



LOCATIONAL CONFLICT PATTERNS AND URBAN ECOLOGICAL STRUCTURE

by

D. G. JANELLE* and H. A. MILLWARD**

London, Ontario Halifax, Nova Scotia
Canada

The existing and ever-changing geography of the city and its region is the end-product of innumerable conflicts over locational issues. The provision of public services, attempts to close schools, the enforcement and modification of zoning codes and the alteration of traffic patterns are familiar examples of the types of locational issues which confront most large and growing cities. Although planners and policy makers may seek to avert such conflicts, it is generally regarded (particularly in the North American case) that market forces play the dominant role in the eventual siting of private and public investments and in the spatial allocation of noxious and amenity features.¹ As a consequence, it is not surprising that the spatial distributions of the costs and benefits associated with changes in the city's physical structure accord well with the geographic patterns of its citizens' status and political power. Indeed, the varying abilities of people and communities to command a voice in designing, maintaining (protecting) and enhancing their local areas have facilitated a spatial polarization which has prompted questioning of the marketplace ethic. (Bunge, 1975; Harvey, 1971). In this paper locational issues are viewed as resulting from divergent interpretations of 'best

interest' with respect to such matters as the spatial allocation of amenity (e.g., a park) and noxious (e.g., an incinerator) facilities, the delimitation of jurisdictional boundaries for administering to the needs and desires of people, and the spatial mismatch between resources and needs. Locational conflicts are characterized by a strong spatial basis to the arguments advanced by the conflict participants, and they conform with Boulding's general definition of conflict "... as a situation of competition in which parties are *aware of the* incompatibility of potential future positions and in which each party *wishes to* occupy a position that is incompatible with the wishes of the other" (Boulding, 1962, p. 5).

Noteworthy conceptual contributions to the study of intra-urban and regional locational conflict are evident in the works of Cox, Isard and Wolpert. Cox (1973) has considered the role of disparities between resources and needs as a generator of conflicts within American cities, Isard (1969) has illustrated the conceptual linkage between general game theory and classical location problems, and Wolpert has drawn attention to the strategy formulations of participants in the conflict process.² As a general observation, most of the empirical analyses of intra-urban locational conflict have focused either on individual issues (e.g., the attempt by officials to close a school against neighborhood opposition) or on a specific type of issue (e.g., in the American case, conflicts resulting from the fiscal disparities between the inner city and its independently incorporated suburbs).

¹ Even though most large North American cities now have planning departments and seek to enforce zoning codes, the residual patterns of land-uses developed prior to the adoption of planning, plus the opportunities to seek variances from the zoning bylaws tend to force actual decisions into agreement with the market dictates.

* Associate Professor, Dept. of Geography, University of Western Ontario.

** Assistant Professor, Dept. of Geography, Saint Mary's University.

² Of particular interest are the many discussion papers, *Research on Conflict in Locational Decisions* (Philadelphia, Pa.: Regional Science Department, University of Pennsylvania), published between 1970 and 1973.

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This paper departs from the individual-issue tradition by attempting to consider the geographic pattern for the aggregate of all locational conflicts operative within a city over a given period of time. This macro-view of intra-urban locational conflict complements previous work by making possible:

- specific recognition of the interdependencies among the many ongoing issues which condition city development, and
- a direct conceptual linkage between city conflict patterns and classical models of the social, demographic and physical components which characterize urban ecological structure.

These possibilities provide the overall research objectives within which the present work is couched. Specific viewpoints related to them are the following:

1. There exists for any urban region an identifiably distinct spatial pattern to the distribution and intensity of locational conflicts which cannot be explained by an assumed random process.
2. Although individual locational conflicts may possess characteristics unique to themselves, all such issues occurring at a given point in time combine in contributing to the surface of conflict intensity for the city as a whole.
3. The spatial bases of particular conflicts are, in part, products of their positions within the conflict surface of the total urban-region.

4. The composite pattern of conflict intensity is an expression of the changes occurring in a city's structural and population attributes and, in this sense, conflict is viewed as contributing to the adaptation of the urban environment to changing human needs and expectations.

With the above viewpoints in evidence, a general model illustrating relationships between locational conflict and urban ecological structure is suggested. An evaluation of this model is then attempted through an analysis of the three year conflict pattern within a representative Canadian city.

An ecological model of intra-urban locational conflict

The model presented in Fig. 1 suggests how, in response to the indicated environmental forces, specific types of locational conflict are spatially distributed to form a concentric pattern of urban ecological zones. Although this model possesses a simple linear structure (having no feedback linkages among the model components), the complex interdependencies existing among the conflict generating forces and the conflict patterns are recognized in the discussion which follows. The assumptions underlying this model are derived directly from statements on the classical models of urban ecological structure — notably from the work of Park and Burgess (Park, et al., 1925). Thus, the model

