

1056-91-1923 **Kym C Louie*** (kym.louie@gmail.com), 340 E. Foothill Blvd., Claremont, CA 91711, and **Mike Egedal, Jeremy Neuman** and **Chris Fathauer**. *Statistical Modeling of Gang Violence in Los Angeles*.

Gang violence has plagued the Los Angeles policing district of Hollenbeck for over half a century. With sophisticated models, police may better understand and predict the region's frequent gang crimes. The purpose of this research is to model Hollenbeck's gang rivalries. A self-exciting point process called a Hawkes process is used to model rivalries over time. While this is shown to fit the data well, an agent-based model is presented which is able to accurately simulate gang crimes not only temporally but also spatially. Random graphs generated by the agent model are compared to existing models that incorporate geography into random graphs. (Received September 22, 2009)