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How to Fight School Closures

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The sole author designed, analyzed and interpreted and prepared the manuscript.

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Review Article

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ABSTRACT

Permanent closures of neighbourhood elementary and secondary schools first noticeably occurred in the 1970s in North America and Western Europe. At that time, however, nobody could have predicted how many schools would subsequently be closed – and will still be closed – due to demographic, economic and educational changes. Nobody could also have anticipated that sometimes hundreds of socially-mobilized parents or guardians or residents would consistently fail to save their schools from closure, when they re-invented arguments and strategies that they did not know had already failed elsewhere. I begin this study by clarifying why residents become upset with a school closure, and go on to speculate why some will fight a closure, whereas other similarly-upset residents may not become involved. I review the economic reasons for closing a school, especially cataloguing the types of costs and savings data and information that school boards may not publicise, and that residents may need to request or provide for themselves. After however showing that economics alone will rarely ever keep open a school, I put human faces on the officials in institutional organizations who are closing schools, and with whom residents will be fighting. I then detail and analyse the public and private strategies and activities of residents that may or may not relieve their school. Finally, I introduce a new fight for residents about the future alternative use of a school after its closure.

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1. INTRODUCTION

I have grown accustomed to the unexpected and permanent closing of places that provide consumer goods and services needed at home. My closures have included the hospital where I was born, my first elementary school, a factory where I worked one summer, and some of my favourite businesses.

I partly blame myself for these closures. I could, for example, have helped to keep open my elementary school if I had not moved away and my children had gone there. I could similarly have helped my favourite businesses if I had patronized them more than their competitors. I am realistic however about more effort than mine being needed to keep them open. Either way, I probably was not the only one to anticipate the impending changes, for example, by exploring other newly-opened destinations. Ultimately, however, I accept such changes without recourse. I may never know or see the businessperson or staff member to ask about the shutdown.

Such submission is less automatic for planned closures of schools, churches and hospitals, even though these 'public' places of consumption are also closing due to declining patronage [1,2]. Communities, congregations, and clients may be less submissive because they have invested socially and economically in these places on behalf of themselves and their families [3-5].

Differences between closures of schools and other types of public places are clarified in the next subsections, and as differences probably outweigh similarities between them, this study focuses exclusively upon school closures. The study's presumption is that community residents may not know how to fight school closures if they only ever do this once, and so, the practical aim is to help them or other assisting individuals to be more effectively involved by reading this study. This is a scientific study in the sense that it critically reviews my own and others' research findings in the literature. It however is not a traditional scientific study that flows from a research question, has a research methodology, and progresses through analysis to results etc. Some subsequent sections have this scientific analysis, whereas others have narrative analysis, but all sections conclude with recommendations

derived from the analysis about how to fight school closures.

1.1 Impacts of Closures

A permanent closure terminates the aforementioned social and economic investments of individuals, families, and neighbours in their homes and neighbourhoods, and thus degrades their 'sense of place' [6]. For example, in the case of a neighbourhood school closure, displaced students will travel to a (probably larger) school that is farther away (probably located outside their traditional neighbourhood), unless they switch to another educational system or home-schooling [7]. This depersonalizes social relationships and interactions, especially if they are bused to school. It also distances the involvements in students' socialization and education of not only parents and caregivers, but also local neighbourhood advocates such as clergy or politicians. Women may especially be conscious of a closure impinging upon presumed responsibilities for their children. And, of course, displaced students may become discouraged if they do worse in their new school than they previously did [8]. Note that temporary closures of schools as part of educational turnaround efforts may create similar, albeit short-lived effects [9].

A permanent closure furthermore eliminates the possible positive effects of a local school, and the quantifiable positive effects of its surrounding park, which are translated into transportation-cost savings and property-value increments for all residents with or without children [10,11]. Even for senior citizens, a school's closure may symbolize a waste of past property taxes no longer to be regained through sale revenues.

Finally, the permanent closure of a school as a focal point may compromise a community's or neighbourhood's identity if residents reorient themselves to people and services elsewhere [12-14]. Families with school-age children may move from, and not into this community or neighbourhood, thereby redistributing residents based upon age, income and social class. A former socially- and economically-diverse area may evolve into an imbalanced one with fewer young families among its residents [15].

1.2 Fighting a Closure?

Some residents will react to a planned closure of a school by fighting to keep it open, while others will react by exiting from the situation [16]. Those who stay and fight may especially want to understand why others exit and do not become involved. The frustration is this know-how about fighting against closures of places is not readily available when residents need it.

The process that continues today of closing small and shrinking schools for demographic and economic reasons began in North America and Western Europe during the 1970s (e.g., [17-20]). Educational administrators soon learned how to close them [21]. Residents should thus also have had time to learn how to fight those closures. Furthermore, some of this know-how for fighting school closures might be transferable from that learned during closures of other public and private facilities occurring in large numbers since the 1970s [22]. The most documented of these potentially-transferable strategies are from closures of private-sector industrial plants [23]. However, though closures of these types of buildings and sites have comparable economic and psychological effects for workers, the closures of schools have at least four unique implications for 'customers'.

First, children are the customers of schools. Ideal schools should be as familiar and permanent as children's homes, and as near as possible for the youngest. Second, parents and guardians are legally obligated to educate their children. They thus must transfer them to another (farther) school unless converting to home-schooling. In comparison, customers of other closed facilities can forgo discretionary services. Third, if parents and guardians fulfil their legal obligations, they are rewarded with powers to make representation about the educational system in general, and their children's schools in particular. Fourth and finally, however, a child is enrolled in a particular school for a finite period of time, and thus, loyalty to it may be relatively brief even while memories may be long lasting. Parents or guardians eventually rejoin the majority of residents without children in school.

1.3 Types of Closed Schools

A district's closed schools will not necessarily be its oldest ones [24]. In Windsor, Ontario, 37 (71%) of 52 closed schools were modern

elementary or secondary schools [25]. An elementary school of this type is a single-storey brick or cinderblock building with twelve-to-twenty classrooms and a gymnasium, constructed during the 1950s or 1960s; and a secondary school is an expanded two-storey version. Sites particularly for elementary schools are relatively small (usually less than 1.1 hectares or two football fields), even though possibly surrounded by municipal open space doubling or tripling their apparent area. They are centrally located on collector streets inside the neighbourhood units of what are now mature suburbs.

In comparison, 15 older closed elementary or high schools (29% of Windsor's closed schools) are located in what have become older residential neighbourhoods, sometimes on or near main roads. These were built during the 1920s, and located on smaller-than-average sites. An older elementary school is a two- or three-storey red-brick building with approximately twelve high-ceiling classrooms and a gymnasium, while an older secondary school is a three- or four-times expanded version.

