

Key Steps Supporting Vision Zero in 2021-2022

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What is Vision Zero?

The Vision Zero Network (VZN) is an international street safety philosophy with the goal for zero traffic related fatalities and serious injuries resulting from road traffic¹. Vision Zero resources provide a portfolio of transportation management policies, programs, case studies, and best practices that can be adopted by transportation departments whose values align with an emphasis on responsibility for safety shared by road system designers/planners and road users (drivers, pedestrians, and cyclists). The overarching idea is to have the system, rather than the individual, take responsibility for preventing fatalities. Transportation design must accommodate for imperfect human nature. Vision Zero's 10 Core Elements² include:

Leadership and Commitment

1. Public, High-Level, and Ongoing Commitment.
2. Authentic Engagement.
3. Strategic Planning.
4. Project Delivery.

Safe Roadways and Safe Speeds

5. Complete Streets for all.
6. Context-appropriate Speeds.

Data-driven approach, Transparency, and accountability

7. Equity-Focused analysis and programs.
8. Proactive, Systemic planning.
9. Responsive, Hot Spot planning.
10. Comprehensive Evaluation and adjustments.

Many cities along the eastern and western sea boards have been formally recognized in the VZN. In the Midwest, Chicago, Minneapolis, and Columbia have adopted Vision Zero.³

The VZN does not currently recognize university institutions as VZN participants. However, this has not prevented Colorado State University, in Fort Collins, CO from adopting a public Vision Zero initiative to improve street safety, mobility and travel across campus.⁴

¹ Vision Zero Network. <https://visionzeronetwork.org/>

² Core Elements for Vision Zero Communities. https://visionzeronetwork.org/wp-content/uploads/2018/11/VZN_CoreElements_FINAL.pdf

³ Vision Zero Map. <https://visionzeronetwork.org/resources/vision-zero-communities/>

⁴ Luebker, Mark. 'Vision Zero' strategy to foster safer campus environment. April 19, 2021 <https://source.colostate.edu/vision-zero-strategy-to-foster-safer-campus-environment/>

Vision Zero in the iCAP

The 2020 iCAP objective 8.6 relates to Vision Zero as a “county-wide goal for safe and sustainable transportation.” The Vision Zero iCAP page describes key planning organizations in the Champaign-Urbana metro area who are involved with transportation safety and planning.⁵

Transportation Planning at UIUC

The Transportation Demand Management (TDM) office at Illinois coordinates the campus transportation network which covers walking, biking, transit and motor vehicles.⁶ The TDM office is charged with implementing the FY21-FY26 TDM Plan,⁷ the master document that outlines how to meet its vision to “provide safe, reliable, and sustainable transportation for all modes [of transit]”. The TDM office also implements the goals set in the 2014 Campus Bicycle Plan.⁸ The TDM office is currently working to develop a Campus Walking Master Plan with a Campus Walkability Audit under way. Safety is at the core of these plans and Facilities & Services TDM staff support a Vision Zero mission – to reduce traffic related injuries and deaths to zero.

According to Sarthak Prasad, the Sustainable Transportation Assistant at the University of Illinois Facilities and Services, the University “implements the techniques of Vision Zero to keep our streets safe and secure for pedestrians, cyclists, vehicles and by engineering the infrastructure so that fatalities are minimized at zero”.

While Vision Zero goals are implicit to the TDM office staff at F&S, no formal documents make mention of the Vision Zero Network campaigns or framework – this language is not in the TDM Master plan, nor in the Campus Bicycle Plan. This presents an opportunity for campus to become more explicit in its communications about its goals and to set targets for reducing injuries related to traffic crashes.

In addition to the work on campus, Prasad, and Stacey DeLorenzo, the campus TDM Coordinator, participate in area transportation planning efforts with neighboring cities and the Champaign Urbana Urbanized Area Transportation Study organization (CUUATS). Prasad represents campus at the City of Urbana Bicycle and Pedestrian Advisory Commission.

Partnerships with Cities

Champaign-Urbana Urbanized Area Transportation Study (CUUATS)

CUUATS is the census designated metropolitan planning organization that includes 7 state and local partners: Illinois Department of Transportation, Champaign County, Cities of Urbana and Champaign and Village of Savoy, the Champaign-Urbana Mass Transit District and University of Illinois. It is housed at the Champaign County Regional Planning Commission (CCRPC).

