
## Tier 1 Evaluation Results Matrix (Part 2)

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Description</th>
<th>Assumptions</th>
<th>Evaluation Criteria Weight</th>
<th>Option 3a University Dr</th>
<th>Option 3b University Dr</th>
<th>Option 3c University Dr</th>
<th>Option 4a Broadway Rd</th>
<th>Score</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Population Density</td>
<td>Total population per square mile within 1/2 mile</td>
<td>([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>1</td>
<td>8</td>
<td>5.226</td>
<td>1</td>
<td>6.645</td>
<td>2</td>
<td>6.095</td>
</tr>
<tr>
<td>2 Low-Income Population</td>
<td>Population at 100% poverty level per square mile within 1/2 mile</td>
<td>([-2.000 &lt; 0, 1.000 &lt; -2.000, 2 &lt; 1.000 &lt; 5])</td>
<td>2</td>
<td>8</td>
<td>2.113</td>
<td>3</td>
<td>2.722</td>
<td>2</td>
<td>1.454</td>
</tr>
<tr>
<td>3 Zero-car Household Density</td>
<td>Number of zero-car households per square mile within 1/2 mile</td>
<td>([-1.25 &lt; 1, 2.75 &lt; 2, 2.50 &lt; 5])</td>
<td>3</td>
<td>8</td>
<td>1.632</td>
<td>3</td>
<td>2.465</td>
<td>2</td>
<td>2.255</td>
</tr>
<tr>
<td>4 Employment Density</td>
<td>Future employment data from HMEC (jobs per square mile within 1/2 mile)</td>
<td>([5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>4</td>
<td>8</td>
<td>2.451</td>
<td>3</td>
<td>4.777</td>
<td>1</td>
<td>2.854</td>
</tr>
<tr>
<td>5 Activity Center Density</td>
<td>Number of activity centers within 1/2 mile of segment</td>
<td>([10.000 &lt; 0, 10.000 &lt; -10.000, 2 &lt; 1.690 &lt; 5])</td>
<td>5</td>
<td>8</td>
<td>1.144</td>
<td>3</td>
<td>4.777</td>
<td>1</td>
<td>2.854</td>
</tr>
<tr>
<td>6 Existing and Future Transit Connections</td>
<td>Number of Existing and Future transit connections</td>
<td>([0.000 &lt; 0, 5.000 &lt; -5.000, 2 &lt; 1.690 &lt; 5])</td>
<td>6</td>
<td>8</td>
<td>1.280</td>
<td>3</td>
<td>1.475</td>
<td>2</td>
<td>1.941</td>
</tr>
<tr>
<td>7 Existing Transit Ridership</td>
<td>Transit ridership by service area (demand)</td>
<td>([-10.000 &lt; 0, 10.000 &lt; -10.000, 2 &lt; 1.690 &lt; 5])</td>
<td>7</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
</tr>
<tr>
<td>8 Land Use/Plan/Policy Consistency</td>
<td>Land Use Consistency with Overall City Plan ([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>8</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
<td>2</td>
</tr>
<tr>
<td>9 Redevelopment Opportunities</td>
<td>Redevelopment opportunities ([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>9</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
<td>2</td>
</tr>
<tr>
<td>10 Roadway Capacity</td>
<td>Roadway capacity</td>
<td>([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>10</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
</tr>
<tr>
<td>11 Freeway Capacity</td>
<td>Freeway capacity</td>
<td>([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>11</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
</tr>
<tr>
<td>12 Potential ROW Issues</td>
<td>ROW issues</td>
<td>([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>12</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
<td>1.941</td>
</tr>
<tr>
<td>13 Environmental Issues</td>
<td>Environmental impact ([-5.000 &lt; 0, 5.000 &lt; -3.000, 2 &lt; 1.690 &lt; 5])</td>
<td>13</td>
<td>8</td>
<td>2.051</td>
<td>3</td>
<td>1.941</td>
<td>2</td>
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### Scoring

The scoring system is as follows:
- **3**: Optimal Performance
- **2**: Moderate Performance
- **1**: Substandard Performance

### Table Scores

<table>
<thead>
<tr>
<th>Column</th>
<th>Score</th>
<th>Detail</th>
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<td>Total 2</td>
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<td>Total 3</td>
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<tr>
<td>Total 4</td>
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## Tier 1 Evaluation Results Matrix (Part 3)