1.4 Outline of the Study

To reiterate, schools differ from other public places such as churches and hospitals if involved adults are representatives of children as customers rather than being the direct clientele. These public places otherwise have similar formal and informal regulations on their quality and spacing. A near one could consequently be the same as a farther-away one from a concrete point of view.

Nevertheless, a near one will be socially preferred if people and activities in the farther-away one are less well known. A near one and a far one will also have an economic difference if farther travel creates additional transportation costs for customers. Note the probably similar feelings from a closure, a consolidation, or a shared use of an existing facility [26]. The next section evaluates the economic and social costs of this travel as a possible reason for parents/caregivers, students, and other community members criticising a decision to close a nearby school.

Not everybody will be upset with a place's closure. The majority of households without children either currently or ever in school may

actually favour closures of schools if money is saved without any deterioration in educational performance. Nearby residents without children in a school may be relieved about no longer having the presence of other people's children. Since educational cost savings motivate public support of closures, the third section analyses the efficiencies of these savings.

School boards administer the openings and closings of schools. Their procedures especially for closures are described in the fourth section. School boards are legally required to consult with parents and guardians or their representatives about the education of children. Customers of education must support it not only financially but also politically and socially. The fifth section has the corresponding economic, political and social powers of adults (and children) to influence school-board decisions about closures.

Finally, no matter what customers do, schools will continue to be closed. The time has long since passed when school boards might cope with declining enrolments by adapting their academic programs and/or facilities without closing some of them; such as by redrawing attendance areas, relocating academic programs, or accommodating other boards or private users in shared facilities etc. (cf. [27]). The reality is that declining school enrolments since the 1970s at least in Canada will never recover to former levels, as if they were temporary results of neighbourhood life cycles (cf. [28]). Hence, if schools will continue to be closed, the sixth section alerts to a new fight against reuse of a closed school's building and site as something else. A decision about alternative reuse of a closed school may only initially involve the school board closing it. This new confrontation will more likely be with representatives of municipal government, private business, and/or not-for-profit organizations.

2. HOW (NOT) TO REACT TO A PLANNED SCHOOL CLOSURE

A resident who intends to stay where he or she is currently living, and fight a planned closure of a school, will probably try to dissuade others from exiting from the situation. Exiting residents may initially do nothing, and so, they may only be identifiable by their unwillingness to become involved [16]. A possible rationale for their individually-beneficial but neighbourhood-harmful reaction is the focus of this section.

A passive exit-option is doing nothing while waiting for a school to close and its students to be transferred. A more active option is to deliberately transfer children out of the possibly-closing school. Moving house may not be required if transferring children to a different system with local schools. Even so, moving house may facilitate a student's transfer to a subsequently-nearer recipient school within the same system. Households' moves with this purpose in mind may however begin broader neighbourhood changes if friends and neighbours have similar thoughts of moving [29,30]. Threats of moving house are therefore potentially quite impactful, and should not be dismissed as exaggerated or irrational for some residents.

2.1 Moving House

Renters move more frequently than do owner-occupiers, but nowadays, even owner-occupiers frequently move house locally while incurring substantial expenses for selling one home and buying another. Households' adjustments of living space for members during their life courses are their primary reasons for voluntarily moving within an urban area, and so, most intra-urban moves are to larger or smaller homes [31,32].

Sometimes concurrently with these adjustments, however, residents voluntarily move either to get away from somebody or something in a neighbourhood; or conversely, to be nearer to somebody or something [33,34]. Major urban blight and redevelopment, or local rehabilitation and park improvements, are examples of neighbourhood changes causing residents either to move out, or to move in, respectively [35]. Similarly, parents or guardians with children may move into districts with better schools, and out of those with poorer ones [36]. Analogously on a small scale, a closing school may be a location from which people move away; and then depending upon its later reuse, one that they move near to.

Residents' likelihoods of moving house in response to personal or environmental changes are predictable from their residential stresses and resistances [37,38]. Residential stresses are caused by dissatisfactory or disliked characteristics of the current home, including its neighbourhood and location. For example, if a household with teenage children wants to move to a larger home, then its members' stress may be with its too-few bathrooms or bedrooms, or

too-small socializing areas. More bedrooms, for example, may have higher utility if these provide psychological, social and economic enhancements ranging from better privacy and family harmony, to improved marketability of the home.

2.2 Residential Attribute Utility and Stress

Residential stress is more encompassing than more-widely known psychological stress. It not only has a psychological component, but also social and economic valuations, or utilities for the home and its attributes [39,40]. Fig. 1 illustrates these typical utilities of an older-urban resident for levels of a style and size attribute of a home. For example, an n^{th} resident currently living in a three-bedroom bungalow (at I), would have a utility, $u_n(x_{i,i})$, for that i^{th} attribute of his or her home. His or her preferences increase monotonically for larger-sized homes, although with a possible future declining preference for a four-bedroom two-and-half storey (from labelled point K to K^1). His or her highest attainable utility for the i^{th} attribute (at I^*) equals that for the most preferred four-bedroom two-and-a-half storey (K^*). Hence, he or she would experience a sizeable attribute-stress, represented by $(u_n(x_{i,I^*}) - u_n(x_{i,i}))$; where this is the difference in utility between that for the current style/size, and that for the unconstrained or budget-constrained most preferred style/size, $(x_{i,*})$.

Also in the figure, the resident's more preferred additional bedrooms and floorspace have higher prices if producers' decisions have resulted in a scarcity of those types while they are in demand from residents with preferences for them. This resident can afford any type of home within the budget constraint (on a line with point M above \$80,250), and thus, his or her style/size attribute stress is unconstrained. If however a four-bedroom two-and-half storey became unaffordable due to a more constrained budget (if less than \$80,250 but more than \$69,700 on a line with M^1), then his or her stress in a three-bedroom bungalow would decline marginally to $(u_n(x_{i,I^*}) - u_n(x_{i,i}))$.

If the static data in the figure remained constant through time, one may imagine how the resident would experience more residential stress if the current home's experienced attributes diverged from the most preferred levels of those attributes – and less stress if they converged. For example in the figure, an additional bedroom from three (at I) to four (at J) would significantly increase the

satisfaction with this attribute's livability or investment potential by decreasing the stress from that represented by $(u_n(x_{i,I^*}) - u_n(x_{i,i}))$ to almost zero with $(u_n(x_{i,J^*}) - u_n(x_{i,i}))$. Meanwhile, a converse downsizing from four bedrooms (at J) to three bedrooms (at I) would be unexpected unless three bedrooms' much lower utility, and greater stress (between I and I^* relative to that between J and J^*), could be traded off against improvement in another attribute, such as a bedroom converted into a home office.

