On February 13th, 2019, America Walks hosted the webinar, "Creating Safer Streets for All", where we highlighted pedestrian safety as a critical part of planning for healthy, active, and engaged communities. We featured communities taking steps to address safety concerns and the techniques and interventions for how to dive in.

It featured Leesa Freasier, Physical Activity Coordinator at University of Arkansas for Medical Science, Dan Gelinne, Research Associate at the UNC Highway Safety Research Center, and Jonathan M. Rogers is a Policy Analyst at the District Department of Transportation (DDOT).

America Walks received many questions and comments from attendees. Our panelists took time to offer their expert answers, to continue the conversation and provide further insight on best practices they are using to implement safe systems approaches, in an effort to create safe, accessible, and enjoyable walking conditions in their communities so you can too.

How can we keep streets safe for pedestrians in winter?

Jonathan: DC has a sidewalk clearing law, but enforcement could be improved. Often road crews plowing streets for cars end up blocking curb ramps - so those operational things should be improved. Otherwise, things that make streets safe for walking year-round are even more valuable during snowy weather.

Dan: Clearing snow from sidewalks is a critical issue that doesn't get much attention as far as safety goes. If sidewalks pile up with snow that is cleared from the roadway, pedestrians may have to walk in the street and be more exposed to traffic. The CityFix has an excellent collection of best practices related to snow and ice removal that I recommend. Unfortunately, winter weather is often used as an excuse for cities to not install some pedestrian safety countermeasures like traffic calming, curb extensions, and other forms of vertical or horizontal deflection. There are plenty examples of cold-weather cities that have found ways to make these designs work and still clear snow and ice from their streets: Boston, Cambridge, Minneapolis, Chicago, Montreal, to name just a few.

Snow Removal Best Practices: The Right Path, TheCityFix, https://thecityfix.com/blog/snow-removal-best-practices-the-right-path/

The idea of "Safe Systems" that 'people make mistakes' is the thinking that has led roadway design engineers to 'over-design' roads for many decades. Can you comment?

Dan: This is exactly right, though there are some aspects of "over-built" roads that are attributable more to expanding capacity for more traffic (adding lanes to accommodate peak period travel leads to over-built roads but isn't necessarily done in the name of safety). One example that supports your point is the widening of clear-zones at the roadside. Roadway

departure crashes are among the most severe types of crashes, and usually occur at high speeds and involve the vehicle striking a fixed object like a tree. In an effort to mitigate this type of crash, engineers clear trees and other fixed objects from a distance beyond the edge of the lane. The assumption (a true one) is that if a person departs the roadway, they won't strike an object and be killed as a result of this mistake. They've essentially built mistake-making into the design of the road. Unfortunately this reduces visual friction and opens up the roadway to the point that higher speeds feel more comfortable, which may increase the risk of roadway departure crashes in the first place. There are a lot of examples of how we've made these sorts of changes for motor vehicle safety to accommodate driver mistakes, but this hasn't really been done with other road users in mind.

Leesa: I think that design principals need to take into account all modes of transportation. If this happens then the design of the street is safe. I also strongly believe that all parties need to obey the rules in order for all modes to interact safely. For example pedestrians must use crosswalks and obey the traffic signals, vehicles must stay out of bicycle lanes and crosswalks and obey the speed limit signs and bicyclists must stay off sidewalks and obey traffic laws.

What is SWOV?

Dan: SWOV is the national transportation research institute in the netherlands. Their actual name is Instituut voor Wetenschappelijk Onderzoek Verkeersveiligheid, which is confusing given the acronym. They are independent from the national transportation authority and are intended to provide an unbiased research perspective to inform policy. We really do not have the equivalent of this organization in the US.

Traveling over the speed limit is not a mistake, it is a conscious decision.

Dan: This can be true in some cases - a person may make a conscious decision to travel 15 miles over the speed limit because they just decide they want to. But it is well-documented that most speeding is the result of environmental factors. In cases where researchers have looked at how fast drivers travel when speed limits are not posted, they find that speed varies dramatically depending on how the roadway is designed. This is well-illustrated in the Human Factors Guidelines for Road Systems, which summarizes a wealth of research about the environmental factors that cause drivers to underestimate their travel speed. The method most agencies use to set speed limits is based on the speed that 85 percent of drivers are "comfortable" traveling. If most drivers feel comfortable traveling 45 miles per hour on a road marked 25 miles per hour, then this method dictates that speed limits should be raised to more accurately reflect the operating speed. The move in a safe systems approach is to instead design the road in a way that most drivers would feel uncomfortable traveling at a speed deemed unsafe for conditions.

