\overline{L}	set of city locations
C	set of place types
U	set of city users
E	set of city events
L(e)	set of event places
U(e)	set of event attendees
G	city social graph
G(e)	social network of event attendees
Γ_u	neighborhood set of user $u \in U$ in G
N_u^c	accumulated $\#$ check-ins for user u at places of
	type c
N_u^h	total # check-ins between hours h and $h+1$ for
	user u