2.3 Change in Accessibility to School

Two corresponding scales of value for a typical older-urban resident's levels of access to school are summarized in Fig. 2. Preferences decline monotonically for farther access to a school, that is, from less than a 10-minute walk (at point I), through up to a 20-minute walk (J), to a 25- to 30-minute drive or bus ride (K). An n^{th} resident currently living less than 10 minutes from a school would experience the highest attainable utility (at I^*), and thus no residential stress with this most preferred level of access to school. A decline in level of access to school from this less than 10-minute walk to a 25- to 30-minute drive or bus ride would significantly decrease the home's utility from $u_n(x_{i,I})$ to $u_n(x_{i,K})$, and increase its stressfulness from zero to that represented by $(u_n(x_{i,I^*}) - u_n(x_{i,K}))$.

Incidentally, homes with more preferred nearer accessibilities to school will have higher prices if locations near to schools are scarce resources in demand from residents with or without children attending them [41]. The resident in the figure can afford a home with any level of access within his or her budget constraint (on a line with point M above \$59,875), and thus, his or her access to school is unconstrained.

In sum, this resident who values accessibility to school, and thus who will be stressed by inaccessibility, should move into a neighbourhood with a nearby school. Near locations may be valued if either escorting younger children to and from school, or worrying less about walking journeys of older children. Farther distances will be disliked not only for social reasons if journeying outside the neighbourhood, but also for economic ones of the money and time spent on travel. In short, distance matters when parents or guardians think about where to educate their children [42].

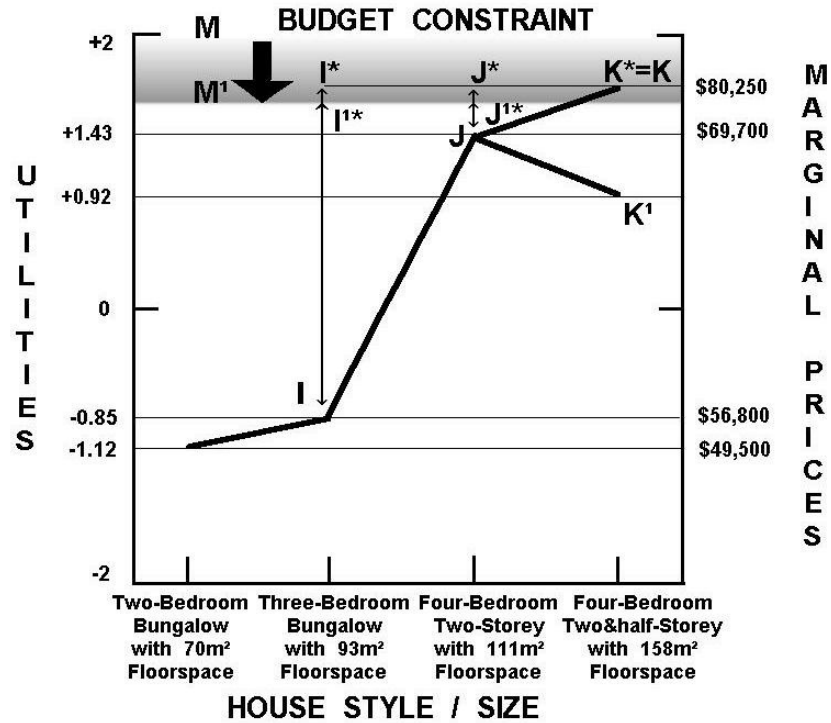


Fig. 1. Residents' utilities and prices for older-urban house styles/sizes

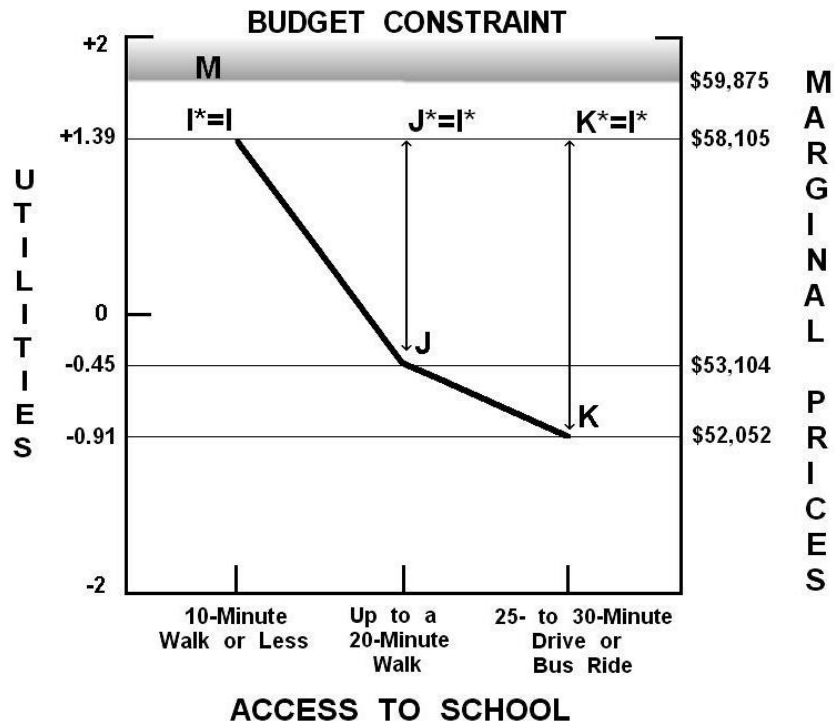


Fig. 2. Residents' utilities and prices for access to school

Nevertheless, some residents with children will voluntarily choose to live farther distance from school. They however will probably trade the additional travel off against other less stressing and more important attributes of the home. Their choice consequently differs from that of others who chose to live nearby a now-closing school as opposed to farther away. These latter residents will unexpectedly experience a change in accessibility from being nearby their attended school, to being farther away from their new recipient one.

2.4 Unexpected Life Events and Housing Decisions

An abrupt change in accessibility to school will be an 'unexpected' life event for residents who have not factored its occurrence into plans about moving from or staying in the current home [43]. An unexpected event's effect might culminate in an impulsive move on the one hand, or a stressful stay on the other hand [44]. In comparison, an 'expected' event may also be a trigger for a move, but residents will already have planned for its occurrence, or be planning for it in decisions about future housing.