NCHRP Report 600: Human Factors Guidelines for Road Systems, Second Edition, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_600second.pdf

NCHRP Report 500, Volume 23: A Guide for Reducing Speeding-Related Crashes, http://www.trb.org/Publications/Public/Blurbs/A_Guide_for_Reducing_SpeedingRelated_Crashes_160862.aspx

How much does pedestrians being distracted by electronic devices like cell phones play in the increase in pedestrians being struck by vehicles?

Leesa: I think it plays just as much roll as it does driving. We all must look out for each other and not be distracted by devices. This also means cars stopping at crosswalks needs to become the norm. Using any type of mode of transportation should be done without the distraction of devices. I would like to state this is my opinion and not based on any data. There is no data to support this theory or not to support the theory. I just feel that any distraction using any mode of transportation can cause accidents to happen.

Dan: There is no evidence in research or in collected crash data that supports the claim that pedestrians are more likely to be struck because they are distracted by cell phones or other devices. This is a common claim, but no research exists that connects pedestrian distraction to crash involvement. Unfortunately it is a regular talking point in the media and has been able to spread quickly despite no research to back it up. Some studies have looked at whether pedestrian distraction impacts pedestrian behaviors or decision making, and there have been a wide range of outcomes. Usually these are studies performed in simulators where a person is told to use a phone or type a message while also deciding whether to cross in front of a screen showing oncoming traffic. However, none has shown a connection to actual crashes. It may very well be true that pedestrian distraction, as well as driver distraction, contributes to crashes involving pedestrians, but there is just no existing data to support this claim. Part of the reason is that the police crash reports that provide the data needed for crash-based studies do not consistently report whether or how a pedestrian or driver was distracted. Without this data it would be almost impossible to make the connection between distraction and crashes.

Crosswalks are not obeyed in New Jersey and thus give a false sense of security. I know this as a runner for many years.

Leesa: Unfortunately, this is the norm across the country. People naturally respond to cause and effect, so if vehicles don't stop at crosswalks law enforcement need to ticket them. The same goes for pedestrians, if they cross without follow the traffic signals and not in a crosswalk they should be ticketed for jaywalking. This is not a practice that is followed, but people would learn to obey the law. The same goes for bicyclists that don't follow traffic laws.

Dan: Crosswalk markings alone, in many cases, may give pedestrians a false sense of security. This was shown in the 2005 study by Zegeer et al., Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations. They found that crosswalk markings (paint) alone at locations with multiple lanes of travel and higher volumes of traffic may actually increase the likelihood of a crash. Unfortunately, many agencies interpreted these results to mean that crosswalks should not be marked. In fact, there are many other countermeasures and designs that can be added to crosswalk markings (e.g. raised median islands, rectangular rapid flashing beacons, speed management strategies, and others) that can make them safe for those types of conditions. The recent report from FHWA, Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, offers specific thresholds for number of lanes, speed, and volume that require additional treatments at crosswalks.

Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations,
https://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf

Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations,
https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf

How can you get transportation safety professionals to shift from a high crash location mode of looking at safety to more of a systems approach? Successful examples of this?

Dan: This is a difficult "sell" for many agencies, because they have become so entrenched in methods that prioritize hot spots instead of locations with high risk of crashes. A lot of this has to do with how prioritization formulas rank sites with crash history over those with no crashes but high risk. It requires agencies (and their leaders) to make a conscious decision to fund high risk sites over just high crash locations. We're seeing a trend toward this approach from some States like Arizona, which developed two new plans that use systemic/risk-based approaches. New York City has a great example of this with their Left-Turn Traffic Calming Program: after studying factors associated with left-turn crashes involving pedestrians, they found all of the intersections that shared those characteristics and have begun correcting them regardless of whether they have a crash history. This is a great example of more proactive, forward-thinking safety programs, but convincing agencies to go this route is not easy.

Arizona DOT Pedestrian Safety Action Plan,
http://www.azbikeped.org/downloads/ADOT-Pedestrian-Safety-Action-Plan.pdf

Arizona DOT Bicyclist Safety Action Plan,
http://www.azbikeped.org/downloads/ADOT-Bicyclist-Safety-Action-Plan.pdf

New York City Left-Turn Traffic Calming,
https://www1.nyc.gov/html/dot/html/pedestrians/left-turn-traffic-calming.shtml

Part of traffic safety deals with perception and language. Are presenters engaging with law enforcement and media to address the documented (http://bit.ly/2BypP3W) biases against cyclists and pedestrians?