CUUATS staff manage the Long Range Transportation Plan 2045, and are responsible for updating the plan every 5 years.⁹ CUUATS staff maintain resources on traffic safety, monitor safety data

⁵ Key Objective: 8.6 Vision Zero, <https://icap.sustainability.illinois.edu/objectives/86-vision-zero>

⁶ Transportation Demand Management. <https://fs.illinois.edu/services/more-services/tdm>

⁷ University of Illinois Facilities & Services Transportation Demand Management Plan FY 21 – FY26 https://fs.illinois.edu/docs/default-source/tdm/fy21-fy26-tdm-plan.pdf?sfvrsn=434fd8ea_0

⁸ 2014 Campus Bicycle Plan. <https://fs.illinois.edu/docs/default-source/tdm/2014-campus-bicycle-plan.pdf?sfvrsn=4>

⁹ Executive Summary of the Long Range Transportation Plan. <https://ccrpc.gitlab.io/lrtp2045/overview/introduction/>

annually, and work on traffic engineering and planning projects. For example, in 2021, CUUATS staff is working on implementing recommendations from the Urban and Rural Safety Plans through conducting detailed safety analysis for specific locations. The top 20 high priority intersections and segments were identified in the rural and urban areas and CUUATS staff is conducting detailed safety analysis and providing detailed recommendations for improvements that are proposed to the different responsible agencies so that they can make informed decisions to improve safety at the identified locations.

Safety planning, data and monitoring resources include the C-U Urban Area Safety Plan¹⁰, Urban Safety Plan Report Card¹¹, LRTP 2045 Annual Report Card¹², and the Champaign County Crash Dashboard¹³. Through the development of these plans and resources, CUUATS establishes safety priorities, goals, and performance measures in collaboration with the CUUATS Safety Committee, and assists CUUATS partners to identify safety engineering solutions and apply for grant funding to implement the solutions.

Gloss met with Morocoima-Black and Shuake Wuzhati, CUUATS transportation engineer, in October to learn more about CUUATS, area transportation planning, and safety goals. During the call Morocoima-Black discussed the benefits of a past collective effort between Champaign, Urbana, the University, MTD and CUUATS on the Campus Area Transportation Study Committee (CATS). This effort, among many safety projects, led to the MCore project.

Another valuable observation by CUUATS staff is that there is tremendous growth on campus with respect to new buildings. Morocoima-Black summarized a past meeting with DeLorenzo and Prasad about Traffic Impact Analyses. New buildings have an impact on multi-modal traffic with effects on pedestrians, cyclists, MTD bus circulation and traffic. There is no university policy currently in place to assess traffic impacts as result of new developments in the University District. Morocoima-Black recommends requiring a Traffic Impact Analysis to be conducted as part of new building construction and development.

Urbana

The City Council of Urbana passed a resolution setting Vision Zero as an official policy regarding reducing loss of life and serious injury in the transportation system by 2030.¹⁴ The resolution stated that a Vision Zero Task Force (with participation of relevant community partners) would convene two to three times per year to develop a Vision Zero Plan for the City of Urbana that utilizes outside funding sources for projects not already part of the Capital Improvement Plan and city budget. The prioritization of this work comes through the efforts of the Urbana Bicycle and Pedestrian Advisory Commission (BPAC).

Champaign

Gloss met with Ben LeRoy, Zoning Administrator for the City of Champaign, to learn more about transportation planning, public works, and Vision Zero in Champaign. LeRoy conveyed that Champaign public works staff participate in CUUATS. Vision Zero is not a current priority for Champaign at this time, however the community is intently focused on community safety, especially related to gun violence.

¹⁰ Champaign-Urbana Urban Area Safety Plan. <https://ccrpc.org/documents/champaign-urbana-safety-plan/>

¹¹ Urban Safety Plan Report Card. <https://ccrpc.org/documents/champaign-urbana-safety-plan/urban-safety-plan-report-card/>

¹² LRTP 2045 Annual Report Card. <https://data.ccrpc.org/pages/lrtp-2045-report-card>

¹³ Champaign County Traffic Crash Dashboard. <https://crashdashboard.ccrpc.org/>

¹⁴ Resolution No .2020-10-049R https://www.urbanaininois.us/sites/default/files/attachments/Resolution_2020-10-049R_revised.pdf

Champaign has a limited number of Advisory committees, and it does not have a Bicycle and Pedestrian Advisory Commission.

LeRoy noted that Vision Zero focused transportation planning is not a current priority for the City of Champaign. He provided insights into how priorities for the city are evaluated every two years related to the election cycle. Initiatives can be influenced by citizens and community advocates who initiate discussions with city council members. LeRoy also brought up CATS. He thought that overall it was a positive way for multiple entities to engage and work together on transportation planning efforts. The outcomes from CATS were valuable.

