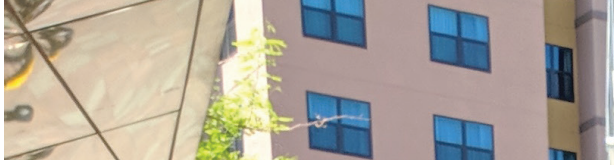
Vision Zero

Reducing Fatal and Serious Injury Crashes to Zero

Visioning Workshop Summary

June 19, 2018

Tempe



Vision Zero Workshop

June 19, 2018

Tempe's Vision Zero Visioning Workshop was held on June 19, 2018 from 8:00a.m. to 11:30 a.m. at the Tempe Transportation Center Don Cassano Room.

This interactive session was held to bring together people from all sectors and perspectives with the goal of developing a plan to reduce the number of fatal and serious injury crashes to zero, because no loss of life is acceptable.

RESOURCES

AGENDA

Introductions and Welcome

Julian Dresang, PE, PTOE | City Traffic Engineer, City of Tempe Transportation Department

Introduction of the core team and purpose of the Visioning Workshop. Attendees were asked to state their name and organization that they represent.

Setting the Scene

Julian Dresang, PE, PTOE | City Traffic Engineer, City of Tempe Transportation Department

Reflect. Learn. Challenge. A short presentation reflected upon loss of life in the City of Tempe due to motor-vehicle crashes, stated past transportation safety goals, captured the evolution of the Vision Zero movement, and challenged participants to establish a solid foundation for the Vision Zero Initiative.

The Facts

Lt. James Peterson | Traffic Bureau, City of Tempe Police Department

It's a crash, not an accident. Traffic crashes are fixable problems, caused by infrastructure design and unsafe driving behavior. Tempe crash data facts and enforcement statistics were presented. Lt. Peterson shared his experiences as a first responder to fatal traffic crashes.

Group Scenario Exercise

Facilitated by Julian Dresang, Lt. James Peterson, and Yung Koprowski

Organized by tables and with varying backgrounds, attendees reviewed three crash scenarios to brainstorm strategies that may have prevented the crash or similar crashes from occurring. Part One limited the strategies to a specific group: engineering, education, enforcement, or emergency medical response. In Part Two, the silos were removed and attendees developed strategies that were inclusive of all groups.

Discussion and Conclusions

Julian Dresang, PE, PTOE and **Yung Koprowski, PE, PTOE** | Transportation Safety Engineer, Y2K Engineering

Recapped workshop exercises and emphasized the need for a cultural change that transversed boundaries. Identified potential opportunities, constraints, and priority for implementing strategies to achieve Vision Zero. Provides participants with next steps for the Vision Zero Tempe initiative.

STAKEHOLDERS

The Vision Zero Tempe initiative will impact people that live, work, and play within the City. Representatives from the stakeholders listed below participated in the visioning workshop. Alone, we can not solve this problem. Together, we can.

- Arizona State University
- City of Tempe Mayor and City Council
- City of Tempe Transportation Commission
- City of Tempe Police Department
- Maricopa County Public Health
- Tempe Elementary School District
- City of Tempe Fire Department
- Regional Hospitals: Banner Health, Mountain Park Helath Center, Scottsdale Osborn, Tempe St. Lukes
- MAG (Maricopa Association of Governments)
- City of Tempe Transportation and Planning Departments
- Community Organizations (AARP, AAA, Tempe Neighbors Helping Neighbors, etc.)
- ADOT (Arizona Department of Transportation)
- City of Tempe Residents
- Neighboring Cities (Mesa, Phoenix)
- Valley Metro