Unexpected personal events hypothesized in the literature as inducing long-distance moves include sudden illness or early retirement from paid employment; or job loss or change in job location farther than a commuting distance [44,45]. Similarly behind some short-distance moves is a family dissolution by divorce or separation, or becoming a widower [46]. Unexpected environmental changes resulting in moves include those to the dwelling unit from its in-situ ageing and upkeep [47,48], or its management if rented [49]; its neighbourhood with the in-movement of different types of residents [50], or its perceived future social decline [51]; and its location with the opening or closure of nearby facilities for transportation, recreation, or education [52].

Residential stress and resistance theory predicts that occurrences of each of these unexpected life events may have abruptly and involuntarily altered the resident's current home's attributes and/or his or her personal situation [40]. These alterations in turn may translate into higher or lower residential stress with living there, and/or higher or lower resistance to moving out. An event's effect will however depend upon, first, the attribute(s) of the home being changed and by how much; second, whether this is an important

attribute for the resident; and third, the form and orientation of his or her utility and monetary scales of value for that attribute. Thus, for example, residents may vary in their disutilities for farther travel even if they value accessibility to a nearby school as an important attribute of their current homes.

2.5 Observed Residential Stress for Accessibility to School

Hence, if changes in residential psychological and economic stress are theoretical inducements behind threats of moving, the analytical question is whether such change-in-stress caused by farther travel after a school's closure could be large enough to justify those threats. To answer this, residential stresses were calculated using experimental and survey data for 81 residents who had moved into or within older-urban neighbourhoods in a medium-sized Canadian city, Saskatoon, Saskatchewan [53].

First quantified were a respondent's utilities for 12 relevant attributes of single-detached homes on interval scales. Second identified were the levels of each of these attributes possessed by his or her current home. Each residential attribute was described with between three and five realistic levels. As mentioned, a home's accessibility to school in Saskatoon was described as either (1) located within a 10-minute walk to school, (2) located about a 10-minute drive from a school, or (3) located up to a 25- to 30-minute drive or bus ride from school.

The result was that most respondents were located less than 10-minute walk to a school, and thus they were earning the maximum utility for this near location. Eighty-one percent of their 'old' homes, from which they had moved, had this preferred location. Slightly fewer, 71%, had moved to a 'new' home that was as near to a school. As a result, their residential stress with their 'old' home's accessibility to school was, on average, both absolutely low at 18%, and relatively lower than their new home's at 21% (on a scale from 100% equals high stress, to 0% equals no stress).

Residents' individual stresses and resistances were further analyzed in a computer model to predict likelihoods of moving during the next two years. Only 19% of them were likely to move from their home if they were located within a 10-minute walk to a school. This short distance best described their location before their school's closure, whereas their new recipient school was

a longer 25- to 30-minute drive or bus ride away. Since few already had this longer journey to school – and as predicted, this was not causing higher intentions of moving out if they did have it – the effects of a change from a short journey to a long journey were computer simulated.

After keeping their remaining utilities, stresses, and resistances as the same as before, the computer model predicted that 69% of them would think of moving if accessibility declined to up to a 25- to 30-minute drive or bus ride to school. Interestingly, therefore, this computer analysis and simulation confirms these changes-in-stresses for accessibility to school as behind residents' threats to move house in response to a school closure.

Ultimately, however, even though residents' thoughts of moving house may be triggered by rumours about a school's closure long before a school board's formal review of it, these thoughts will not automatically produce actual moves out of a neighbourhood. Residents may be encumbered from moving by such constraints as attachments to house and neighbourhood, and inability to find affordable alternatives [50,54]. Few residents may be willing or able to overcome their residential resistances if moving in order to reduce residential stress solely due to one difference such as a closing school [55].

2.6 (In-) Effectiveness of Threats to Exit

It is a hypothesis with anecdotal support that some residents will react to a suspected or planned school closure by moving house, and transferring their children to another school or school system [15]. If especially the latter were true, a closure would have quite serious economic, political and social consequences that could be exploited in criticisms of school boards. Administrators will have lost students and funding from a school system. Politicians will have failed in their representation of constituents. Both will furthermore have helped to socially destabilize neighbourhoods.

However, more than a few residents must follow through on threats to move in order to register these threats as criticisms of the quality of education provided by a school board as administrator of daytime educational programs. Somebody must be able to say they moved, or know somebody else who moved in response to deteriorating education in a closing school. In reality, few may say they moved for this reason alone without also mentioning one or more of the

other aforementioned stressful reasons for moving.

The irony nonetheless of a follow-through on a threat to move is an inevitable acceleration of a school's declining enrolment, reinforcing the prospect of closure. Moreover, those most likely to move and transfer should reside nearest to a closed school, and farthest from a recipient school, because this is where a closure most negatively affects a resident's standard of living. Their departures might actually generate savings in busing costs for the school board closing the school. These savings would further compensate for any loss of funding for them from transfers to schools in a different system.

In conclusion, threatening to exit by moving house in response to an impending school closure is much less impactful for saving the school than might be imagined. On the one hand, most residents will be financially and/or socially constrained from following through on this threat. On the other hand, exiting residents may worsen the situation for the remainder fighting for their school, especially in a neighbourhood already deteriorating due to other social, economic and land-use processes causing a loss of human capital [15].

3. HOW TO SAVE MONEY WITH A SCHOOL CLOSURE

One of two relevant predictions from the previous section is for at least some proactive residents' switching their children out of a possibly-closing school and into an invulnerable open one. A second prediction is for other residents' not moving into a neighbourhood with a possibly-closing school. If residents adjust in these ways to the prospect of a school's closure as soon as they hear rumours about it, they may inadvertently create a possibly years-long period of uncertainty for a neighbourhood. Their actions during this period of uncertainty could surely accelerate enrolment declines and neighbourhood instabilities that culminate in a school's formal review. This section will recommend for these and other reasons that fighting for a school should ideally begin before its review for closure.

The formal review of a school for closure will normally start when its enrolment has declined or will foreseeably decline below a locally-determined enrolment threshold [56]. This enrolment threshold may be an absolute level (e.g., 115 or 250 students) for a number of

enrolled students that is significantly below those of the district's elementary or secondary schools [15,57]. An alternative, relative enrolment threshold may refer to an educationally-inefficient proportion (e.g., 60%) of the nominal maximum number of enrolled students in an elementary or secondary school.

Enrolment threshold levels may consequently vary not only between school districts, but also within a district for different types of schools. Each enrolment threshold – and possible use of either absolute or relative ones – will depend upon a school district's particular historical stock and locations of elementary or high schools, current staffing and administrative formulas, future enrolment and funding projections, and school board's attitude about quality of education in small schools [56].