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Description</th>
<th>Assumptions</th>
<th>Evaluation Criteria Weight</th>
<th>Option 4b Broadway Rd</th>
<th>Option 4c Broadway Rd</th>
<th>Option 5a Southern Ave</th>
<th>Option 5b Southern Ave</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Population Density</td>
<td>Total population per square mile within 1/2 mile</td>
<td>(5 \times 10^5 \times 0.5 = 2 \times 10^5)</td>
<td>1</td>
<td>5</td>
<td>3.5</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Low-Income Population Density</td>
<td>Population of 80% poverty level or worse per square mile within 1/2 mile</td>
<td>(5 \times 10^5 \times 0.5 = 2 \times 10^5)</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Zero-car Household Density</td>
<td>Number of zero-car households per square mile within 1/2 mile</td>
<td>(5 \times 10^5 \times 0.5 = 2 \times 10^5)</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Employment Density</td>
<td>Future employment data from TMC hotspot (hot spot size) per square mile within 1/2 mile</td>
<td>(5 \times 10^5 \times 0.5 = 2 \times 10^5)</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
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<tr>
<td>5</td>
<td>Activity Travel Demand</td>
<td>Number of activity centers within 1/2 mile</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>6</td>
<td>Existing and Future Transit Connections</td>
<td>Number of transit stops within 1/2 mile</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>7</td>
<td>Existing Transit Ridership</td>
<td>Ridership data for any available ridership data (if available)</td>
<td>2</td>
<td>5</td>
<td>2.5</td>
<td>2</td>
<td>3.5</td>
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### Subtotal 1

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### Total

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### Subtotal 2

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### Total

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<th>60</th>
<th>52</th>
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### Scoring

5 = Optimal Performance, 2 = Moderate Performance, 1 = Substandard Performance
## Tier 1 Evaluation Results Matrix (Part 4)

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Assumptions</th>
<th>Option 6c Southern Ave</th>
<th>Option 7a Mill Ave</th>
<th>Option 7b Mill Ave</th>
<th>Option 8a Rural Rd</th>
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</thead>
<tbody>
<tr>
<td>Score</td>
<td>Detail</td>
<td>Score</td>
<td>Detail</td>
<td>Score</td>
<td>Detail</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>1</td>
<td>Population Density</td>
<td>Total population per square mile within 1/2 mile</td>
<td>&lt; 5,000+</td>
<td>5,000-7,999</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Low-Income Population Density</td>
<td>Population at BEED's proxy level in center per square mile within 1/2 mile</td>
<td>&lt; 1,050+</td>
<td>1,050-2,000</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Zero-car Household Density</td>
<td>Number of zero-car households per square mile within 1/2 mile</td>
<td>&lt; 125+</td>
<td>125-293</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Employment Density</td>
<td>Future employment data from TMC (jobs/square mile) within 1/2 mile</td>
<td>&lt; 5,000+</td>
<td>5,000-6,000</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Activity Center Development Score</td>
<td>Number of activity centers within 1/2 mile</td>
<td>1 or fewer activity centers = 1, 2 activity centers = 2, 5 or more activity centers = 3</td>
<td>Source: VM-2018.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Existing and Future Transit Connections</td>
<td>Number of routes interfacing with alternative LRT, and key local = 1, LRT (or Key-Local) = 2, Only local and circulator = 1</td>
<td>Source: VM-2018.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Existing Transit Ridership</td>
<td>Step-shape based average boardings per stop + 3 flat average boardings for all days per station</td>
<td>Source: VM-2018.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Land Use/Plano/Policy Consistency</td>
<td>Segment's consistency with existing city and regional economic plans/guides, future land use and density maps from Tempe, Mesa 2040 General Plan, NMC, future land use map</td>
<td>Poor consistency (land use and plans for trains = 4, Somewhat consistent (in some use plans for trains = 3, Transit-Friendly land use and plans = 5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Redevelopment Opportunities</td>
<td>Areas of land compatible for mixed-income development (commercial, public, private within 1/2 mile of segment) (if not exists on area perimeter)</td>
<td>&lt; 100+</td>
<td>100-175</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Farcad Crossings</td>
<td>Number of freightrail crossings (both as or adjacent to freeway), trucking and crossing LRT track</td>
<td>40+</td>
<td>40-99</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Freeway Crossings</td>
<td>Number of freeway crossings (both as or adjacent to freeway)</td>
<td>&lt;12</td>
<td>12-24</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Potential ROW Issues</td>
<td>Number of ROW violations (property takes, minimum width of street or grade based on County Assessments boundaries)</td>
<td>Based on minimum ROW width + BRT = 1</td>
<td>Based on minimum ROW width + BRT = 1</td>
<td>Based on minimum ROW width + BRT = 1</td>
</tr>
<tr>
<td>13</td>
<td>Potential Environmental Issues</td>
<td>List environmental issues that may need mitigation</td>
<td>Relative impacts to number of potential issues</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>Traffic Congestion of Segment</td>
<td>Volume over capacity ratio or Level of Service (LOS) of arterial segment</td>
<td>Forecasts for 2040 LOS (LOS C is &lt; 5, LOS D is &gt; 5, LOS F is &lt; 1)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Transit Speed and Reliability Impediments</td>
<td>List of relative transit speed and reliability impediments (based on passenger analysis)</td>
<td>&lt;40%</td>
<td>40-74%</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Transportation Plan Consistency</td>
<td>Consistency with Metro Plan/Plan (2040), City of Tempe Transportation Plan/Plan (2040) and Regional transportation studies (RTS)</td>
<td>Description of plan(s) in which a segment has been identified for RTS or P3 + more than one plan is not consistent</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Volume to Capacity</td>
<td>Qualitative assessment of V/C</td>
<td>Based on CPT vehicles and number of through lanes along segment(s)</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

