



Seattle Pedestrian Advisory Board

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Pedestrian Master Plan*

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To: Seattle Mayor Jenny Durkan, Seattle City Council, SDOT Interim Director Linea Laird
Subject: Adaptive Signal Implementation

The Seattle Pedestrian Advisory Board (SPAB) is concerned with the current way in which adaptive signals are being implemented in Seattle. The Board would like our concerns addressed before adaptive signal technology is expanded to more intersections. If these concerns are not considered, we believe that adaptive signals will have a detrimental impact to pedestrian safety and traffic flow in the city.

Adaptive signals are meant to change their phasing to adapt to traffic patterns in real time. However, the current adaptive traffic signals on Mercer Street between I-5 and 3rd Ave W are only able to count the number of vehicles at an intersection, not the number of people. This means that a bus with thirty people is weighted the same as a car with one person. It also means that pedestrians and cyclists are completely ignored.

Currently only 25% of commuters into greater downtown drive to work, according to Commute Seattle's 2017 mode split report. Given that Seattle's current adaptive signals only count vehicles, the signals prioritize vehicle traffic over other modes, such as pedestrian, bicycles, and transit. This means these signals can act to the detriment of the remaining 75% of greater downtown commuters. As Downtown grows, the City of Seattle has expressed interest in further reducing single-occupancy vehicles mode share. Implementing signal technology which adapts exclusively to vehicle counts may induce the opposite result.

SPAB reviewed SDOT & King County Metro data¹ to compare "vehicle traffic" and "person traffic" flows at two key intersections. The first, Mercer & Westlake, currently has adaptive signals. The second, Denny & Westlake, is slated for future implementation.

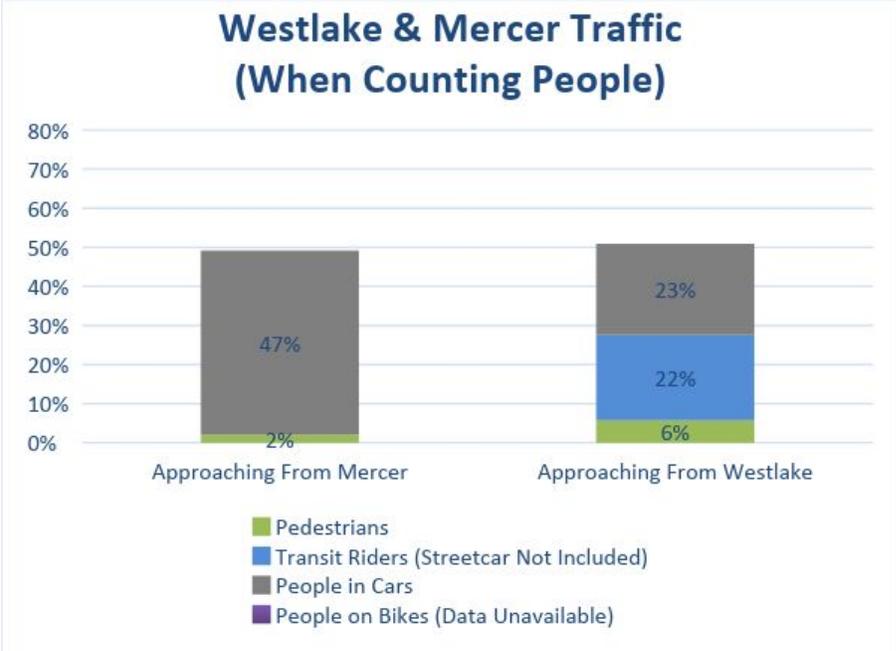
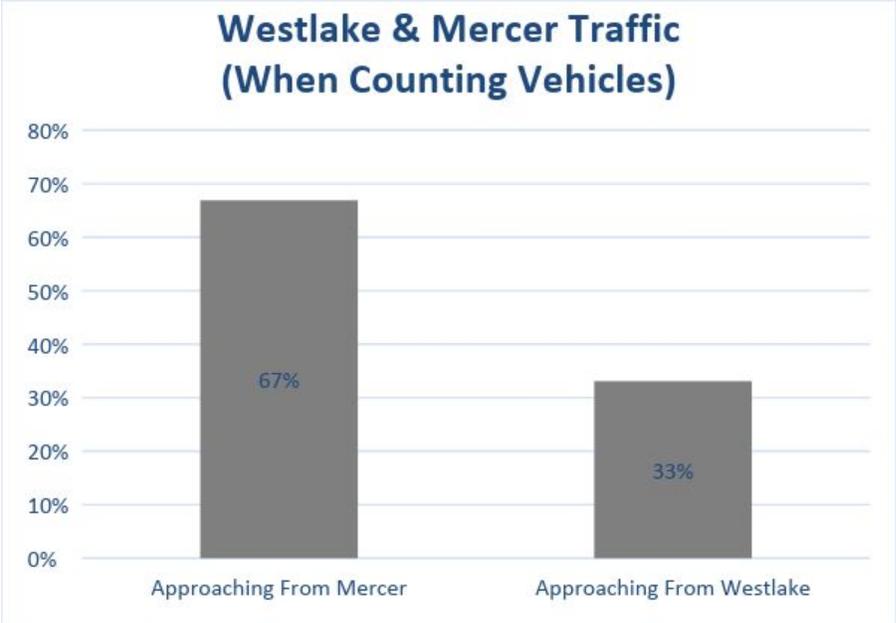
Mercer & Westlake