Finally, LeRoy discussed the current landscape for dockless bike sharing from his perspective in Champaign. Information about Bike Share is provided in the Innovative Projects and Programs section below.

Savoy

Gloss met with Public Works Director, Roland White and the Community & Economic Development Director, Katie Simpson, for the Village of Savoy to learn more about transportation planning and community planning in their community. The Village of Savoy is smaller than Champaign and Urbana, but its population has doubled in the past two decades to just around 8,860 residents and comprehensive planning estimates show that Village will grow to more than 11,000 residents by 2030. A major transportation infrastructure project currently underway is the Curtis Road Grade Separation plus Complete Streets Project which raises the railway over Curtis Road¹⁵.

A planned shared use bike and pedestrian path will be placed along the west side First Street between Windsor Avenue and Curtis Road to improve safe bike and pedestrian access between Savoy and campus. The University of Illinois, Champaign County Bikes and other stakeholders advocated in support of the project and were critical to the award of the Illinois Transportation Enhancement (ITEP) Grant. The successful ITEP grant application was based on foundational work completed by CUUATS staff.

Savoy works closely in partnership with CUUATS for transportation planning and implementation. White participates on the CUUATS Technical and Policy Committee and on the Traffic Safety Committee. White provided information regarding speed limit reduction currently being considered for local residential streets. With safety and prevention at the fore front, village staff is in the process of proposing the Savoy Village Board takes action to reduce residential neighborhood speed limits to 25 mph. While some main roads in the Village are (and should be) prioritized for vehicular traffic, staff is recommending that in residential neighborhoods, the appropriate modal hierarchy is to place pedestrian and bicycle traffic modes at a higher importance and protection levels, in an attempt to keep people safe while enjoying their neighborhoods out walking, riding bikes etc. Staff is recommending a proactive approach to safety rather than reactive approach to improve things only after traffic-incidents occur. The Board will consider this matter at its November 17, 2021 meeting.

Simpson emphasized that the Savoy Village has many modes of transportation which can attract development to the area including easy access to air travel, rail, access to roads & highways, and bike-ability. The Village is interested in electric vehicles as well as the potential impacts of autonomous vehicles on safety. Staff is exploring strategies for EV readiness including building code requirements for

¹⁵ Curtis Road Grade Separation + Complete Streets Project. Village of Savoy.
<https://www.savoy.illinois.gov/index.asp?SEC=D4673B7F-0010-4BC9-91F7-B94ABB007BEB>

single-family homes. Simpson also identified potential opportunities for childhood safety education including engaging the fire department to facilitate more safety trainings with children. In a previous role as City Planner for the City of Bloomington, Simpson is familiar with Vision Zero. She described McClean County's regional approach to Vision Zero which can be found in the Go:Safe McLean County Action Plan released in April, 2021¹⁶.

With limited staff and funding in the Village, staff does not foresee the Village taking formal action on a Vision Zero approach in the near-term. However, staff are very interested learning from community partners, like Urbana, as efforts to adopt a Vision Zero framework are implemented. White also stressed the importance of partnering regionally with the MPO CUUATS on this initiative, while also recognizing federal funding reductions impact the work that needs to be done.

Examples of Innovative Local CU Proposals and Programs

Traffic Garden

Positive relationships with community transportation partners can lead to innovative program ideas to benefit both the campus and the community. Cynthia Hoyle, a Transportation Planning Consultant with CUMTD has recently proposed a children's traffic garden or safety village¹⁷ to be developed on unused neighborhood roads at the corner of Race Street and Florida Avenue in Urbana in the Orchard Downs area. Finding a champion and anchor organization that wants to lead on this will be key.

Bike Share

In 2020 the World Resources Institute reported on the benefits of dockless bike sharing.¹⁸ Succinctly, the authors show that a "study found that, with effective management and safe infrastructure, dockless bike-share systems can be an excellent last-mile urban mobility solution that enhances connectivity to public transit, reduces carbon emissions by replacing motorized trips and improves public health by preventing thousands of premature deaths."

Dockless bike systems have been in use in the Champaign-Urbana area since 2018. An intergovernmental agreement between the Urbana, Champaign and the University of Illinois regulates their use in our community. LeRoy said that anecdotal evidence shows that the bike share bicycles are circulating beyond the campus community with Veo's bikes showing up on North Prospect in shopping districts and on West Springfield. Noting that the streets are challenging for pedestrians and cyclists in these areas, the necessity for multi-modal transit infrastructure and the availability of shared bikes is evident.