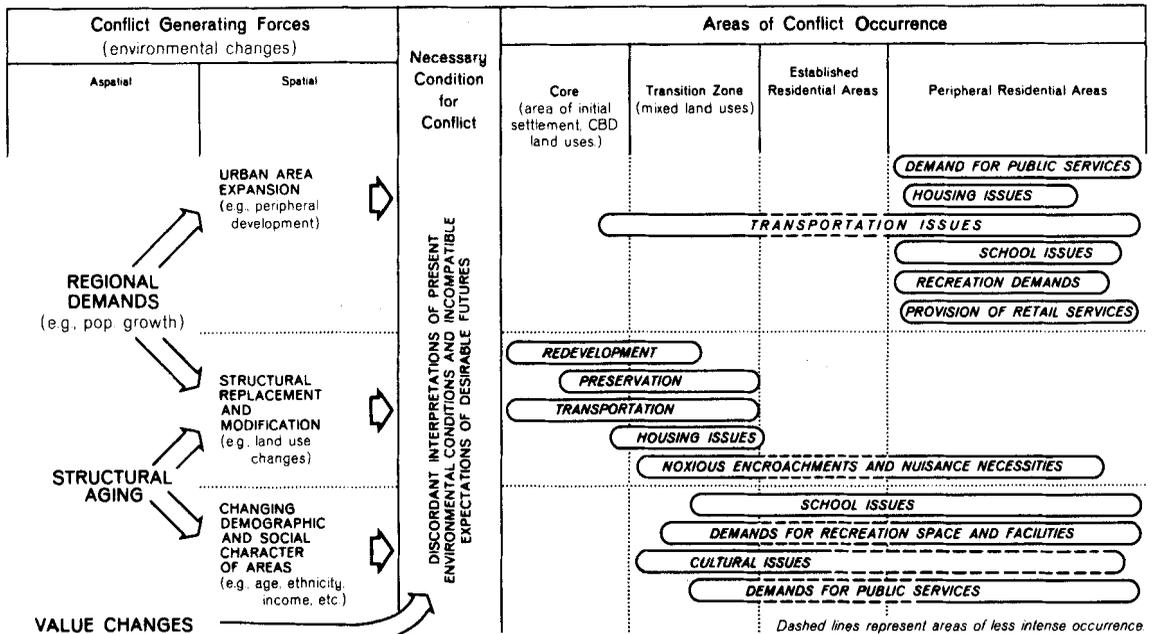


Fig. 1. Conflict Types by Suggested Causal Forces and Dominant Areas of Occurrence.

assumes a unimodal city experiencing substantial population growth and areal expansion. Its pattern of spatially segregated but functionally related land uses and socio-demographic areas is representative of a mature, fairly large city. And, any changes in this pattern are judged to be a consequence of a competitive ethic operating within a free market economy. Land is regarded as a private commodity. In this context, the spatial sorting of land uses and people is a continuous process which accords with the ecological assumptions of outward expansion and invasion-succession. Dominance within such a system is regarded as a function of buying power which allocates people to their 'proper' social areas and land to its 'highest and best use'.

Conflict generating forces — The model in Fig. 1 depicts *regional demand* and *structural aging* as two of the primary forces of environmental change. These are derived from the previously stated ecological assumptions of growth, outward expansion and maturity. Regional demands, owing to external and city-wide growth, frequently force mandatory expansion for a range of utility facilities, such as streets and sewage, and they frequently provide threshold requirements to accommodate the entry of new public services and economic establishments. In contrast, structural aging is evidenced by the deterioration and obsolescence of existing facilities. In response to profit (possibly aesthetic and sometimes social) motivations, land use changes, urban renewal and renovation are options customarily considered for replacing the existing pattern with more efficient and profitable (or 'socially acceptable') facilities and activities. Spatially, the forces of structural aging and regional demand are equatable with the locationally differentiated patterns of 1) urban area expansion, 2) structural replacement and modification, and 3) changes in the demographic and social characteristics of neighborhoods.

The emergence of conflict patterns — Individually or in concert, these forces generate conflict situations only if a demanded or proposed change is perceived in incompatible ways by the many participants who align themselves as either proposers or objectors of change. The transfer of these basically latent forces for generating conflict into actual conflict situations presupposes the existence of a *necessary condition*. This necessary condition is considered to be 'the existence of discordant interpretations of present environmental conditions and incompatible expectations of desirable future states.'

Such interpretations and expectations are, of course, influenced by diverse information inputs, by different sets of values and by value changes (the third primary force identified in the model for generating conflicts). For example, increasing evidence on the association between contaminated air and various diseases may result in higher expectations of air quality standards and in heightened levels of conflict between the contributors of contaminants and those who feel threatened.

Given the spatially variant incidence of environmental change, and given the assumptions built into this model, it is then possible to suggest the likely zones of occurrence for specific types of locational conflict. The area labels (Core, Transition zone, Established Residential Areas and Peripheral Residential Areas) accord in a general way with the concentric zonal concept of urban ecological theory, and the conflict categories refer primarily to the dominant land use characteristic of the issues. Exceptions include preservation, public service and cultural issues. Although the typology's categories are neither always mutually exclusive nor completely independent of one another, as a group they exhaustively represent the range of locational conflicts likely to occur in urban environments. In many ways, functional and spatial interdependencies among issues make some element of redundancy in the classificatory scheme an acceptable feature. For instance, the redevelopment of a central city could initiate a chain of related conflicts associated with housing, transportation and preservation of historic structures. Most issues, however, have dominant features which establish the relevance of one category as opposed to others.