VISION ZERO NATIONALLY

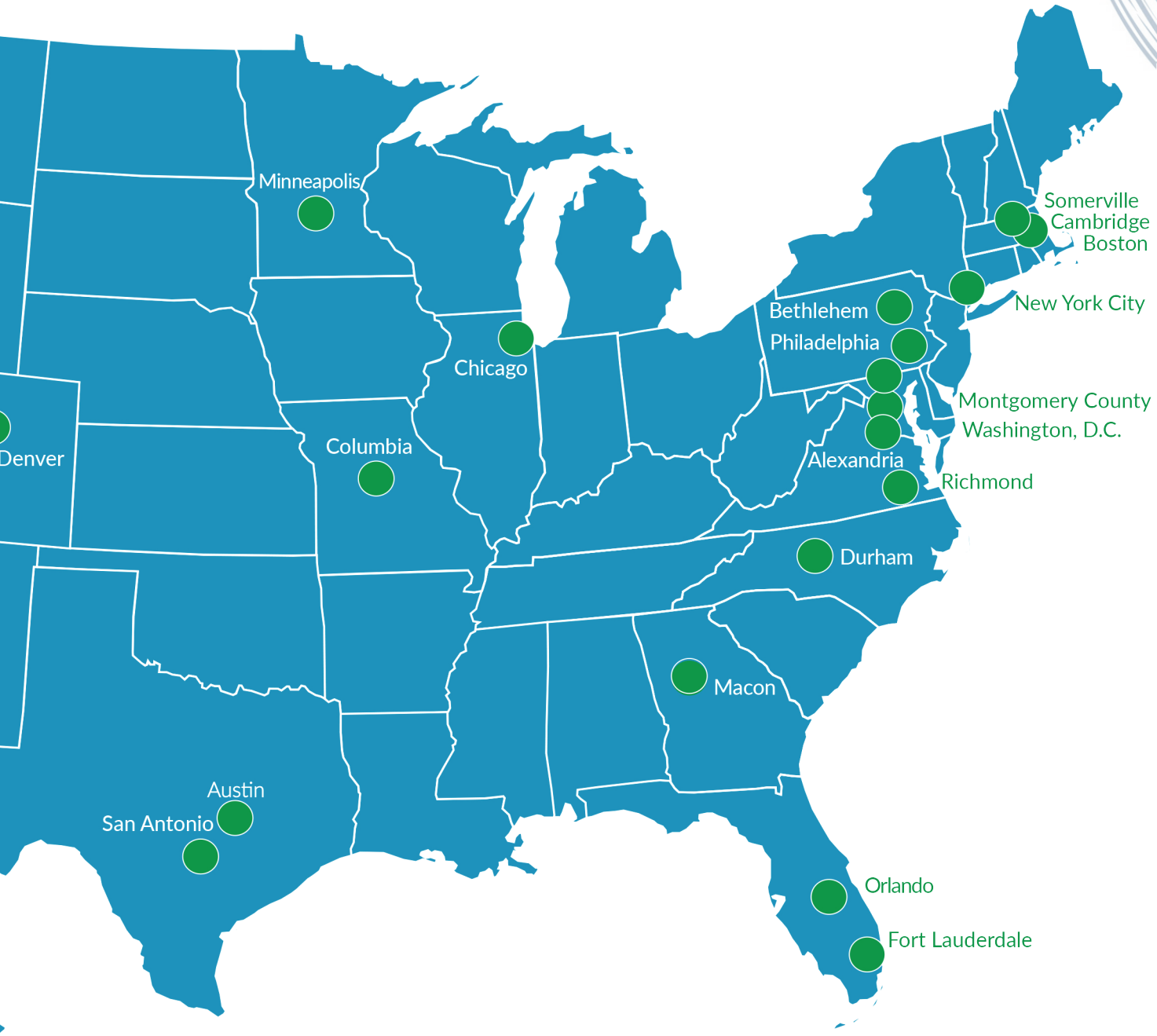
First implemented in Sweden in the 1990s, Vision Zero has proven successful across Europe – and it is now gaining momentum in major American Cities.

Vision Zero starts with the premise that traffic deaths and severe injuries are largely preventable. The commitment defines a timeline and brings stakeholders together to ensure a basic right of safety for all people as they move about their communities. Vision Zero acknowledges that traffic deaths and severe injuries are preventable and sets the goal of eliminating both in a set time frame with clear, measurable strategies.

Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local traffic planners and engineers, police officers, policymakers, and public health professionals has not been the norm. Vision Zero acknowledges that there are many factors that contribute to safe mobility - including roadway design, speeds, enforcement, behaviors, technology, and policies - and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

"VISION ZERO IS A STRATEGY TO ELIMINATE ALL TRAFFIC FATALITIES AND SEVERE INJURIES, WHILE INCREASING SAFE, HEALTHY, EQUITABLE MOBILITY FOR ALL" -VISION ZERO NETWORK

Reducing Fatal and Serious Injury Crashes to Zero



City Council Priority #1 is to ensure a safe and secure community through a commitment to public safety and justice.

ACHIEVE A REDUCTION IN THE NUMBER OF FATAL AND SERIOUS INJURY CRASHES TO ZERO.

Crashes happen almost every day in the City of Tempe. Many result in only property damage but others result in minor injuries, severe injuries, and fatalities. Fatal and serious injury crashes are not "accidents" and are preventable. The City of Tempe is committed to reducing the number of fatal and serious injury crashes to zero.