### Scoring
- 5 = Optimal Performance
- 2 = Moderate Performance
- 1 = Substandard Performance

### Subtotal
- 25
- 18
- 18
- 10
- 20

### Table Totals
- 61
- 46
- 41
- 65

### Table Key
- Subtotal
- 25
- 18
- 18
- 10
- 20

### March 2019

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**TMSFS Tier 1 Evaluation Report**

**Tempe/Mesa Streetcar Feasibility Study**

---

**TMSFS Tier 1 Evaluation Report**

**Tempe/Mesa Streetcar Feasibility Study**

---

**March 2019**
<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Description</th>
<th>Assumptions</th>
<th>Option Bb Rural Rd</th>
<th>Option Bc Rural Rd</th>
<th>Option 10a Dobson Rd</th>
<th>Option 10b Dobson Rd</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Population Density</td>
<td>Total population per square mile within 1/2 mile</td>
<td>$1,000 \times 1.5$</td>
<td>6,184</td>
<td>2</td>
<td>6,015</td>
</tr>
<tr>
<td>2</td>
<td>Low-Income Population Density</td>
<td>Population of low income in order of square mile within 1/2 mile</td>
<td>$1,000 \times 1.5$</td>
<td>2,630</td>
<td>1</td>
<td>159</td>
</tr>
<tr>
<td>3</td>
<td>Zero-car Household Density</td>
<td>Number of zero-car households per square mile within 1/2 mile</td>
<td>$2,000 \times 1.5$</td>
<td>444</td>
<td>2</td>
<td>287</td>
</tr>
<tr>
<td>4</td>
<td>Employment Density</td>
<td>In terms of employment data HACS (jobs/square mile) within 1/2 mile</td>
<td>$4,000 \times 1.5$</td>
<td>4,605</td>
<td>1</td>
<td>2,162</td>
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<tr>
<td>5</td>
<td>Activity Center Destinations Served</td>
<td>Number of activity centers within 3 miles of a designated segment</td>
<td>1 if there is one activity center, 2 if there are two activity centers, 3 if there are more activity centers</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Existing and Future Transit Connections</td>
<td>Number of transit services being studied</td>
<td></td>
<td>2,463</td>
<td>1</td>
<td>1,526</td>
</tr>
<tr>
<td>7</td>
<td>Existing Transit Ripeness</td>
<td>High-density bus average boarding per stop = 2</td>
<td>Up to average boarding for all days for station</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Land Use/Plan/Policy Consistency</td>
<td>Segment's consistency with existing city and regional economic plans/programs, future land use and density maps from Tempe, Mesa HCA, General Plan, Mass. future land use map</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Redevelopment Opportunity</td>
<td>Acres of land compatible for redevelopment (commercial, public, sanitary, or residential, or industrial land use plan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10</td>
<td>Railroad Crossings</td>
<td>Number of fixed-railroad crossings (both at or above grade)</td>
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<td></td>
<td></td>
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<tr>
<td>11</td>
<td>Freeway Crossings</td>
<td>Number of freeway crossings (both at or above grade)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Potential ROW Issues</td>
<td>Number of ROW issues that are critical to the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Environmental Issues</td>
<td>List environmental issues that may negatively impact the project</td>
<td></td>
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<td></td>
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</tbody>
</table>

| Subtotal | 26 | 54 | 15 | 25 |

| 14                  | 7 | 7 | 8 |

| 15                  | 6 | 13 | 31 |

| 16                  | | | |

| 17                  | | | |

**Scoring**

- 5 = Optimal Performance
- 2 = Moderate Performance
- 1 = Substantial Performance