Rationalization of the model — The model depicts only the more highly probable zones of occurrence for each type of conflict. These hypothesized locational patterns were arrived at through rationalizations relying heavily upon other interpretations of macro-patterns within urban areas. For example, particular attention is called to the relationships between conflict patterns and the population density gradient (Clark, 1951, Newling, 1966), the land value surface (Alonso, 1964) and the associated degree of competitiveness over real estate, the age of existing city infrastructure (assumed to increase towards the city center and to be accompanied by an outwardly moving wave of renewal efforts), and family structure as suggested by the urban factorial ecology models (Berry, 1971).

With these considerations in mind, definitions and model rationalizations are now presented for each conflict grouping.

Redevelopment issues are generally equatable with structural change brought about by obsolescence, rising expectations on the part of both property owners and the public, and by increasing regional demands for retail and service expansion. They are generally dominant in areas where the competitive ethic of the market place is strongest and where the antiquity of buildings is greatest. Thus, a central city and uninodal distribution, with the degree of potential conflict tapering-off rapidly beyond the transition zone, is suggested. Redevelopment efforts often give rise to conflicts over other issues such as preservation, transportation and housing.

Preservation issues usually concern the continued existence of areas or buildings and other artifacts judged to have historical, architectural or sentimental value. Such conflicts are most prevalent in the older and more central portions of the city. Whereas money is usually regarded as a suitable exchange for the transfer of land from agricultural to other uses, in the city center money value is often compounded or exceeded by psychic and aesthetic considerations associated with the city's past.

Transportation issues are expected to exhibit a bi-modal distribution with peaks of conflict intensity in the areas of peripheral expansion and in the region immediately surrounding an expanding city core. However, demands for transport improvements to accommodate the increasing levels of interaction between these functionally interdependent areas can be expected to generate conflict situations within the intervening zones as well. Typical issues develop over attempts to widen and extend streets, to provide parking, to construct railroad overpasses, bridges and so forth. The environmental expectations of residents affected by such developments often conflict with the growing accessibility needs associated with suburban growth and core area redevelopment.

Housing issues are dominant in the transition zone in association with core area expansion and in the suburban zone in association with lags over the provision of basic public services and amenity facilities. Housing conflicts are often generated by disparities between the regional demand for housing and the availability of serviced land. Attempts to meet these demands through construction of high-rise apartments and public housing projects are also prominent conflict generators.

Noxious encroachments and nuisance necessities

refer to manufacturing and processing land uses interpreted to include such activities as industrial plants, gravel pits, scarp yards, pollution control plants, land fill sites and so forth. Conflicts result owing largely to opinions on the compatibility of such land uses in residential areas. These perceptions may stem from more exacting expectations generally, or, locally, from changes in population characteristics. Local opposition to these 'encroachments' often conflicts with regional demand and fails to recognize the constraints on the locational options available for many such activities.

Public services and utilities such as libraries, health centers, bus routes and paved streets are usually regarded as either desirable amenities or necessary infrastructure. They are demanded through perceptions of their maldistribution (rising expectations), or through the changing needs resulting from modifications in an area's population structure. Conflicts over the provision of required utilities and services, such as sewerage mains and fire protection, occur principally in the newly developing zone of peripheral residential expansion; but, as a result of rising standards, they may also occur in areas previously developed without the full gamut of currently-expected utilities.

Retail related issues frequently accompany efforts at inner-city redevelopment and retail expansion in suburban areas. In suburban zones, conflict situations frequently reflect the incompatible requirements for servicing peripherally expanding residential regions and for maintaining perceived environmental quality through the segregation of land uses. In general, the spatially dispersed nature of commercial land uses in most cities (commercial ribbons along major arterials, community and neighborhood shopping centers, and more or less regularly-spaced convenience stores) suggests the possibility of a rather dispersed pattern to retail-related conflicts. Such conflicts might concern the physical expansion of a store into a residential area, problems over customer parking and conflicts over requested variances from official zoning bylaws. Conflicts of this nature are often highly localized in their significance; but, occasionally, conflicts over such issues as the development of a large regional shopping center can be wide-ranging in their significance. *School* issues occur dominantly in the transition zone and in the newest subdivisions; however, their presence is likely throughout the city. Inner-area demographic change is largely responsible for conflicts over school closings and over proposals for the busing of students to

achieve efficient use of facilities. These proposals are often regarded as threats to community integrity. Also, a city's peripheral development may engender dispute over lags in school provision and through competition among communities for school expansion.

Recreational parks and facilities cater to demands at a range of scales. Hence, locational conflicts over recreational issues may be brought about by a combination of regionally and locally generated forces. Such issues may relate to 'threat' situations caused, for instance, by inner-area redevelopment, or they may result from rising expectations of, for example, acceptable parkland/population ratios. Since most cities have greater per capita recreation space at their peripheries than near their cores, one may expect higher conflict intensities over such issues in the more densely populated transition zone than in the generally lower density areas more distant from the city center.

Cultural issues (for example, the encroachment of one ethnic group upon the residential area occupied by another) are expected to decline in number and intensity with increasing distance from the city core. Such a pattern would reflect a combination of factors, including greater population densities and greater likelihood of ethnic diversity with increasing proximity to the city core. In contrast, the more culturally homogeneous middle class suburbs would be expected to exhibit less internal conflict. Nonetheless, as in the American case, conflict between the inner city and the suburban ring looms as a possibility having wide impact on the potentialities for resolving a large number of urban issues. It is, of course, often the case that ethnic distinctions carry with them distinctions of income, class and political power as well.