Crash data is collected by the Tempe Police Department and reported to the Arizona Department of Transportation. Traffic engineers use this data for network screening, which they can then use for diagnosing potential safety issues and implementing countermeasures to improve safety.

In 2016 alone, there were over 4,700 crashes resulting in 16 fatal and 76 serious injury crashes. One death is too many. One serious injury is too many.

Adoption of the "Vision Zero" framework includes:

- Setting a clear goal of eliminating traffic fatalities and severe injuries.
- The Mayor and Council publicly, officially committing to Vision Zero.
- A Vision Zero plan or strategy is in place, or the city commits to doing so in a clear time frame.
- Key city departments (including police, transportation, fire) and community stakeholders (ASU, school districts, public health agencies), are engaged.

Many city departments including Public Works, Police and Fire Medical & Rescue are already actively employing programs that improve safety and response times.

On January 11, 2018, Staff presented to the Mayor and Council. On February 8, 2018, Mayor and Council unanimously approved Resolution No. R2018.13 formally committing to Vision Zero.

ENGINEERING, EDUCATION, ENFORCEMENT, EMERGENCY RESPONSE

Recent Tempe headlines...

TEMPE'S VISION ZERO

"Arizona pedestrians amoung nation's most likely to die in fatal crash"

"Tempe police investigating deadly roll-over crash near Kyrene/Baseline roads"

"Mother who lost her son in a deadly crash gets help from her friends"

"Two killed in Tempe crash, police say"

"ASU doctoral student, renowned pianist Xiaoying Wen killed in Tempe Crash"

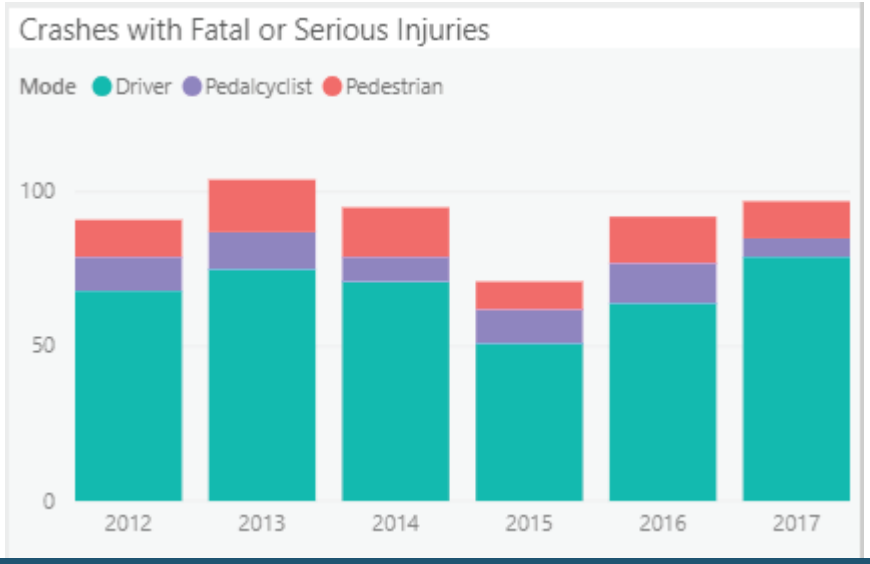
"1 dead after SUV with 3 teens hits man on Tempe sidewalk"

"2 vehicle crash kills one person in Tempe"