While ridership was reduced during the COVID-19 pandemic, there is an opportunity to evaluate the program and work with community partners to ensure that stakeholder needs are being met.

¹⁶ Go:safe McLean County action plan. <https://mcplan.org/file/922/Adopted%20GoSafe-Report.pdf>

¹⁷ Traffic Gardens are small-sized streets with scaled-down traffic features and fun elements. Also known as safety town, safety city, safety village, etc., they can be constructed on dedicated or temporary sites to create a world where children can learn how to ride bicycles, scooters, and drive children-sized pedal cars. Children navigate their world and practice using roads, intersections, and crossings in a fun and safe environment. <https://www.trafficgardens.com/about>

¹⁸ Hui Jiang, Su Song and Lu Lu, Dockless Bike Sharing Can Create Healthy, Resilient Urban Mobility, World Resources Institute, 2020. <https://www.wri.org/insights/dockless-bike-sharing-can-create-healthy-resilient-urban-mobility>

Vendors in the dockless and docked cycling spaces are innovating and developing new technologies for shared scooters, mopeds, and e-bikes along with traditional pedal bikes. At the same time, Sarthak Prasad acknowledges that the University does not have plans to incorporate shared e-scooters or seated scooters to the campus at this time.

Faculty Support for Vision Zero

Dr. Rahim “Ray” Benekohal, professor in Civil and Environmental Engineering (CEE), is a Vision Zero advocate. Benekohal’s primary research areas include sustainable and resilient infrastructure systems and transportation engineering. Jacob Mathew, a Ph.D. candidate worked with Benekohal to conduct a campus survey about traffic events, collisions and dangerous intersections. Mathew also analyzed IDOT traffic data as part of the project. Preliminary results were presented to the Campus Transportation Advisory Committee (CTAC) in fall 2020.^{19 20} Mathew and Benekohal presented the project’s final results to Sarthak Prasad, Stacey DeLorenzo, and Stacy Gloss in October. Their presentation is titled “Vision Zero for University of Illinois Campus.” Benekohal and Mathew shared their final results with the project’s focus group participants and community stakeholders. The meeting video, power point pdf, and full report are linked to the iCAP Vision Zero page²¹ and Prasad will provide the updated final report to CTAC.

Conclusions and Recommendations

Vision Zero provides resources and best practices for the transportation community, providing transportation authorities the tools they need to engage communities, develop plans, and modify infrastructure to improve safety. By adopting a Vision Zero framework to transportation planning, a city (or campus) recognizes that crashes are going to happen, but introduces targets, new programs, and mechanisms for reducing fatalities and injuries to zero, keeping all people safe during all transit activities using all modalities whether that’s walking, using wheel-chairs, pedal-cycling, driving/riding in a vehicle or motorcycle, using public transit, scooters, skateboards, or rollerskate/rollerblades.

Benekohal and Mathew received IDOT data for our campus community and found that there were 2174 crashes reported in the campus area between 2014 and 2018. Among these crashes was one fatality and 422 crashes with reported injuries.²² A Vision Zero objective is in the iCAP, which serves as a reminder that resilient, sustainable communities are also ones that prioritize safety in transit systems. There can be no acceptable level for injuries or deaths in our transportation system.

As transportation planning and infrastructure is complex, there is no one-size fits all approach. Savoy’s public works director emphasized that context sensitive solutions are needed.

¹⁹ CTAC Fall 2020 Presentation <https://icap.sustainability.illinois.edu/project-update/ctac-fall-2020-presentation>

²⁰ CTAC, an advisory board, has member representatives from F&S, Public Safety, Campus Recreation, University Housing, the Deans office, faculty from departments including CEE, Urban and Regional Planning, and Architecture, City representatives, MTD, and many University students.

²¹ Vision Zero – Final report presentation by Ray and Jacob + meeting recording, October 22, 2021

<https://icap.sustainability.illinois.edu/project-update/vision-zero-final-report-presentation-ray-and-jacob-meeting-recording>

²² Benekohal, Rahim and Jacob Mathew, Final Report for VISION ZERO FOR UNIVERSITY OF ILLINOIS CAMPUS, December 26, 2020

The recommendations below take into consideration actions that can involve updating TDM policies and procedures, educating the campus community about Vision Zero, working to implement educational initiatives, and supporting community partnerships and initiatives.