Having illustrated how the suggested typology of conflict is related to the model's assumptions of ecological structure and to its component forces of environmental change, the remainder of this paper presents an evaluation of the model. This is achieved through analysis of the pattern of locational conflicts occurring over a three year period in London, Canada.

An example: Locational conflict in London, Canada, 1970-1972

A principal problem in exemplifying the spatial pattern of urban conflict is the identification of a meaningful surrogate value for conflict intensity — a problem not unrelated to the availability of data and to the choice of study area.

The data base — Based on a page by page review of the local newspaper, articles were assembled according to locationally identifiable conflicts satisfying the following criteria: 1) the issue had a locational component which could be mapped as an area, line or point pattern; 2) conflicting interest among two or more parties (individuals or groups, private or public) was evident; and 3) city-wide issues which could not be related to specific locations were eliminated for purposes of this study. These included such issues as the proposal and implementation of regional government, relationships between the city and neighboring townships and attempts to locate a freeway through the city. By applying these criteria, 153 locational issues were identified to form the empirical base for this analysis.

A measure of conflict intensity — The surrogate value of conflict intensity was taken as column inches of newspaper coverage (including letters to the editor, editorials and news reports) for each of the issues. The advantages of this proxy variable are simplicity of computation, ease of comparison and the supposed consistency of its bias. Its principal disadvantage is its selective bias in terms of assumed reader interest, editorial policy and reporter competency. Notwithstanding these difficulties, it is believed by the authors that London's news it not overly-managed and therefore constitutes an acceptable data source.³

The Study Area — London, Ontario is a city of 230,000 people with a population growing until recently at a rate of about three per cent a year. It exhibits a range of life-styles fairly representative of other middle-size North American cities. Its basically simple radial structure about a dominant central business area, combined with its relatively uncomplicated topography and its isolation from other major population centers, make it a particularly suitable setting for this case study. However, in interpreting London's pattern of locational conflict, certain of its rather unique features should be considered. First, it is unusual by North American standards that a central business district in a city of this size should account for over sixty per cent of the metropolitan area's retail sales. This dominance is maintained by

³ Alternative and augmentative surrogates might include minutes of the City Council, the Planning Board and of other semi-autonomous agencies such as the city's Public Utilities Commission, the Transportation Commission and the Board of Education. Also, data could be collected on location through systematic monitoring of the activities of various community associations. Current research is proceeding on all of these fronts.

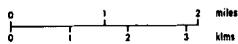
an aggressive downtown merchants' association and is undoubtedly associated with London's position as a financial and administrative center of regional significance in one of Canada's most prosperous agricultural and manufacturing areas. A second distinction is that, consequent to an extensive annexation of land in 1961, nearly ninety per cent of the urban region's developed properties are within the city limits. Thus, London falls in a different class of cities than those American cities, studied by Cox (1973), where jurisdictional conflict was of prime significance in generating financial disparities between the incorporated suburbs and

the central city. Finally, planning efforts to 'optimally' design the use of space have a long tradition here and they are supported by strong planning controls at both the local and provincial levels. In general, however, London approximates many of the assumptions built into the model.

A descriptive analysis of the conflict pattern — This analysis is limited to testing the spatial correspondence of conflicts in London with the pattern suggested in the model. Causal links between the pattern and the specification of conflict generating forces are treated only subjectively. However, efforts are underway to