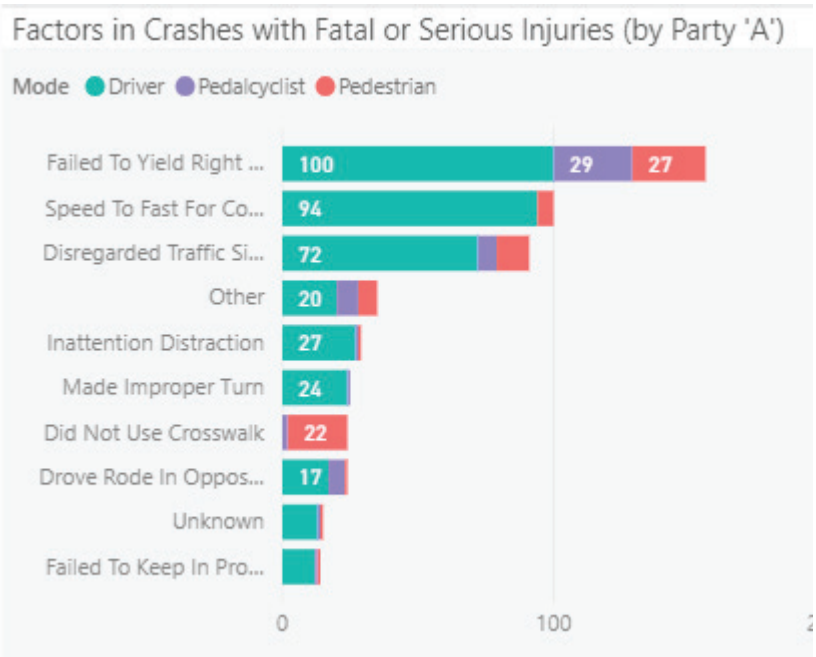
VISION ZERO TEMPE

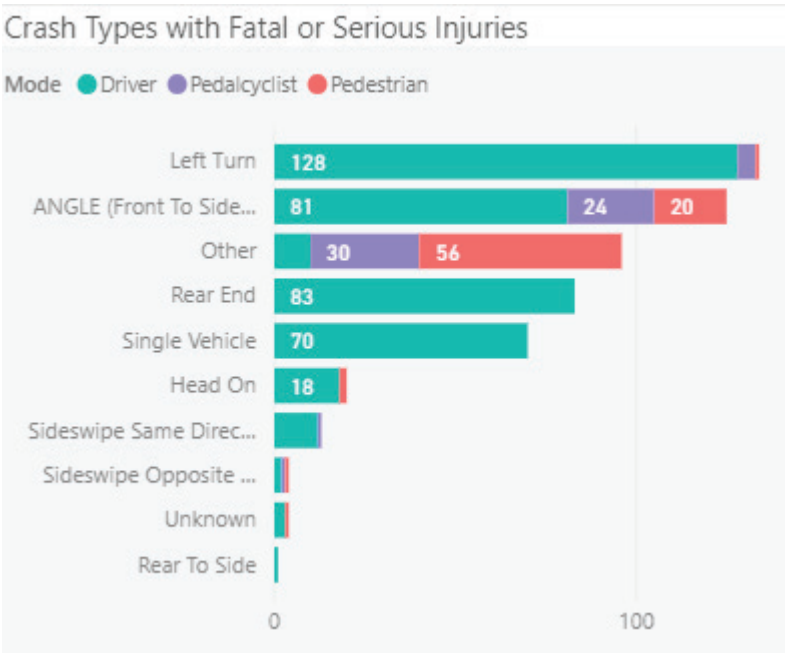
WHAT ARE THE FACTS?

2012-2017



When a crash occurs, pedestrians and cyclists are more likely to be killed or seriously injured than those in a vehicle. For this reason, pedestrians and cyclists are often referred to as "vulnerable" road users. »