In particular if a school board prescribes larger as opposed to smaller schools, use of a system-wide enrolment threshold may result in a smaller school's review and closure even though students could be learning more from the personalized attention of teachers in smaller classes. A smaller school may be reviewed and closed before declining enrolments have necessitated the instruction of students from several grade-levels in the same classroom, and/or the curtailment of extra-curricular activities.

In reality, enrolment thresholds are frequently set lower than they ought to be. However, if an absolute or relative enrolment threshold is set too low, then smaller schools' enrolments will skew downwards the district-wide average enrolment. An inefficiently-low enrolment threshold will also result in subsidies to families of students in small schools by others in the district, for example, in the form of additional teachers or administrators who should be reassigned. Stopping payment of such subsidies may be an (un-) publicised saving from a closure, in addition to the direct cost savings that sometimes appear insignificant to residents [58].

Note that this section emphasizes the economic measures of factors recommended for consideration in a closure review by educational administrators [59,60]. The next section justifies the importance of this emphasis. This next section also clarifies how additional educational and social considerations, such as the quality of education in a school, and the effect of closure on a neighbourhood, are commonly translated into economic costs and savings.

3.1 Savings from Closing a School

Relatively the most money is saved from closing a school at a point in time when savings from closure just begin to exceed the additional costs of closure [61], but this optimum saving is rarely achieved in reality [62]. As listed in Table 1, a particular building's closure will save its current and future operating and maintenance expenditures. Its sale or lease will generate revenue in addition to taxes for a school board. Salaries will be saved with layoffs and retirements – but not transfers – of teachers, administrators such as a principal, and office and custodial staff.

Observed data for calculating economic savings from closing one or more schools were collected for a large neighbourhood area of a medium-sized Canadian city, Saskatoon, Saskatchewan [63]. School board reports provided the candidate schools' annual salaries for school administrators, librarians, paraprofessionals, and custodians; and their annual bills for utilities, regular maintenance and custodial supplies. Sale prices of several previously-closed schools in the city were available for inferring annual revenues from property sales. However, possibly differently to elsewhere, teachers' salaries were not estimated because their customary transfers to other schools yielded no personnel savings.

3.2 Costs of Closing a School

As also shown the table, a school board's accommodation of displaced students will create capital costs if students require enlarged or renovated space in an existing recipient school. They may alternatively be accommodated in a new school rather than in an existing school with vacant space. Either way, some displaced students may be far enough away from a recipient school to be bused at school board expense.

The authors of the study of Saskatoon were able to infer the school board's financial contribution to constructing its new suburban schools. The school board also quoted the cost of busing approximately one-third of one school's students living farther than the historical maximum walking distance of 1.6km to their next-nearest school. The school board however did not quantify the additional economic and social costs of this farther travel for students and their caregivers.

Table 1. School closure costs and savings

Cost or saving component		
Operating cost of i^{th} closing-school	Salaries	School administrators Librarians Paraprofessionals Custodians Office Staff Teachers
	Utilities	Electricity Water Gas
	Maintenance Supplies	Regular Custodial
Major maintenance expenditure for i^{th} closing-school (or j^{th} new school)	Existing school(s)	From local finances at annual rate of interest for amortization period From provincial grants
	New school(s) construction	From local finances at annual rate of interest for amortization period From provincial grants
Closed i^{th} (or New j^{th}) school property	Disposal of closed property	Sale price discounted at annual rate of interest for amortization period
	Acquisition of new property	Lease with annual revenue Purchase price at annual rate of interest for amortization period Lease annual expenditure
Attendance area of i^{th} closing-school	Radius in km	Mean distance to school's boundaries with other schools having contiguous attendance areas
(Projected) enrollment of i^{th} closing-school	Students	Number from within the district
		Number from outside district or in special programs
Student transportation after i^{th} school's Closure	Individual	Dollars per student per walked or driven kilometre per year
	Board	Dollars per bused student per year

A presumption about students and caregivers not having additional economic costs of farther travel may be the justification for not quantifying them. Students may walk or bicycle at no real economic cost if located near to school; while the school board will pay the cost of busing those located farther away.

Times have indeed changed since the late-1960s when up to one half of students walked or bicycled relatively short distances to school by themselves. Nowadays, less than 15% typically walk to school in some areas, with approximately equal proportions of the remainder being bused or driven [64].

Declines in walking and bicycling have environmental causes since many more students

are now located farther than the aforementioned 1.6km from school [65]. Modern neighbourhood schools tend to have much larger attendance areas with lower population densities than those currently or historically in older-urban areas. Recently-popular specialized or magnet schools may deliberately have up to district-wide attendance areas [27]. Choice of either suburban residential location, or attendance at a specialized or magnet school, may in reality comply with some parents' or guardians' preferences for students being bused or driven [66].

Declines in students' walking and bicycling to school therefore also have social causes. Even students who live near to school are now driven, especially if they are younger; or are girls; or

have no brothers or sisters to accompany them; or must cross busy roads designed for motor vehicles and not for pedestrians [64,67]. Students may become accustomed to being driven, for example, if originally not wanting to carry a heavy backpack, school project, or instrument, especially outside in bad weather. A parent or guardian with personal- and property-safety concerns may have agreed to do this if free at that time or driving somewhere else [68].

In sum, even if farther journeys for students do not have additional economic costs, those journeys may generate social costs that amount to a value of not only a student's time spent doing it, but also that of his or her caregiver. A student's caregiver is probably an adult with a real value of travel time, even if his or her child has an almost-zero value of time. An adult will rationally monetize the additional time spent in farther journeys by bus or private car.

Caregivers' minimising the value of their time may be why they appreciate near-locations if either escorting younger children to and from school, or worrying less about walking journeys of older children. If farther away, more time must be invested in either preparing children for school-bus pickup and drop-off, possibly with a latch-key; or driving them regularly to and from school, and/or periodically for after-school activities.

Few if any studies have measured observed values of either children's time for travel, or that of adults for the special trip to and from school. First, as mentioned, adults have only recently become co-participants in these journeys. Second, local trips to and from school utilize existing infrastructure for pedestrians and vehicles during relatively short (off-peak) periods. These local trips do not generate demands for new transportation projects with proposed costs or benefits quantified in terms of value of time [69]. Even so, adults' values of travel time as urban recreational drivers may be applicable for caregivers who drive to and from school.

For example, a recent (2008) value of travel time was 6 GBpence per minute for British drivers if using a car for a distance less than 3.2 km for a non-commute purpose [70,71]. Simple application of this unit value of travel time illustrates the social costs of the more distant travel to school, for example, from less than a 10-minute walk to a 25- to 30-minute bus or car ride, which was modelled in the previous section.