Leesa: In Arkansas, we have worked with State Police to add questions on the written driving test that include bicycle and pedestrian safety. We work on public engagement with communities and municipalities. We host regional and statewide trainings for safety. We sit on several boards and commissions at ArDOT that address bicycle and pedestrian safety. The Governor has appointed individuals around the State to sit on the Governor's Taskforce for Bicycle Safety.

Jonathan: We've certainly made a big push around "crash not accident" etc. and have really set the agenda with Vision Zero that it's the government's responsibility to design and operate safe streets, not the victim's responsibility to survive. While we do condemn impaired/aggressive driving, etc., we seen improvement in the media's language around safety.

Dan: I tried to get at this point, albeit briefly, at the end of my presentation. It's a very important one, since the way that media reports crashes goes a long way toward shaping public perception and discourse. You'll be interested in the paper recently published by Rutgers, Lime, and Texas A&M on this topic. They reviewed hundreds of news stories and found clear biases toward vulnerable road users involved in crashes. Furthermore, they pointed out that crashes are often reported as isolated events, rather than part of a bigger trend, which could start to shift attitudes toward solving the problem. More work is being done in this area now, but the big takeaways may be this: Instead of trying to directly engage the reporters themselves to have them change their reporting, cities can make progress by simply developing talking points that their staff can use when responding to media requests for information about crashes. Often there is a public information officer embedded in law enforcement who takes questions from reporters, and this is usually where the statements like "pedestrian came out of nowhere" or "was wearing dark clothing" originate. By educating those within the city and preparing a simple media guide for internal use, we can start to change what gets into these stories.

Editorial Patterns in Bicyclist and Pedestrian Crash Reporting,
http://www.eden.rutgers.edu/~ei60/crasheshandout.pdf

Wouldn't the Pedestrian fatalities in that chart include folks who are using public transportation as well (e.g. walking to/from transit stops)?

Jonathan: The pedestrian fatalities reported are for anyone walking in DC public space - but the comparison of "taking transit to work" to pedestrian fatalities wouldn't be appropriate. If 95% of a person's commute is underground on Metrorail, their exposure to a crash is much less than a person who walks 1 mile to work. Further, commutes are only a proxy for all trips, so also not perfect.

Are the Left Turn Hardening removed during winter months?

Jonathan: These are new installations for us, but the plan is to leave them in year-round. NYC does this. We have had more maintenance required than we expected already.

Does pedestrian scramble lead to people having to wait longer to cross?

Jonathan: It can... in our first location (7th and H NW) it actually decreased ped wait times, because all turns are prohibited for vehicles at that intersection. At the one pictured (14th and Irving NW), for some crossings, wait times may have increased slightly, but compliance has not suffered.

Have you found slow zones near areas where seniors live or visit a center to be useful? What is the baseline criteria to determine the zone?

Jonathan: We haven't widely implemented these yet, but plan to study the results - we'll likely prioritize locations that overlap with high-crash network or risk factors

Having to cross a bike lane counts as crossing a line of traffic, and 2-way bike lanes are particularly dangerous, especially at night. Half our bikers in Mass. don't use any lights at night. They go fast,

and pedestrians can't see them and may not expect them to come from the other direction. There isn't enough attention to the hazards cyclists pose to pedestrians.

Jonathan: Disagree generally.

How has the rise in bike and scooter sharing in DC impacted injury rates and your programming for safer streets?

Jonathan: More accurate data (from trauma centers via our public health agency) would help answer this question - because we know active transportation crashes are less likely to be reported to police, and police data is our only source of crash data currently. However, in terms of severe injuries, we haven't seen much of a trend. We had one fatality on a dockless scooter over the 1.5 years we've allowed the program. It seems similar to capital bikeshare, where, despite millions of trips, crashes are rare.

What are you doing to market/educate about why engineering changes appear in a neighborhood, so residents -- especially older adults -- can understand the "how" and the "why"

Jonathan: Much of this happens through coordination with our Age Friendly DC initiative, and through DDOT's "notice of intent" process… plus regular engagement with our ANCs (Advisory Neighborhood Commissions)