Type And Intensity Of Locational Conflicts

London, Ontario 1970-1972



Source of data: *The London Free Press*, 1970-1972

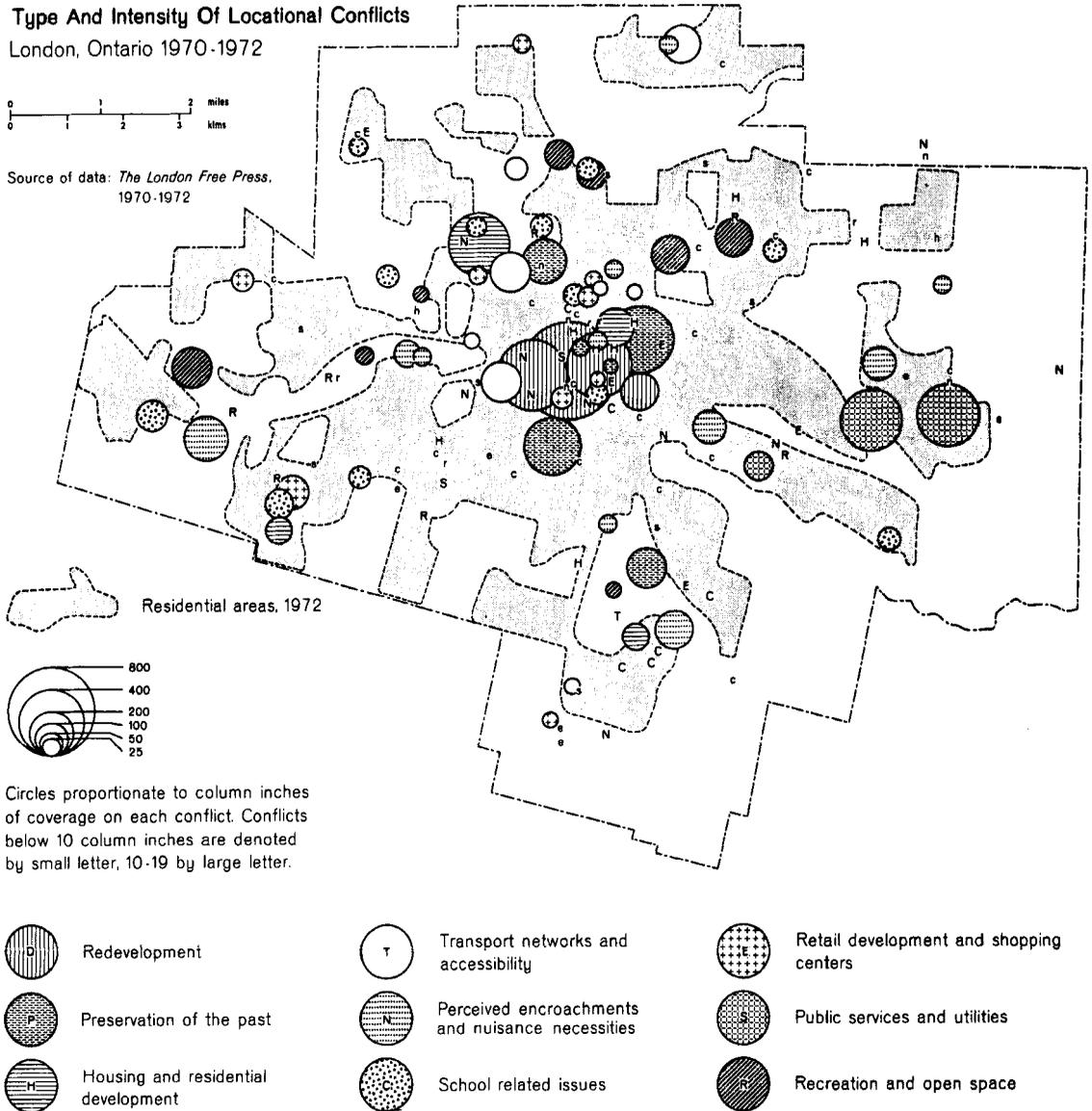


Fig. 2. *Type and Intensity of Locational Conflicts, London, Ontario, 1970-1972.*

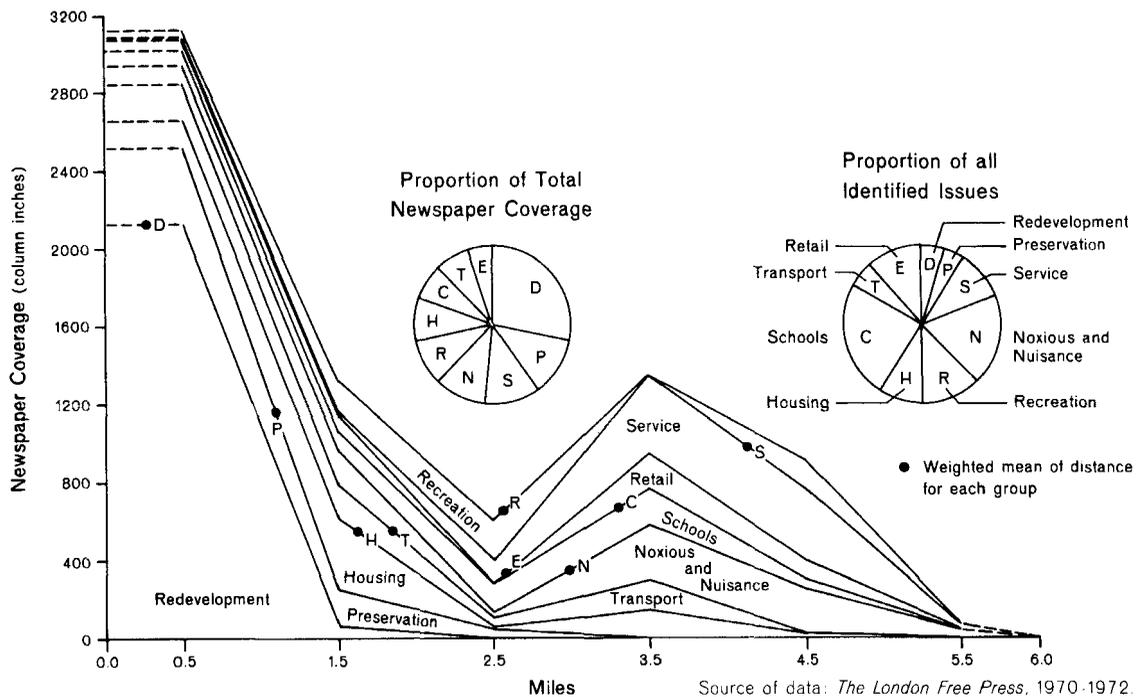


Fig. 3. Cumulative Graph of Conflict Intensity Against Distance from City Center, London, Ontario, 1970-1972.

provide a more formal evaluation of this aspect of the model's structure.⁴ In the meantime, it is hoped that the limited descriptive analysis which follows will provide insights into the ecological basis of urban locational conflict patterns.