**TMSFS Tier 1 Evaluation Report**

Tempe/Mesa Streetcar Feasibility Study

March 2019

29
<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Assumptions</th>
<th>Option 10c Dobson Rd</th>
<th>Option 13a Country Club Dr</th>
<th>Option 13b Country Club Dr</th>
<th>Option 13c Country Club Dr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Score</strong></td>
<td><strong>Detail</strong></td>
<td><strong>Score</strong></td>
<td><strong>Detail</strong></td>
<td><strong>Score</strong></td>
<td><strong>Detail</strong></td>
</tr>
<tr>
<td>1</td>
<td>Population Density</td>
<td>Total population per square mile within 0.25 mile</td>
<td>1,000 + 1, 1,000 – 1,500 + 2</td>
<td>2, 000 – 2,500 + 5</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Low-Income Population Density</td>
<td>Population of 20% poverty level or under per square mile within 0.25 mile</td>
<td>1,000 + 1, 1,500 – 2,000 + 2</td>
<td>2,000 – 2,500 + 5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Zero-car Household Density</td>
<td>Number of zero car households per square mile within 0.25 mile</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Employment Density</td>
<td>In and employment data from MAC (jobs/square mile) within 0.25 mile</td>
<td>1,600 – 1,000, 4,000 – 1, 6,000 – 4</td>
<td>7,000 – 7,000</td>
<td>5</td>
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<tr>
<td>5</td>
<td>Activity Center Density</td>
<td>Number of activity centers within 0.25 mile</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<tr>
<td>6</td>
<td>Existing and Future Transit Connections</td>
<td>Number of transit services per location</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<tr>
<td>7</td>
<td>Existing Transit Ridership</td>
<td>Shaded bus average weekday boardings per stop</td>
<td>0.1</td>
<td>0.1</td>
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**Subtotal:** 12

8

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APPENDIX C:
TIER 1 ILLUSTRATIVE MAPS
TMSFS ZEROCAR HOUSEHOLD DENSITY

LEGEND
- Valley Metro Rail/Station
- Tempe Streetcar Route/Stop
- Study Area

Tier 2 Alternatives
- Alternative 1A
- Alternative 1B
- Alternative 2
- Alternative 3
- Alternative 4
- Future Opportunities

Zero-Car Household Density
- ≤69
- ≤231
- ≤456
- ≤1185
- ≤2397
TMSFS POVERTY HOUSEHOLD DENSITY

LEGEND

- Valley Metro Rail/Station
- Tempe Streetcar Route/Stop
- Study Area

Tier 2 Alternatives
- Alternative 1A
- Alternative 1B
- Alternative 3
- Alternative 4
- Alternative 2
- Future Opportunities

Poverty Household Density
- ≤876
- ≤1841
- ≤3783
- ≤8947
- ≤16061
TMSFS EMPLOYMENT DENSITY 2040

Legend:
- Valley Metro Rail/Station
- Tempe Streetcar Route/Stop
- Study Area

Tier 2 Alternatives:
- Alternative 1A
- Alternative 1B
- Alternative 3
- Alternative 4
- Future Opportunities

Employment - 2040:
- <2,500
- 2,500 - 4,500
- 4,500 - 7,500
- 7,500 - 10,500
- >10,500
TMSFS ACTIVITY CENTERS

Tier 2 Alternatives
- Alternative 1A
- Alternative 1B
- Alternative 3
- Alternative 4
- Alternative 2
- Future Opportunities

Activity Centers
1. AZ International Marketplace
2. Banner Desert Medical Center
3. East Valley Institute of Technology
4. Fiesta District
5. Mekong Plaza
6. Mesa Community College
7. Mesa Riverview
8. Riverview Park
9. Sloan Park
10. Tempe History Museum
11. Packard Stadium
12. Sun Devil Stadium
13. Wells Fargo Arena
14. Gammage Theatre
15. Tempe Center for the Arts
16. Tempe Marketplace
17. Arizona State University Main Campus
18. ASU Hockey Facility
19. Novus Innovation Corridor
20. Phoenix Rising Soccer Complex
DATE
May 14, 2019

SUBJECT
Grand Canal Multi-Use Path Phase I & II

PURPOSE
The purpose of this memo is to provide the Commission with a review of two Grand Canal projects that will address the multi-use path gap that exists between City of Phoenix and Town Lake/Rio Salado Path areas.