Using data obtained from SDOT, the following graphs illustrate the discrepancy between vehicle traffic and person traffic. The first graph compares the number of vehicles approaching the intersection on Mercer vs. Westlake. The second graph counts the number of actual people. SDOT's adaptive signals use vehicle counts, meaning they prioritize traffic moving east/west along Mercer. However, more people are travelling north/south on Westlake Ave. Therefore a minority of people at this intersection are being prioritized over the majority.

The Seattle Pedestrian Advisory Board shall advise the City Council, the Mayor and all the offices of the city on matters related to pedestrians and the impacts which actions by the city may have upon the pedestrian environment; and shall have the opportunity to contribute to all aspects of the city's planning insofar as they relate to the pedestrian safety and access.

~City Council Resolution
28791

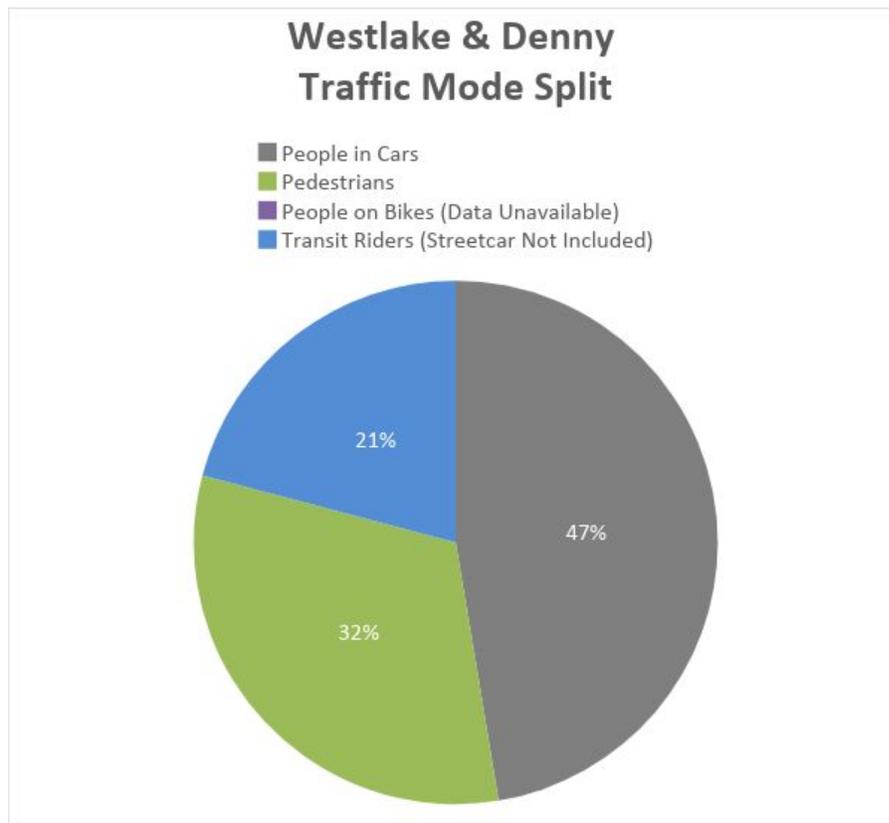
¹ SDOT Traffic Count, 2015 (Mercer & Westlake pedestrians & vehicles), SDOT Automated Traffic Count, 2018 (Denny & Westlake vehicles), "All Traffic Data" Traffic Count, 2015 (Denny & Westlake pedestrians), King County Metro Spring 2018 Service Change Ridership (all transit ridership)



**Source: SDOT Traffic Count, 2015
King County Metro Spring 2018 Service Change Ridership (obtained from SDOT)**

Denny & Westlake

This intersection is slated to receive adaptive signals in the future and the concerns illustrated at Westlake & Mercer can create even larger problems here. The following graph shows how many people use this intersection in different modes. Note that a minority of people at this intersection are in a car, yet only these people will be accommodated by adaptive signals. 31% of people are walking, meaning nearly a third will not be counted at all. An additional 21% are in buses and will be undercounted.



Source: SDOT Automated Traffic Count, 2018

"All Traffic Data" Traffic Count, 2015 (obtained from SDOT)

King County Metro Spring 2018 Service Change Ridership (obtained from SDOT)

In order for adaptive signals to benefit the city, the concerns outlined above need to be addressed. The SPAB looks forward to working with SDOT and the City Council to address these concerns before adaptive signals are expended to more of the city.

Sincerely,
Seattle Pedestrian Advisory Board