60 FATAL CRASHES

SINCE 2012 ON TEMPE ROADWAYS

2012: 3 Fatal, 88 Serious Injury

2013: 8 Fatal, 96 Serious Injury

2014: 14 Fatal, 81 Serious Injury

2015: 6 Fatal, 65 Serious Injury

2016: 16 Fatal, 76 Serious Injury

TRAFFIC BUREAU

STAFF IN TEMPE

4 Sergeants

11 Motor Enforcement Officers on the Street

1 Hit and Run Detective

6 DUI Officers

TOP 4

REOCCURRING COLLISION LOCATIONS

Rural Rd/University Dr

Arizona Mills Cir

Price Rd/Broadway Rd

Rural Rd/Southern Rd

ENFORCEMENT

FROM JANUARY TO JUNE 2018

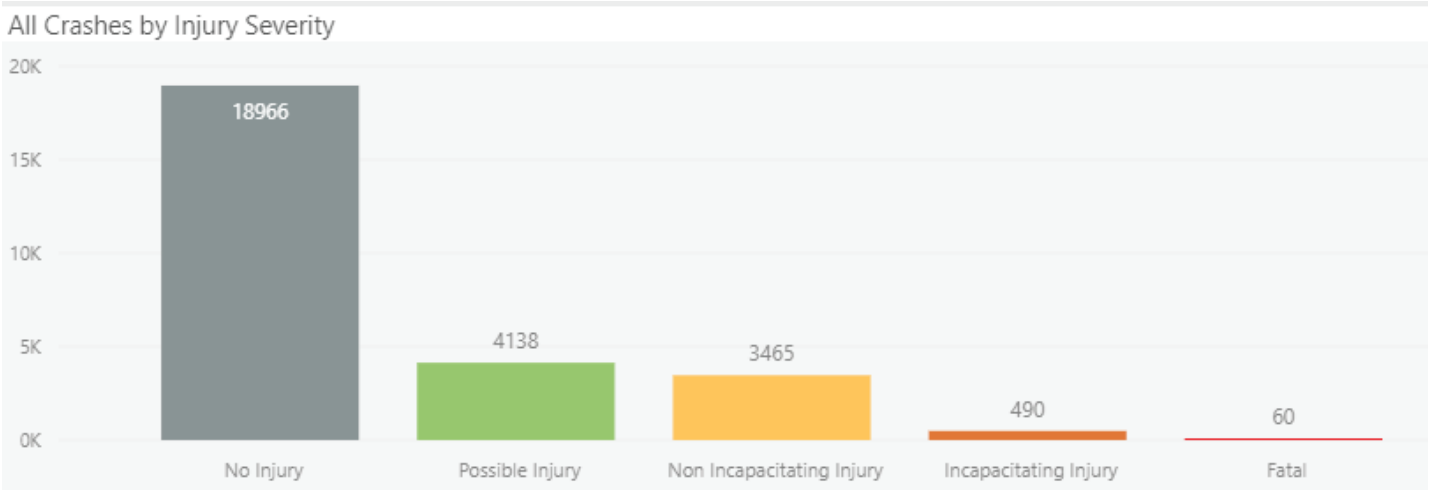
760 Lidar/Radar citations

2,895 Hazardous moving violation citations

281 DUI arrests

277 SEMS citations

ENFORCEMENT ALONE IS NOT ENOUGH

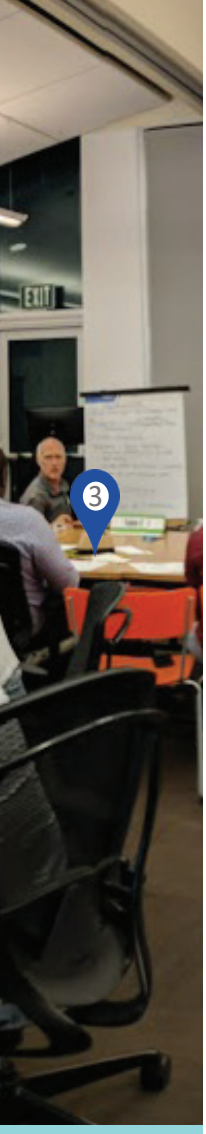


1. Emergency Response
2. Enforcement
3. Engineering
4. Emergency Response
5. Enforcement
6. Education

Group Scenario Exercise

Attendees of the workshop were pre-assigned to tables to ensure diverse representation at each. Each table of people was initially assigned a crash scenario and a specific group (e.g., engineering, education, emergency response, enforcement) to focus their strategies on. They were asked to brainstorm and develop strategies that may have prevented their assigned crash scenario from occurring or lessened its severity; or prevent future, similar crashes from happening.

In Part One of the exercise, each table was asked to focused solely on strategies specific to their assigned group. In Part Two, each table was asked to develop strategies without group restrictions; as well as discuss opportunities and challenges anticipated to implement the strategies; and to identify which strategies were the highest priority.



Crash Scenarios

A brief description of each crash scenario is provided below. They are based on actual events with key details, such as date and location, modified.

CRASH SCENARIO 1

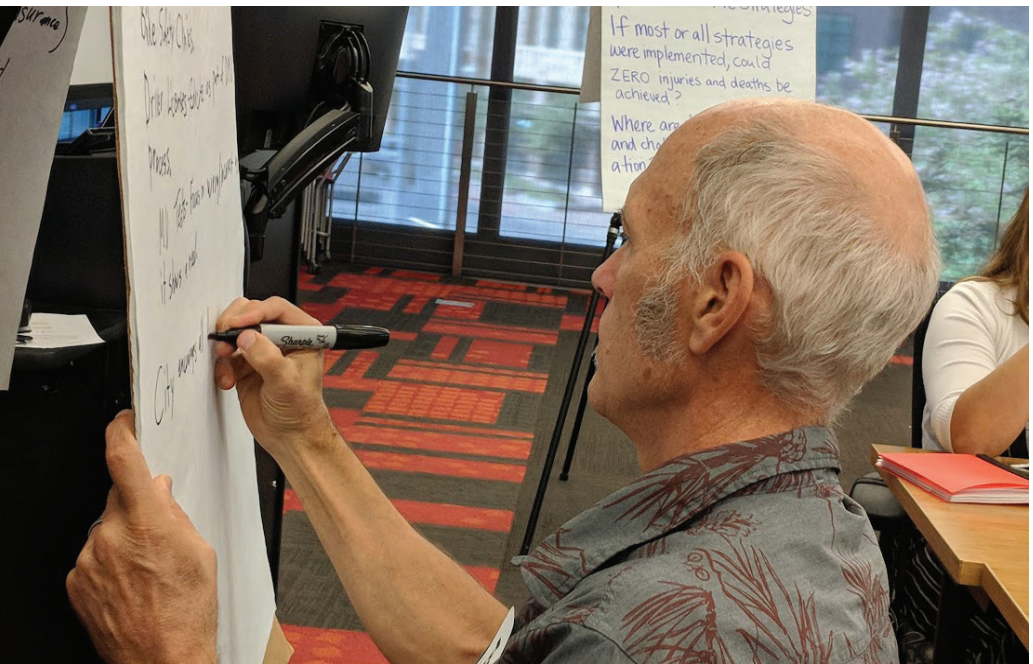
On 9/24/18 at 11:44 PM, at the intersection of University Dr and College Ave, a young male on a skateboard disregarded the pedestrian signal and crossed University Dr. He was struck by a sedan that had entered the intersection on a yellow light. The sedan hit the skateboarder at approximately 42 mph, causing life-threatening injuries.