This farther travel might 'cost' up to approximately \$500 more per student in time alone for 187 daily round trips during a typical Canadian school year. Note however at least two conservative assumptions in applying this value of British travel time to journeys to and from school in Canada. One assumption is about the higher cost of travel in the UK offsetting an exchange rate between the British pound and Canadian dollar. Another assumption has the value of walk and wait time being one-and-one-half times that of a driver's value [72].

3.3 Observed Savings and Costs of Closing Schools

The now-outdated estimate of value of travel time in the study of Saskatoon was for each child and his or her parents or guardians to be 'paying' approximately \$250 for walking an average additional 325 metres to and from school twice a day during a school year. The per-unit cost of this additional travel was \$0.75 per metre per year. This was the average of three available examples of children's physical costs of travelling by walking or bicycling, and their parent/guardians or caregivers' economic costs and social valuations of time by different modes of travel [73,74].

Note that even if this per-unit value of time was accurate for students' travel during the 1990s, the quite short distances between elementary schools in the study neighbourhood deflated the annual costs of additional travel compared to somewhere else. Furthermore, the costs were not calculated for students' real locations. Instead, their confidential addresses were assumed as uniformly located across the neighbourhood catchment areas of schools.

Nevertheless, as already mentioned, the result in Saskatoon was that each of two actually-closed elementary schools had saved approximately \$1.70 for each additional dollar cost. This amount of excess of savings over costs not only predicts the magnitude of the subsidy to remaining students and their families in those schools: This was up to an annual amount approximating 40% of the savings. The observed relationship between savings and costs also predicts an optimum enrolment threshold for reviewing an elementary school for the most efficient savings: This should have been nearer to 400 students. A threshold of 400 is definitely above the school board's then-current absolute one of 115

students, and a later rejected absolute one of 200 students.

These predictions notwithstanding, the result in Saskatoon may have been unique for a school board permitting the savings from closure to far exceed the additional costs of closure by the time of reviews of schools. A balance of savings versus costs at the time of a school closure may differ between school districts due to their aforementioned particularities. Moreover, estimates of costs depend upon unpredictable future behaviours of students and their families after a closure, such as, whether staying at their current address and accepting a transfer, or not.

Finally, as already mentioned, this section has emphasized economic measures of school closure-review factors, while it has also alluded to other social factors being converted into economic costs or savings. Note that the social costs described in the next section do not include those for the time and energy spent by school board officials in responding to possibly hundreds of residents who have presented and written briefs to them about their schools. Officials may incur further social costs in diffusing those residents' voice threats to transfer their children and/or property taxes to another system.

School boards have several tactics for reducing these social costs, however, even if they are larger relative to economic costs. First, schools can be reviewed where neighbourhood residents lack middle-class levels of organizational skills, knowledge, and personal contacts; or where residents have no previous experience with closures [75,76]. Second, reviews can be scheduled late in the school year to limit the time for representatives' getting organized, collecting their own data, and/or forming alliances with intellectuals or other communities. Also, if their leader is the president of a home-and-school association, he or she may have been prepared for noncontroversial duties, such as liaison with school staff, and organization of fund-raising events.

3.4 Fighting if Savings from Closure Exceed the Costs of Closure

This section has summarised the types of economic data about a school's facilities, personnel, and clients, including students' caregivers, which should be analysed in a closure review. School board reports will provide

most of these costs and savings data. Residents should also be prepared to gather the data for themselves if needed in advance of their school's formal closure review.

This section however concludes by cautioning against waiting until this review in order to begin assembling data about a school. First, the school board's absolute or relative enrolment threshold for initiating a review may have been set much lower than typical absolute or relative levels in other schools. Second, residents' economic arguments on behalf of their small school may be ineffective at that point in time – regardless of their data – when the economic savings from closure far exceed any costs of closure.

Besides, school boards may use too-low enrolment thresholds in order to minimise their social costs of communicating with community representatives. More and larger schools will be vulnerable at a higher enrolment threshold, and these schools may mobilise proportionally-more community representatives than might be involved in a smaller school. Hence, the recommendation is for residents to become involved earlier in data collection about their school. The ideal timing of this involvement should be as soon as its enrolment declines below a theoretical absolute or relative level where the saving from closing it just exceeds the cost of keeping it open.

This section has, accordingly, clarified how to calculate this efficient enrolment threshold for a school. This calculation is complicated by requiring an up-to-date value of the time of students and their caregivers spent in travel to and from a farther school, if this is the primary cost of a closure for them. In principle, an early warning about a declining enrolment should at least provide an opportunity for evasive action to stem further decline.

4. KNOW WHO CLOSSES A SCHOOL

4.1 The Education Acts

The decision to close a school is a local one made by a school board who owns and operates it. A school board has the power both to close schools in a district and to dispose of them when no longer required for its purposes (e.g., [77,78]). This power is delegated by an Education Act of a provincial legislature in Canada, analogously to counties in England and Wales [79]. In Canada, a provincial government has the ultimate

responsibility for primary and secondary education [80]. A provincial ministry of education may insert itself into local affairs as a corollary of its partial funding of local education. It may actively exert political and/or financial pressure either for or against a school board's decisions or activities; and it may more passively administer generic policies for school closures (e.g., [81]).

This legislative framework has insulated school boards from either governmental or judicial reviews of their closure decisions, as long as those decisions conform to the policies and procedures for closing school that are discussed in this section. In the Province of Ontario, for example, judicial reviews of school closure decisions are rarely granted, and even if they are, the most favorable conclusion for residents will be an order for a school board to start again the review process [82]. In other words, such external reviews do not rescind decisions to close schools, and may only delay them.

4.2 Trustees and Administrators

Provincial Education Acts prescribe relatively weak levels of direct consultation with the community about either educational administration and budgeting in general [83], or the particular procedures for reviewing a school for closure [84]. Residents' interests in general are represented by members of two interdependent groups composing a local board of education, namely, trustees and administrators [27,85].

A trustee is a part-time non-partisan politician elected from and by a district's residents paying property taxes to a board [86]. Ratepayers choose a school system for their financial support, and their children by right attend a (not necessarily nearest) school in this system. These adults elect their trustees during municipal elections held every three years or so. A trustee may or may not have children in school. He or she more probably is or was a professional or managerial worker.

Trustees establish the annual taxation rate for the public education contribution of local property taxes. Residents pay an average of one-half of their property taxes to public education, and these usually fund more than one-half of a school district's operating budget. The remainder is from grants awarded by a provincial ministry of education out of provincial tax revenues. Trustees will lobby the provincial ministry of

education for designated funds for construction and renovation projects.