Gradients of conflict intensity. The procedures adopted for testing the model are based on data provided in Fig. 2. The 153 conflicts satisfying the study criteria are mapped according to the conflict typology with circles proportionate to the newspaper coverage. A visual correlation of the location, type and intensity of conflict is possible from this map. However, a more direct indicator of the average position of given conflict categories is provided for by a form of gradient analysis relating a measure of conflict intensity against distance from the city center. In Fig. 3, the data are aggregated cumulatively by conflict type according to concentric zones one mile in width. In general the results agree with the model.

Redevelopment and preservation conflicts occur almost exclusively within two miles (3.2 km) of

the city center. But, housing and transportation issues exhibit bi-modal cross-sections with peaks dominant in the transition area and towards the periphery. Beyond three miles (4.8 km), the graph seems to mirror the environmental adaptation of peripheral lands to urban, and particularly residential, uses. Conflicts in this area usually result from time-lags in the provision of public and retail services and from perceived needs to segregate these new services and often pre-existing 'noxious and nuisance' facilities from the newer residential tracts. In contrast, school and recreation related issues are dominant within the older, more established residential area in the roughly two to three mile zone (3.2-4.8 km). Such conflicts are frequently in response to proposals for land use changes which are perceived as threats to community character; but, changes in the area's demographic and social structure can also be instrumental in generating conflict. Interestingly enough, cultural issues were not identifiable from the newspaper data base. Although one might suspect a newspaper bias here, the general absence of such issues in London could be attributed to a comparatively homogeneous English-Canadian population base and to a lack of well-defined ethnic or other cultural group enclaves.

Frequency of conflict and scale of concern. From

Table 1 Summary statistics on the occurrence of locational conflict, by type, London, Canada, 1970-1972

Type of Locational Conflict	Newspaper Coverage (col. ins.)	Propn. of Coverage	Propn. of Issues	Mean Conflict Size (col. ins.)	Weighted Mean Dist. from City Center (mils.)	Propn. of City Affected	Propn. of City Dominant	Avg. Distribution of col. ins. over 79 Grid Cells	Coefficient of Variation (Per cent)
Redevelopment	2231	.28	.05	300	0.3	.06	.04	29.7	576
Preservation	995	.13	.04	166	1.1	.06	.03	13.5	461
Provision of Services	864	.11	.10	61	4.1	.23	.08	12.4	487
Noxious and Nuisance	848	.11	.17	34	3.0	.33	.16	12.7	211
Recreation	728	.09	.13	38	2.6	.20	.07	9.9	333
Housing	713	.09	.09	55	1.6	.14	.08	10.2	421
School Issues	590	.08	.24	17	3.3	.34	.11	10.2	196
Transportation*	573	.07	.06	63	1.8	.18	.07	8.1	232
Retail	372	.05	.11	23	2.5	.18	.04	6.3	248
All Issues	7914	1.00	1.00	52	—	.67	—	100.18	

Source: Data gathered by authors

* Excludes London Freeway controversy, this being a regional rather than intra-urban issue.

Table 1 and from Fig. 3, it is evident that the number of issues occurring within each conflict category is quite different from the proportions of total newspaper coverage. Those issues which are most common (schools, noxious and nuisance, recreation and retail) receive, on average, the least newspaper coverage. This highlights the essentially local character of these problems. In contrast, redevelopment and preservation issues have city-wide importance. Although they accounted for only five and four per cent respectively of the city's total issues, they garnered twenty-eight and thirteen per cent respectively of the newspaper space devoted to locational conflicts.

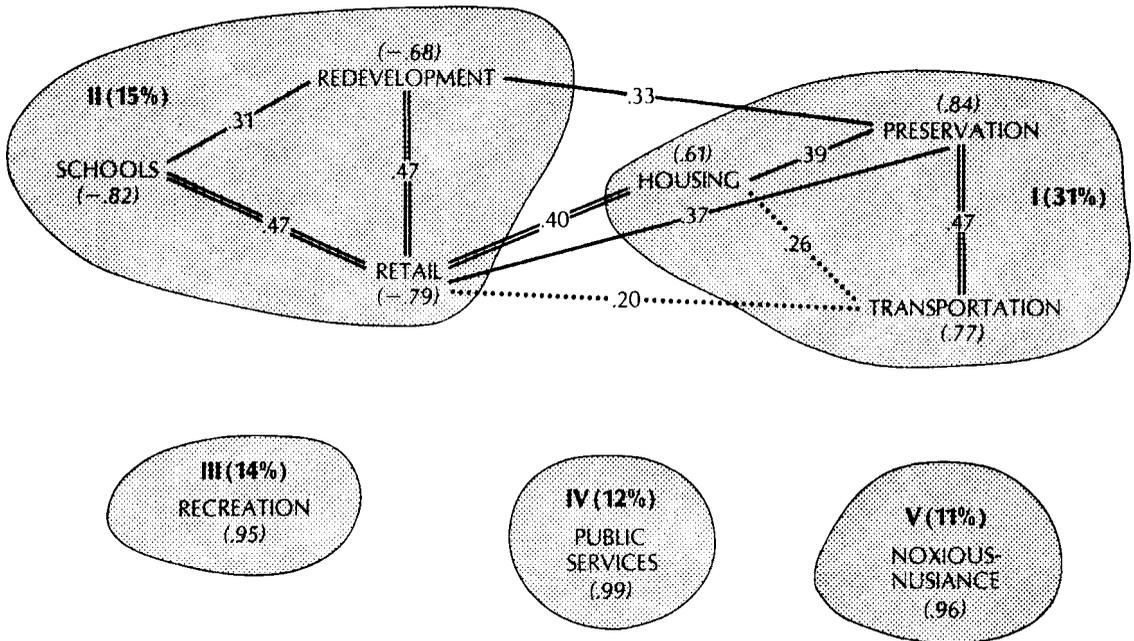
Additional evidence on the regional versus local significance of issues is provided by considering the areal extent of occurrence for specific types of locational conflict.