CRASH SCENARIO 2

On 10/19/2018 at 9:14 PM near Baseline Rd and Jentilly Ln a bicyclist was struck in the two-way-left-turn-lane by a sedan. The sedan was slowing down about to turn left from the center lane when the bicyclist failed to yield to traffic in an attempt to cross Baseline Rd. The sedan hit the bicyclist at 33 mph, causing severe injuries to the head which the biyclist later died from after being transported to the hospital.

CRASH SCENARIO 3

On 11/09/2018 at 3:44 AM near the intersection of Southern Ave and Terrace Rd, a sedan drifted across the center line and struck another vehicle head-on. At the time of collision, the sedan was traveling at approximately 55 mph and the other vehicle was traveling at approximately 40 mph. The driver of the sedan was found to be impaired and distracted at the time of the crash. Seat belts were not in use in either vehicle. The two drivers suffered severe injuries, and the passenger of the other vehicle did not survive the injuries he sustained in the collision.



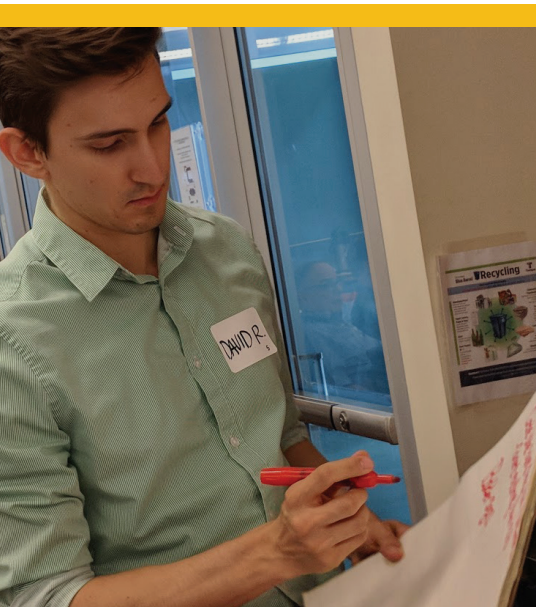
During Part One of the Group Scenario Exercise, the room was silent as everyone read their assigned crash scenario. It was challenging for certain groups to follow the request to stay within their assigned "silo". Emergency Response groups had difficulty finding meaning in the assignment due to data related to emergency response times not being available. Emergency response is reactive and those groups recognized the need to consider other preventative measures. Other groups, such as Enforcement, also did not remain within their silo and identified strategies that were associated with Engineering and Education.

Once the group restriction was removed during Part Two of the Group Scenario Exercise, attendees were more energetic and lively discussion took place across the room. Since each table developed comprehensive lists of strategies during Part One, they were asked to think about how they would prioritize the strategies and what the opportunities and challenges for implementation may be.

In response to current transportation safety issues in the City of Tempe and upon reviewing crash scenarios in the Group Scenario

Discussion and Conclusion

After the group exercise, the workshop wrapped up by bringing everyone together for a conversation about common ideas, emerging themes, and to discuss the plan moving forward.



Exercise, attendees discussed and presented the following comments and strategies:

General:

- Solutions must be regional and publicized to surrounding communities. Tempe is land locked and the daytime population increases more than 45% over the sleeping population due to commuting.
- The City of Tempe wants to be a leader of Vision Zero, followed by other cities and the State. The States of Utah and Montana have a statewide Vision Zero goal.
- Statewide, there are more crashes resulting in serious injuries or fatalities due to lack of seat belt use and an unexplained rise in the number of pedestrian fatalities.
- Opined that crashes happen because drivers lose respect for driving and do not pay enough attention to what is happening on the road.
- There will be a lot of trade-offs to consider such as air quality.