Trustees also appoint the director of education as the chief educational officer and the chief executive officer of the board. They establish the policies for the director's organization of the district's personnel and facility resources. They then execute his or her recommendations about the day-to-day allocations of those resources to school, and the composition of his or her administrative staff.

A cohesive working relationship should be expected under normal circumstances not only within the group of trustees, but also between them and the administrators ([87]; however, cf. [88]). They need to work together for delivering ongoing academic programs, and for raising revenues and taxes from the community [27]. Trustees further rely on the administrators' expertise in assembling and analysing data about a district's school, and in implementing their pet projects [87]. Board administrators have professional training and credentials in educational administration. Trustees learn from them to communicate in technical and administrative terminology, such as euphemistically referring to closures as a consolidation or revitalisation.

Trustees however are not "managerial automatons" [27]. They are elected as relatively short-term representatives of neighbourhood wards or districts. They thus should be more responsive to political pressures from residents about neighbourhood issues than administrators might need to be [86]. As defenders of the political process enabling their decision making, trustee should be friends of the community, and even allies with trusted residents, for example, in home-and-school organizations.

Trustees serve either at large in the school district, or as representatives of neighbourhood wards. They may say – again under normal circumstances – that ratepayers have elected them for educationally- and fiscally-responsible decision-making on behalf of the entire district. In reality, a neighbourhood-ward electoral system more commonly results in either divisive or paralysed decision-making by trustees about neighbourhood issues such as closing schools [88]. A local school closure is a clear loss or decrement in educational provision in a neighbourhood ward from a resident's perspective. In contrast, a local school's staying

open may only be perceived as an educational increment if it also was vulnerable to closure.

A re-electable trustee with a reviewed schools would therefore be expected to lobby much harder to resist a closure than would unaffected trustees – and a trustee with a closed school should lobby the hardest, unless the closure can be offset by an improvement in local education such as consolidation into a new school. Multiple potential closures of neighbourhood schools in a district may especially prevent coalitions among trustees in support of any closures at all [88]. School boards may therefore learn not to schedule the closure of more than one or two schools at once from within families of reviewed schools.

4.3 School and Student-displacement Factors in a Closure Review

Most school boards derive their local policies for reviewing schools with declining enrolments from either legislation (e.g., [78]) or provincial ministry guidelines (e.g., [56,89]). These policies will prescribe the basic school and student-displacement factors to be considered for either a single school or a group of schools; the time schedule for a review; and the form of the procedure for making a decision [57,90].

The factors for consideration in a closure review were originally recommended in handbooks written for educational administrators [60]. The basic school factors include the quality of education in the school; the projected enrolments over a five-year period; the physical condition of the facility and the capital costs to upgrade; and the operating costs of the school. The basic student-displacement factors are the amounts of relocation of students and transfer of staff; and the effect of closure on a neighbourhood community and its surrounding neighbourhoods.

In recent addition to these, student achievement has frequently become a new closure review factor, since more districts have results of standardised tests of students throughout their careers [91]. Student achievement is an 'output' measure of the relative quality of education in a school, and declining achievement may or may not be correlated with reduced economic and educational 'inputs' in small and shrinking schools. Correlated inputs and outputs, however, would not only reinforce administrators' conclusions about educational reasons for closing smaller schools. They could also

introduce new assumptions about the educational and social benefits of displacement into larger higher-achieving schools, especially for under-achieving students who are also socially- and economically-disadvantaged.

Disadvantaged students' achievement levels may, in fact, be increased by moving to a school with noticeably-higher overall levels of achievement than their closing school – and this could compensate for their lower scores on standardised tests and poor attendance in their first year at their new school [8,9]. This outcome however requires students, first, to be displaced to such schools and, second, to remain there beyond their first year. On the contrary, socially- and economically-disadvantaged students may prefer to re-concentrate in the same schools rather than disperse into different schools, if they can be with more peers of their own social and economic background, and have shorter home-to-school distance [92].

In the final analysis, administrators' closure review reports tend to focus much more on the educational inputs and outputs in schools, and not on the displacement effects for students, their families, or their neighbourhoods. For example, for reasons mentioned in the previous section, a closure's displacement costs for students may not be quantified unless school-busing costs are incurred for those farther than a maximum walking distance to their un-crowded next-nearest school. In addition, neither the long-term effect of a closed school on a neighbourhood, nor the revenues from sale or lease, may be determinable without knowing its future alternative use (e.g., [93]).

4.4 Do Operational Closure Factors (Un-) Intentionally Target Schools?

What then might be the (un-)intentional consequences of a closure review report's concentrating upon the operational quality of education in a school? Note from the perspective of administrators that the declining quality of education in a smaller and shrinking school will be correlated with fewer regular in-district students being instructed in single-grade classrooms, and enlisting in specialized educational programs and extra-curricular activities. A school may in fact begin to have a declining 'quantity' of education as soon as its enrolment declines below a defined number of students. School boards are nowadays required to implement per-capita resource formulas from

the provincial ministry in allocations of staff and resources to school. A school's declining enrolment eventually results in noticeably-declining per capita teaching resources for its students.

This administrative relationship between educational quality and the quantities of personnel or facilities may initially confuse parents or guardians who associate higher quality with teachers' skills and classroom resources. On the one hand, parents and guardians may agree with an administrator about a reviewed smaller school's poorer learning environment, owing to limited course/program offerings and extra-curricular activities, or physical constraints of building and site. On the other hand, however, they may disagree with solutions to these if they do not appreciate the financial constraints on hiring additional teachers, upgrading facilities, and transferring-in students from elsewhere.

Disagreements between residents and school board officials may culminate in parents and guardians' criticisms of a decision based upon the economic savings from closing a school. An economic decision clearly excludes the educational, social and environmental costs of closing it for students, parents or guardians, and residents [24]. If it (un-) intentionally targets schools in particular neighbourhoods, it may also help school board officials in reducing their own social costs by closing schools where residents are less experienced and resourced [94].

Routine targeting of schools for closure in particular types of neighbourhoods seems unrealistic, however, except perhaps for the earliest ones in a district when school boards are learning how to close them [27]. Subsequent closures of schools will probably outpace evolutions in neighbourhoods' social, economic and environmental characteristics. Particular types of neighbourhoods in a school district will therefore always have limited numbers of schools. Furthermore, particular types of residents may only appear targeted if schools' students have representative social and economic characteristics of their local attendance areas [95,96]. Nowadays, as already mentioned, students are commuting farther to a nearest school and to out-of-neighbourhood schools or specialized ones. Students in a school are consequently becoming less representative of the types of residents in the neighbourhood around it [97-100].