Campus TDM Policies

1. Update the TDM master plan and Bike Plan in the next plan review. Include a Vision Zero statement section and describe policies and designs that are incorporated into campus transportation planning.
 - a. Associate and connect campus actions back to the Vision Zero 10 Core Elements.
2. Incorporate Vision Zero messaging into the future Campus Walking Plan.
3. Include a statement about Vision Zero on the F&S Website <https://fs.illinois.edu/services/more-services/tdm>.
4. Conduct campus safety studies like the Vision Zero study at shorter intervals. Encourage partnerships with faculty and staff to conduct these studies and offer concrete recommendations.
5. Create a policy that requires a Traffic Impact Analysis for all new buildings.
 - a. Consider urban design where thoroughfares and buildings are placed on the landscape oriented to each other.
6. Campus should bring community partners, city planners, and public works directors into conversations early-on to be included in conceptualizing and visioning “gate way” projects like park & ride lots off-campus, or other major entry-way kind of projects that transition between local communities and the University.
 - a. Include gateway projects that mediate the transition at the City limits and/or at the transition of neighborhoods.

Transportation Infrastructure Development and Modifications

1. Use the Mathew & Benekohal’s Vision Zero for University of Illinois Campus report and the future Walk Study to identify and observe problem intersections and areas of concern, areas with high crash rates and high near-miss incidents.
 - a. Improve the infrastructure in prioritized areas. Ideas from the report include infrastructure projects that convert some streets to pedestrian only areas, improve signage, modify & improve cross-walks with bump outs to reduce pedestrian exposure, modify and improve lighting, add vegetation in intersections to discourage crossing mid-block, and ensure that lane markings are regularly repainted.
2. As described in Mathews and Benekohal’s Vision Zero report, develop a reporting app in order for the transportation department to continuously collect information.

Campus Community

1. Continue campus engagement that promotes TDM’s Vision Zero efforts: Incorporate Vision Zero into messaging and continue to educate the campus community about Vision Zero.
2. Support innovative projects:
 - a. Develop a Traffic Garden for children to learn about road safety.
 - b. Evaluate existing bike share system and the adoption of new and evolving technologies such as seated scooter/pedal bike hybrids.
3. Consider ideas from Mathew and Benekohal’s Vision Zero Report into TDM strategies:
 - a. Create tools to help new transportation users plan their trips on campus,

- b. Conduct the Light the Night event twice a year instead of once,
 - c. Sell premium bike-lights to students at discounted rates, and
 - d. Promote safety by creating new education programs, and engaging students through fun and interactive activities like bike quizzes.
- 4. Utilize University of Illinois Extension resources for outreach and education. Create social media and public education campaigns.

Advisory Boards and Commissions / City Councils

- 1. Participate in Urbana's BPAC.
- 2. Participate in Urbana's Vision Zero Task Force if or when it is convened by the City of Urbana
- 3. Continue participating in CUUATS meetings and activities.
- 4. Re-engage the Campus Area Transportation Study committee (CATS) for future planning.
- 5. Develop paths for students to engage with the Cities of Champaign and Urbana, and Village of Savoy on sustainable transportation. Interested students for example could include student representatives already on the Campus CTAC.
 - a. Teach students how to represent themselves and others at city council meetings
 - b. Demonstrate how to have one on ones with city council members
 - c. Develop a well-thought-out shared-cost or for-credit intern program that places talented transportation engineering students or urban planning students at the graduate level into local internships in the campus Transportation Department, and potentially CCRPC CUUATS and/or city or village public works and planning departments. (A model can be Arizona State University's Internship program in their MPA/MPP degree programs. Students receive three hours of internship credit.)
- 6. Campus can support EV Ready New Construction for residential homes by hosting workshops for local developers, building inspectors/code officers, homeowners and other stakeholders.

Vision Zero Network

- 1. Contact and work with the Vision Zero Network to create a campus designation for University campuses to receive recognition for their efforts. Incorporate the designation into campus community education about the Vision Zero Network.

Student Opportunities

- 1. A Capstone project for a student can be to host 1 – 2 technical workshops or conferences on Vision Zero that educates community leaders and decision makers about Vision Zero with expert panelists from communities who are working on Vision Zero projects and experts and professors in transportation engineering planning. The audience would be F&S Transportation department, public works departments in our cities/villages and county, CUAATS, planning departments, pedestrian, bike-safety, and traffic-safety advocates in Champaign County and other local counties: McLean, Vermillion etc.
- 2. Explore student internship and partnership opportunities for Urbana Planning and Transportation Engineering Students in community public works and transportation planning offices throughout the community.

- a. The key to success is ensuring continuity in programs so students gain real-world experiences but are also providing key services to the communities that they are working for.