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Yongki Lee*, Department of Mathematical Sciences, Statesboro, GA 30458. *Wave breaking conditions for the traffic flow models and the Whitham-type equation.*

In this talk, we discuss threshold conditions for wave breaking in a class of non-local conservation laws. We review various nonlocal traffic flow models with look-ahead interactions and the Whitham-type equation. We are interested in the local and global well-posedness of these models. The goal is to understand whether smooth solutions persist in all time, or there is a finite time singularity formation. We discuss a sharp critical threshold condition on the initial data which distinguishes the global smooth solutions and finite time wave break-down. Some work in this talk is a joint work with Dr. Changhui Tan(University of South Carolina). (Received January 20, 2020)