By dividing the city into 79 square mile (1 sq mile = 2.59 sq km) grid cells, it was noted that 67 per cent of the urban area was affected by some form of locational conflict during the three year period. The more spatially scattered conflicts are related to school issues (affecting 34 per cent of the total city) and noxious facilities (33 per cent). In contrast, all redevelopment and preservation issues are confined to six per cent of the city's area. Taking the proportion of grid cells in which each conflict type is dominant, controversy over noxious facilities and nuisance necessities receives most coverage in almost a quarter of all areas experiencing conflict, compared with school issues in one-sixth.

These descriptive findings on the areal extent, number, intensity and average positions of locational conflicts lend support for the basic

spatial structure of the model. However, an assessment of the degree of spatial associations among conflict types might be more revealing of potential causal links and interdependencies. *Spatial associations among conflict types* — An understanding of the interdependence among conflict types would, as a minimum, require detailed investigations of individual issues with respect to their participant and functional linkages. However, correlations among conflict types by ecological units and the application of a principal components analysis are at least broadly suggestive of such associations. Using newspaper coverage by grid cells as the data base, simple linear least-square coefficients of correlation between each pair of conflict types were computed. The strongest relationships, as revealed by the highest coefficients, were between redevelopment and retail, retail and schools and preservation and transport.⁵ Fig. 4 graphically illustrates the linkages among the conflict types as represented by correlation coefficients equal to or greater than 0.2. These linkage clusters are also identified by the first two components of a principal components analysis on the nine conflict variables (components rotated to normal varimax position in order to approximate the notion of simple factor structure). In all, five components (specified by eigenvalues equal to or greater than 0.8), as illustrated in Fig. 4, accounted for 83 per cent of the variance in the original data. Component

⁵ The comparatively high intercorrelation between retailing and the other variables may be due to its spatially dispersed pattern in a large number of the grid cells. This is in contrast to the generally more clustered patterns associated with the other conflict types. Fig. 1.



Simple linear least-squares coefficients of correlation

===== $> .40$
 _____ $> .30 < .40$
 $> .20 < .30$

Component groupings I-V

are indicated along with the proportion of variance accounted for by each component (e.g. I (31%)), and the loading of each variable on the factor (e.g. SCHOOLS (-.82)).

Based on column inches of newspaper coverage, aggregated according to type of locational conflict for seventy-nine one square mile units.

Fig. 4. Spatial Associations among Conflict Types, London, Ontario, 1970-1972.

I, accounting for 31 per cent of the data variance, has high loadings on preservation (0.84), transportation (0.77) and housing (0.61). When its component scores are mapped (Fig. 5), it comes across strongly as the transition zone factor. The area immediately surrounding the city's central business core forms a prominent ridge of high scores. Hence, in agreement with the model, the transition zone is recognized as a clearly defined ecological unit which is important in the interpretation of the city's conflict pattern.

The second principal component accounted for fifteen per cent of the data variance and, in

contrast to the first component, it scored only moderately high in the transition zone. Its highest scores were in the center of the city itself and in the peripheral areas of recent urban growth. High loadings for schools (-0.82), retail (-0.79) and redevelopment (-0.68) are suggestive of a central city redevelopment and peripheral expansion factor. The remaining three components are easily identified by high loadings for single variables — namely, recreation, public services and noxious-nuisance. These components have their high scores scattered throughout the city and, hence, are less spatially cohesive than components I and II.

Locational conflict,
London, Canada...
1970-1972.

A principal components
interpretation.