Education:

- Recognized the need to change the safety culture in order to achieve Vision Zero
- Recognized that people may not follow laws because they don't know that they exist and why they exist.
- Discussed targeting ASU employees and students for education campaigns.
- International students at ASU currently receive some transportation safety education; however, they represent a small percentage of total students. With 12,000 students living on-campus and another 45,000 living off-campus, there is an opportunity to infuse transportation safety education in 100 level courses that are mandatory for all students.
- Collaborate with the City of Tempe's sister city in Sweden, where Vision Zero originated. Invite their representatives to discuss Vision Zero which could involve conducting site observations of implemented practices.
- Identified the lack of mandatory drivers education in high schools and need to bring this back.
- Education should be a high priority to address behavioral problems of travelers, to focus on having transportation safety education in schools, and because it is easier and has less barriers to implement.
- Recognized the lack of drivers education focused on pedestrian (including skateboarders) and bicyclist safety and that including questions in the driving exam is not enough.
- Educate drivers as part of the licensing process. Focus on questions in the driving exam that people get wrong. Let people know the questions they get wrong and ensure they understand the correct answer.
- Encourage all businesses, primary/

secondary/higher-ed schools to conduct driver, pedestrian, and bicyclist safety training and provide incentive for doing so.
- Develop transportation safety short films to show before movies in theaters.
- Conduct bicycle safety clinics.
- Participate in the MAG Safe Routes to Schools program.
- Publicize traffic safety statistics.
- Provide education on speed and the basic physics of crashes.
- Provide seatbelt education so that people understand crash forces, how to properly wear seat belts, and that unseatbelted passengers can injure/kill other passengers in a collision.
- Provide education on the definition of distracted driving, such as conversations with other people in the vehicle and using GPS/mapping for directions. Distracted driving is not always texting while driving.
- Provide education for driving under the influence of alcohol, medication, and drugs using goggles and other simulation methods. Provide education on the "Zero Tolerance" law.
- Provide specific education for skateboarders.

Engineering:
- Identified a need for dedicated infrastructure accommodating all modes of travel, including separated facilities and crossings for pedestrians and bicyclists. European design separates modes with physical safety barriers.
- Recognize that there will be funding challenges with building infrastructure to physically separate people from the risks of motor vehicle traffic.
- Presented the concept of increasing congestion to slow down the average motor-vehicle travel speed. Additional literature review and/or research may be needed for this topic as attendees recall a study focused on freeways stating that congestion increased the frequency and severity of crashes, but another study in New York City found that congested streets were safer because of the speed reduction.
- Cultural change will be difficult to accomplish, but will be more automatic if infrastructure development supports faster mobility of pedestrians and bicyclists. We have an unenvyable driving culture.
- Eliminate conflicting signals by implementing an exclusive pedestrian signal timing phase (i.e. scramble, Barnes Dance) at intersections in the vicinity of ASU (e.g. College/University) where pedestrians can cross in any direction.
- Proposed implementing in-pavement lights for crosswalks and increase pedestrian crossing time.
- Implementing more car-free zones in

the vicinity of ASU
- Speed kills. Reducing speeds with traffic calming infrastructure should be a priority.
- Reduce overall traffic on the road by encouraging students of all ages to walk and bicycle instead of getting dropped off/picked up or driving themselves.
- Identified the need to educate the public on the safety benefits and reasons behind decisions to implement engineering strategies. For example, public support typically increases after roundabouts (a proven safety countermeasure) are installed.
- Requested a comprehensive citywide assessment of speeds and posted speed limits.
- Requested that infrastructure solutions include a human-centric approach to design, such as displaying a frowning emoji instead of numbers on speed feedback signs.
- Design vehicles to minimize injury to vulnerable users in a collision.
- Install flashing signs to bring attention to drivers of high-pedestrian areas.
- Support autonomous vehicle technology and other vehicle technology that recognizes pedestrians and bicyclists in the road, performs automatic braking, monitors driver behavior (e.g., from insurance companies), and alerts drivers to speeding.
- Provide easy access to free/low-cost/high-quality reflective clothing, reflective bicycle equipment, lights, and helmets.
- Develop ordinances/laws for skateboarders similar to bicyclists.
- Implement infrastructure or in-vehicle solutions to mitigate impairment and distraction.
- Install infrastructure improvements such as bike lanes, raised medians, mid-block crossings (PHBs).
- Implement lane reconfiguration and change the cross section of roadways to reduce the number of vehicle travel lanes and lane widths.
- Evaluate historical crash data to determine appropriate engineering solutions.
- Create separated off-street network and connect the existing shared use paths/trails.
- Establish different nighttime speed limits.
- Develop specific alerts and strategies to bring attention to skateboarders.