BACKGROUND – Grand Canal Phase I (Design & Construction)
In September 2017, the City of Phoenix began phased construction on their section of the Grand Canal to create a continuous 12-mile multi-use path from the I-17, to the City of Tempe at 56th Street. In Tempe, Grand Canal is improved from Washington Street (west of Lake View Dr) to the west end of the Grand at Papago Park Center Development (just East of Priest Drive); leaving an 800’ gap between the cities of Phoenix and Tempe. This project will design and construct the connection between Phoenix and Tempe; providing for lighting, landscaping, and a minimum 10’ wide concrete multi-use path.

BACKGROUND – Grand Canal Phase II (Preliminary Design)
In May 2018, the Commission recommended staff put forward an application for the Grand Canal – North Bank Connection to compete for Maricopa Association of Governments (MAG) Design Assistance funding. Tempe was ultimately awarded $67,500 to develop a preliminary project assessment report and design concepts for a way to connect the Grand Canal Multi-Use Path with the Rio Salado North Bank Path. Although no final design plans or construction funding is identified at this time, the report will allow staff to identify preliminary design concepts with potential alignments, complete an initial environmental assessment, understand project constraints, gather public feedback, and develop an estimated project cost to aid in the pursuit of future funding opportunities.

NEXT STEPS
The first round of public meetings will be held this month to present existing conditions, opportunities/constraints, and the pros/cons of potential path alignment alternatives.

All meetings will be held at the Field Services Assembly Hall, 55 South Priest Drive on May 8, 2019 from 5:30 to 6:30 p.m. AND May 11, 2019 from 9 to 10 a.m. Online public comment will be taken from May 8 to May 22, 2019 at tempe.gov/GrandCanal.
FISCAL IMPACT

Grand Canal Phase I: $388,000 Local Funding, $25,000 Developer Contribution
Grand Canal Phase II: $67,500 Maricopa Association of Governments design grant. Final design and construction unfunded.

RECOMMENDATION
This is for information only.

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ATTACHMENTS
- PowerPoint
- Alignment Alternatives
Grand Canal Phase I & II Projects

Transportation Commission
May 14, 2019
Overview

**Grand Canal Phase I**
(Design and Construction)

- Completes the 800' gap in multi-use path between the City of Phoenix and City of Tempe, along the Grand Canal.

**Grand Canal Phase II**
(Preliminary Design)

- Connects the Grand Canal Multi-Use Path to the Rio Salado North Bank Multi-Use Path.
Grand Canal Phase I – Existing Conditions

- City of Phoenix Connection
- Looking East towards Priest Drive
- Existing Grand Canal Path in Tempe
Widen existing sidewalk to 10’
Narrow inner travel lanes
Add high visibility crosswalks
Construct new pre-fab ped bridge over SR 202L
- Remove one travel lane
- Ramp to Rio Salado North Bank Path
- Narrow remaining travel lanes
- Add protected 10’ Multi-Use Path
- Add high visibility crosswalks
Restripe existing travel lanes to include 2’ buffered bike lanes

Construct new ADA accessible route for ped. connections
Next Steps
Next Steps

- Public meetings held on May 8th and 11th
- Transportation Commission: **May 14th**
- Draft PA Report and Preferred Alternatives Review: **June 2019**
- Transportation Commission: **August 13th**
- Sustainability Commission: **September 2019**
- Public Meetings: **August 24th and 28th**
- Final Design Completion (Phase I) – Final PA Report (Phase II): **Oct/Nov 2019**
- Construction Phase I: Est. to begin Summer 2020
- Construction Phase II: TBD, Construction funding not yet identified
DATE
May 14, 2019

SUBJECT
Future Agenda Items

PURPOSE
The Chair will request future agenda items from the Commission members.

BACKGROUND
The following future agenda items have been previously identified by the Commission or staff:

- May 28
  - Climate Action Plan
- June 11
  - Transportation Overlay District
  - DTA Update
  - I-10 Broadway Curve P3 Project Update
  - Alameda Drive Streetscape
- July 9
- August 13
  - Speed Limits
  - Transportation Overlay District
  - Grand Canal Multi-use Path Project
  - Scooter Update
  - 3-Feet Bicycle Signage
- September 10
  - Transit Security Update
  - El Paso Multi-use Path Project
  - North/South Railroad Multi-use Path Project
  - Bus Shelter Design
- October 8
  - Annual Report
  - McClintock Drive Project Update
- November 12
  - Annual Report
  - Bus Shelter Design
- December 10
- January 14
  - Commission Business
February 11
March 10
April 14
  • Paid Media Plan
May 12
  • Bike Hero
  • Capital Improvements Project Update
  • MAG Design Assistance Grants

RECOMMENDATION
This item is for information only.

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