

From: [Tao, Yang](#)
To: [Munger, Sam R.](#); [William Berg](#); [Harrington-McKinney, Barbara](#); [Transportation Commission](#); [Lynch, Thomas](#); [Sanon, Reuben A](#)
Cc: [Madison Mayor](#)
Subject: RE: Arterial Street Speed Limits and Traffic safety
Date: Monday, August 5, 2024 4:01:55 PM
Attachments: [image002.png](#)
[image004.png](#)
[image008.wmz](#)
[image009.png](#)

Greetings Professor Berg,

Thank you for reaching out and sharing the thoughtful notes! We also appreciate that you take time to conduct the speed study on Segoe Rd and share the data with us! The active participation from great residents like you makes us get better and better as a community. You brought up a lot of great points. I was educated on these principles in school and practiced those for years as well before I thought that our industry needs to change. I want to explain why I think we need to innovate, why we are doing things differently now in Madison, and what are our results have been like so far.

We have been practicing the more traditional way of setting speed limits (85th percentile speed) here in Madison (and in the US) for many years. It does have a lot of merits for access controlled highways such as freeways. However, as I mentioned in [a response to Wisconsin State Journal in 2022](#) as we started to experiment a new way to set speed limits, the 85th Percentile Method hasn't worked well on many urban streets, and it has been increasingly showing its flaws on roadways where you have many other users such as pedestrians and bicyclists that share the road with motor vehicles. The method focuses too much on safety of those in motor vehicles but not enough on those outside of the motors vehicles, who are actually the most vulnerable on the road. It generally promotes higher motor vehicle speeds, which are detrimental to the safety of vulnerable road users as we have seen in too many tragedies. As you know, vehicle speed plays a major role in the outcome of a crash when it involves a pedestrian or bicyclist, and even a few miles per hour can mean a difference between life and death.

That's why the National Transportation Safety Board (NTSB) recently recommended to overhaul the way speed limits are set, and the National Association of City Transportation Officials (NACTO) responded with a newer context-sensitive method for urban streets, including setting default speed limits of 25 mph on major streets and 20 mph on minor streets. And after a lot of debate and research, the lasted edition of the Manual on Uniform Traffic Control Devices (MUTCD) just released by the Federal Highway Administration (FHWA) last December now specifically requires that the 85th Percentile Method should NOT be used alone in setting speed limits, particularly in "urban and suburban arterials and rural main streets" where people and cars tend to mix. Rather, many other factors should be considered when setting speed limits. I think that this is a powerful endorsement from USDOT on Madison's new practice of setting speed limits.

We have also been evaluating the effects of our speed limit reduction projects using third-party data called StreetLight Data. We found that the average speeds were reduced a little but generally not much. However, more importantly, we did reduce the highest and the most dangerous speeds significantly for almost all of the projects. For the 18 streets with reductions in speed limits, statistics found that vast majority of the locations studied (31 out of 38) had seen a decrease in the number of vehicles traveling 10+ mph over the speed limit. For more details, please refer to the [data made publicly available here](#), as an appendix to our Vision Zero Progress Report.

With those said, I will share your observations and data with our team of engineers and planners working on improving traffic safety in Madison, and will keep them for our future reference.

I will also ask our staff to take a look at the intersection of Mineral Point Rd and Segoe Rd to see how we can improve safety and operations there. We were able to add left-turn lanes at Mineral Point-Midvale intersection a few years ago for similar situations, and have been looking into options here as well. Those solutions may take some time as it requires a quite costly project, but we will try to do some signal timing adjustments to help with the left-turn issue right away.

Thank you again for contacting us, and please don't hesitate to let us know if you have any questions.

Best,
Yang

Yang Tao, Ph.D., P.E. (he/him/his)
Director of Traffic Engineering | City of Madison, Wisconsin
Madison Municipal Building, Suite 109
215 Martin Luther King Jr Blvd, Madison, WI 53703
Office: 608.266-4761 | Direct: 608.266.4815 | Fax: 608.267.1158
www.cityofmadison.com/trafficengineering/

From: Munger, Sam R. <SMunger@cityofmadison.com>
Sent: Monday, August 5, 2024 2:21 PM

To: William Berg <wdberg@charter.net>; Harrington-McKinney, Barbara <district20@cityofmadison.com>; Transportation Commission <TransportationCommis@cityofmadison.com>; Lynch, Thomas <TLynch@cityofmadison.com>; Tao, Yang <YTao@cityofmadison.com>; Sanon, Reuben A <RSanon@cityofmadison.com>
Cc: Madison Mayor <madisonmayor@cityofmadison.com>
Subject: RE: Arterial Street Speed Limits and Traffic safety

Professor Berg – thank you for reaching out to our office. We appreciate your concerns, as we have obviously put a lot of study, thought and care into traffic safety as part of the City’s [Vision Zero strategy](#). I have shared your comments with the Mayor. Given their level of detail and complexity, I’ve also flagged them for the appropriate City staff (many of whom you’ve already included) to respond to directly.