Enforcement/Emergency Response:
- Particularly for enforcement, but also for other groups, there may be a need to demarcate the City limits and let drivers know that they are in a "zone" with more strict policies.
- Identified that the City could implement "Safety Corridors" on arterial roads similar to the zero tolerance program that ADOT and DPS have implemented on certain freeway segments.
- Prioritized the need for statewide legislation: against distracted driving; mandatory helmet laws; stricter seat belt laws; having proper bicycle equipment. State legislation would break down barrier of cross jurisdiction traffic.
- Identified the need for additional funding for enforcement and providing aid to ensure free/low-cost access to proper safety equipment.
- Recognized that there are personal security concerns, particularly on public transit and at night. Enhance law enforcement presence and develop other strategies to improve perception of personal security in order to increase transit ridership.
- Implement strict enforcement that complements engineering countermeasures/signs.
- Implement special enforcement for bicycle lights at night.
- Allocate resources and funding for DUI checks and improved emergency response.
- Develop ordinances/laws specific to skateboarders/scooter riders.
- Evaluate current emergency response strategies and how they can be improved, including which hospitals victims are transported to depending on location of the crash; the location of fire stations and how response to multiple events would be handled; how are called dispatched from 911?; and the best type of response and appropriate treatment to send to a crash scene.

The Next Steps

1

Develop Working Groups

Working groups were formed to continue engaging in developing potential implementation strategies to reduce the severity and frequency of motor vehicle crashes in the City of Tempe. Working group participants are listed below and to the right.

2

Working Group Meetings: August & October

Working groups will convene in August and October to expand on the ideas generated at the visioning workshop and move forward with strategies to eliminate serious and fatal crashes from the Tempe

EDUCATION

Group Member	Organization Affiliation
Siddhant Srivastava	Arizona State University
Jessica Palmer	Tempe Elementary School District
Dana Kennedy	Senior Groups
Jeff Grout	Tempe Resident
Tracey Fejt	Banner Children's Medical Center
Adrian Ruiz	Valley Metro
Nigel Brooks	Transportation Commission
Shashwat Dave	Tempe Resident
Gregorio Montes De Oca	Mountain Park Health Center
Ernie D. Ontiveros	
JC Porter	Arizona State University
Kyle Fray	Arizona State University
Celeste Plumlee	Senior Groups
Sharon McKenna	City of Tempe
DeDe Gaisthea	MAG
Kerry Wilcoxon	ADOT
Thomas Drozt	First Transit
Carl Langford	City of Phoenix
Liza Golden	Community Health Planner
Dave Rico	City of Mesa

Vision Zero is a continuous effort. This visioning workshop was just the beginning of a movement to improve the safety of Tempe roadways.

3

Develop an Action Plan

Another workshop will be held in January of 2019 to finalize and prioritize strategies. This workshop will be focused on formulating an action plan. The Vision Zero Action Plan will be published in March of 2019.

ENGINEERING

Group Member	Organization Affiliation
Aziz Agbo-Panzo	Arizona State University
Sangeet Ulhas	Arizona State University
Sarath Joshua	MAG
Jeff Grout	Tempe Resident
Don Cassano	Transportation Commission
Sam Stevenson	City of Tempe
Jay Yenerich	Valley Metro
Sharad	Arizona State University
Brianne Fisher	City of Tempe
Ryan Guzy	Transportation Commisssion
Omar Peters	Valley Metro
Venkata Akhil Madaraju	Arizona State University
David Huizingh	Tempe Resident
Sabine Ellis	City of Mesa
Ron Jackson	Arizona State University
JC Porter	Arizona State University
David Rice	Tempe Resident
Kenneth Steel	MCDPH

EMERGENCY RESPONSE & ENFORCEMENT

Group Member	Organization Affiliation
David Huizingh	Tempe Resident
Kenneth Steel	MCDPH
Celeste Plumlee	Senior Groups
David Rice	Resident
Adrian Ruiz	Valley Metro
Ryan Guzy	Transportation Commission
Daniel Hoyle	Arizona State University
Shashwat Dave	Tempe Resident
Terry Lewis	Arizona State University
Erin St. Peter	ADOT
JC Porter	Arizona State University
Kyle Fray	Arizona State University
Michael Lee	City of Phoenix
Tim Palmer	Tempe Resident
Thomas Drozt	First Transit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