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How places influence crime: The impact of surrounding areas on neighbourhood burglary rates in a British City

### Original Citation

Hirschfield, Alex, Birkin, M., Brunsdon, C., Malleeson, N. and Newton, Andrew D. (2013) How places influence crime: The impact of surrounding areas on neighbourhood burglary rates in a British City. *Urban Studies*. ISSN 0042-0980

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Table 1 spatial models for the estimation of small area burglary rates

Model	Name	Description	Mathematical expression
0	Null	No variation in crime rates between areas	$Y = X'$
1	ANOVA	Crime rates vary by area type (OAC)	$Y = \beta X + \varepsilon$
2	Spatial Autoregressive Lag	Crime rate in the core is related to actual crime rates in each area in the periphery	$Y = \rho WY + \beta X + \varepsilon$
3	Spatial Predictor Lag	Crime rate in the core is related to the mix of neighbourhood types in the periphery	$Y = \beta^* WX + \beta X + \varepsilon$
4	Spatial Error Lag	The variation (error) in crime rates in the core is related to the variations between area types in the periphery	$Y = \beta X + \lambda W\eta + \varepsilon$
5	Spatial Error and Predictor Lag	The crime rate in the core is related to the mix of area types in the periphery and the variation in crime rates is related to the variation in crime rates in the periphery	$Y = \beta X + \beta^* WX + \lambda W\eta + \varepsilon$