Thanks again for your engagement on this important issue! Best,

Sam



Sam Munger
(he/him/his)
Chief of Staff
Office of the Mayor ● City of Madison
Tel 608 266 4611 ● Fax 608 267 8671
Email: smunger@cityofmadison.com
Web: <http://www.cityofmadison.com>

From: William Berg <wdberg@charter.net>
Sent: Monday, August 5, 2024 1:38 PM
To: Madison Mayor <madisonmayor@cityofmadison.com>; Munger, Sam R. <SMunger@cityofmadison.com>; Harrington-McKinney, Barbara <district20@cityofmadison.com>; Transportation Commission <TransportationCommis@cityofmadison.com>; Traffic <traffic@cityofmadison.com>; Lynch, Thomas <TLynch@cityofmadison.com>
Subject: Arterial Street Speed Limits and Traffic safety

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I am a Madison resident and live on the City's southwest side. I am a Professor Emeritus in the Department of Civil and Environmental Engineering at the UW-Madison, a Fellow in the Institute of Transportation Engineers, was a registered Professional Engineer in the State of Wisconsin for over 40 years, and have testified in hundreds of tort litigation actions involving serious highway traffic accidents. I have observed the City's recent posting of 25-mph speed limits on numerous principal and minor arterial streets. In my professional opinion these speed limits are inappropriate for such streets and do not promote and protect public safety.

As opposed to local residential streets, principal arterial streets such as Whitney Way are intended to serve major centers of activity, and typically carry the highest traffic volumes and longest trip lengths. Minor arterial streets such as Segoe Road are intended to accommodate trips of shorter lengths and at lower volumes. The speeds of travel on arterial streets are appropriately higher than on local residential streets or in congested central business districts where 25-mph speed limits are common. For decades, engineering studies have found that most drivers will travel at a speed that is reasonably safe for the prevailing conditions. Accordingly, highway and traffic engineers generally recommend a posted speed limit that is approximately equivalent to the 85th percentile speed of observed vehicular traffic.

As a frequent user of both Whitney Way and Segoe Road, it has been clear to me that most drivers operate their vehicles at speeds significantly greater than the recently posted 25-mph speed limits. I am confident that this would also apply to other areas of the City where there are 25-mph speed limits on arterial streets. On the morning of July 30, 2024, I noticed a City of Madison motorcycle patrol officer arrive at South Segoe Road to presumably start a speed enforcement activity. On Friday of that week, August 2, I performed an engineering speed study on South Segoe Road between Hilton and Berwyn Drives. The purpose was to quantitatively measure the typical speed characteristics of traffic along that minor arterial, and to determine if the enforcement action that took place two days earlier had any impact on achieving compliance with the posted 25-mph speed limit. The speed study was performed during the period from the 9:20 to 10:20 am and measured the elapsed times for both northbound and southbound vehicles to traverse a measured distance. As shown in the attached table and cumulative frequency distribution graph, only 2 percent of the 111 observed vehicles were traveling at the posted speed limit. The mean speed was about 32 mph, the 85th percentile speed was about 34 mph, and 70 percent of the observed vehicles were traveling at speeds between about 29 and 34 mph. Ten percent of the observed vehicles were traveling at a speed in excess of 35 mph. Based on engineering, human factors, and safety considerations, it is my professional opinion that the posting of 25-mph speed limits on arterial streets such as Whitney Way and South Segoe Road is inappropriate, and will not promote and protect public safety. A basic principle of traffic control devices is that to be effective, the traffic control device must command respect from road users. The 25-mph speed limits on Madison's arterial streets are not respected by motorists, and will not achieve even moderate compliance, nor will occasional traffic enforcement have any impact on prevailing speeds. An appropriate speed limit for South Segoe Road would be 30 mph.

If a speed study were to be conducted along Whitney Way, I would expect similar results, with the speed distribution shifted to slightly higher speeds. Regarding that portion of Whitney Way over which the new express buses are to operate, it seems contradictory to the intent of the buses to limit their speeds to 25 mph. Certainly the other vehicle traffic will be traveling at a significantly higher speed regardless of the posted 25-mph speed limit. In my professional opinion, a 35-mph speed limit would be appropriate for Whitney way.

I have not seen any accident records for either arterial street, but if available I would be willing to conduct an accident reconstruction and causal factors analysis of those records to determine if any engineering countermeasures, including speed limits, were appropriate based on safety considerations.

Finally, there is a significant traffic operation and safety problem at the intersection of South Segoe Road and Mineral Point Road where significant hazardous maneuvers are occurring due to a large number of left-during vehicles on Mineral Point Road and the lack of any left-turn lanes for those maneuvers. This is especially the case during peak travel hours.

Please let me know should you have any questions or wish to discuss the above. An acknowledgement that you have received and reviewed this email would also be appreciated.

Sincerely,

William D. Berg
608-692-4038