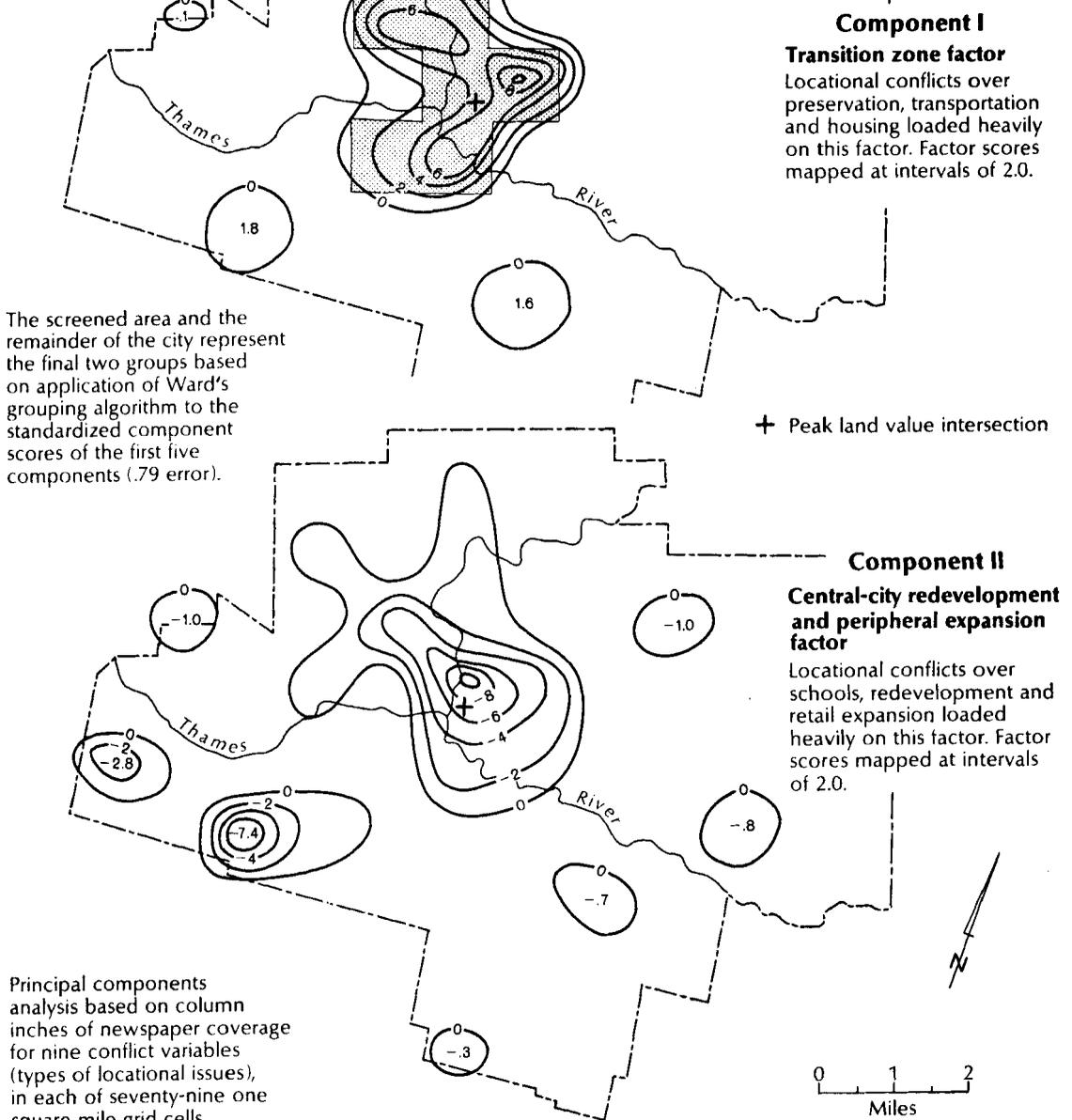


Fig. 5. Locational Conflict, London, Canada, 1970-1972: A Principal Components Interpretation.

An attempt to group the grid cells according to the similarity of standardized factor scores by Ward's algorithm⁶ did not result in the simple

pattern suggested in the model of Fig. 1. However, it is noteworthy that of the final two groups to emerge from the analysis (at 79% unexplained variance), one was a spatially con-

⁶ This clustering technique groups cells so as to minimize the overall estimation of variance within groups and to maximize the distinction between groups. See Ward,

(1963). Computer program derived from Veldman (1967).

tiguous grouping of central city cells covering seven square miles. Redevelopment, preservation, transportation and housing were the most prominent conflict issues in this area. As shown in Fig. 5, this area accords almost identically with the pattern of high scores on the first component.

Inferred from the spatial associations identified in the above analysis, the highest degree of conflict interdependence occurs in the city's central area, including the transition zone of mixed land uses. This region has clearly dominated London's conflict history over the three years in question. Central dominance was, of course, a key feature of early concepts on urban ecological structure and this study offers evidence in confirmation of its role.

Conclusions

This study has focused on a spatial description of the aggregate of locational conflicts operative within a given city for a three year period. The correspondence between the mapped pattern of these conflicts and that of a proposed ecologically-based model has been basically confirmed as to geographic pattern but not as to process. As to geographic pattern, this study offers evidence in support of the ecological concept of central-city dominance and for the propensity of certain types of locational issues to show relatively stronger locational associations than others (e.g., preservation and transportation issues).

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Inferential judgements relating these general geographic patterns to the model's suggested process of intra-urban locational conflict may be possible. However, the causal links between the suggested forces of environmental change and the spatial pattern of conflicts have not been directly evaluated in this research. It is anticipated that investigations in this direction may prove useful. In this regard, work is proceeding on an analysis of a four-year pattern of locational conflicts according to categories which are in closer agreement with the determinant forces specified in the model. Instead of focusing on static land use categories, this analysis will allow discrimination of the conflict pattern according to the proposed environmental changes and according to the characteristics of conflict participants.⁷

While acknowledging several possible shortcomings in this analysis (such as the problem of selecting a viable surrogate measure of conflict intensity, the hazards of ecological fallacy and the limitations of a test based on a sample of one), it is hoped that this exploratory effort will be suggestive of further research. Certainly, the significance of locational conflict in shaping the emergent form of the urban area warrants its inclusion as a high priority in our research agenda.

⁷ These categories refer to the proposed land use changes which generate the conflict situations and not to static land use categories as employed here.

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