Inconclusively, therefore, the characteristics and locations of 52 closed schools in Windsor, Ontario, which were described in the first section, suggest that 13 closed schools during a 'middle' late-1980s to late-1990s period – or 11 mentioned for closure during the same period – were located in less-wealthy types of neighbourhoods; whereas 29 earlier-closed ones and 10 later-closed ones were not. That is, schools closed or mentioned for closure between 1988 and 1997 were located in small geographical areas called dissemination areas (DAs) in the 2001 Canadian Census that were significantly different from those in the entire Windsor Metropolitan Area (at significance level $\alpha < 0.05$ from single sample Z-tests).

For example, DAs with closed schools during this middle period had a statistically significantly higher average percentage of unemployed adults (9% cf. 4% for the Windsor Metropolitan area); a lower average adult income (\$25,233 cf. \$30,873); and a lower average percentage of single-detached houses (54% cf. 73%). Likewise, DAs of 11 schools with a first-mentioned possibility of closure during 1998-1997 had these three statistically-significant differences. Otherwise, 29 pre-1988 closed schools, and 10 schools closed in 1998 or later, were located in DAs that had statistically the same social, economic and environmental characteristics as those in Metropolitan Windsor as a whole.

In other words, an inference about closed schools being located in less-wealthy neighbourhoods only applies to 13 schools closed after 29 schools had already been closed, which would be when both school boards had experience with closures. At least in Windsor, Ontario, therefore, more-costly-to-operate older or smaller schools were coincidentally located in less wealthy older-urban neighbourhoods or older-suburban ones where populations had matured and had declining densities.

Note that dissemination areas are the smallest geographical areas for which the Canadian Census publishes its quinquennial data [101]. DAs had an average population of 685 residents in Metropolitan Windsor in 2001. A DA's residents and homes were summarised for this analysis with ten social, economic and environmental characteristics. Eight variables have percentages measuring: Adults who were young adults 20-24 years old; Families headed by a male or female lone parent; Couples with children living at home; Single-detached houses

of occupied private dwellings; Residents five years or older who had moved into or within a DA during the past five years; Adults 15 years or older who were unemployed during the past year; 'Blue collar' workers of adults 15 years or older in the labour force; and Residents 20 years or older with a university education. Two remaining variables had dollars as their original units, measuring Respondent-estimated adult total income during 2000; and Respondent-estimated value of current dwelling. Each dollar-amount was log-transformed to normalize a positively-skewed frequency distribution before averaging.

4.5 Time Schedule for Closure Review

In review, therefore, a school board thinking of closing a school will normally measure and evaluate the educational, social and environmental conditions for students inside that school and possibly its family of schools, and outside for residents in neighbourhoods. This review may however concentrate upon translating these conditions into economic liabilities justifying closure. As soon as a closure review is scheduled, the common timetable is to review and to decide about a school(s) during the course of a single academic year (e.g., [89,102]). The future alternative use of a closed school and property is usually decided afterward.

Residents may thus become aware of a formal closure review both too late and with too little time to reverse anything. Years may have elapsed since an initial report about a school's actual and projected declines. They may not have had children in a school when an administrator's annual report about a district's schools had an early warning of its being monitored with others as candidates for closure due to declining enrolments.

4.6 Procedure for Closure Review

The procedure for a closure review refers to the decision making process for residents, school board officials, and additional possible stakeholders, working together through the scheduled period of time to make a decision about a school. Legislation or government policy specifying consultation between educators and parents or guardians will normally prevent a school board from unilaterally and abruptly deciding to close a school. Two common procedures for closure review consultations are a 'corporate' model, with possible employment of

consultants; and a 'joint educator-resident committee' [90].

A joint educator-resident committee was one of the earliest recommended procedures for a school board reviewing a school(s) [59]. In this procedure, a single school is reviewed by a committee composed of a combination of trustees, administrators, teachers, principal(s), and community representatives who may or may not be parents or guardians. Multiples of these representatives review a group of schools.

Experience with these joint educator-resident committees during the 1970s and early-1980s proved their somewhat opposite effects to their predicted benefits for decision making [60]. In particular, community representatives became so educated about closure factors that they mobilized against school board trustees and administrators, instead of agreeing with them [27,58]. An inefficient committee process was created for administrators reviewing more than a single school during an academic year. Furthermore, trustees were politically compromised if they publicly voted against the recommendations of the committee.

Schools boards therefore evolved this closure review procedure into a more 'corporate' approach for managing conflict [103,104]. In public, this also-called bargaining approach acknowledged the independent powers of trustees, educational administrators and residents, and their varying personal and collective interests in closing schools or keeping them open. Closing a school therefore only required a winning coalition among these stakeholders, and not necessarily a consensus. In private, however, administrators could gain the upper hand in this bargaining approach. They could segregate inexperienced residents for reviews into separate time periods or geographically dispersed locations. They could confuse residents about the specific number of reviewed schools to be closed [105].

This review procedure concluded with trustees receiving written and oral briefs from community representatives, in conjunction with written and oral rejoinders from educational administrators and/or expert consultants [27]. A subcommittee of the board then reviewed this information for one or more schools during a public meeting. This meeting was also the public's opportunity for scrutiny of administrative assumptions, data, and recommendations. In the end, however, trustees

and administrators alone engaged in the final debate about closure [27]. The complaints from community representatives about their un-involvement were subsequently postponed until after the decision to close.

Residents' criticisms about this corporate-style of decision making eventually registered with higher levels of government. Residents surely criticised it as an improper process for governmental institutions whose officials were in a social contract with parents or guardians to act on behalf of children. In particular, parents and guardians were having quite different conversations with educators than the productive ones they had with them about the education of their children. Thereafter, joint educator-resident committees for reviewing schools for closure have been resurrected since the mid-1990s.

School boards for their part may have conceded this reuse of an earlier procedure, for example, if so many schools had already been closed that few remained for review. They might, further, have been able to offset these few remaining closures' educational decrements in neighbourhoods with nearby increments, such as, in the form of a new school or improved quality of education in a recipient school, or a community reuse of the closed school. Either way, school boards as embodiments of neoliberal government may have resurrected the allusion of a community taking responsibility for its own planning, that is, while not having any final decision making power [12,106].

Hence, current joint educator-resident committees have resembled the earlier ones in the consultative phase of a review [106]. For example, in [107], a school review committee basically consists of: "Four members of the school community council representing the school under review...; Two individuals appointed by the council of the town or village...in which the school under review is located; Two individuals appointed jointly by the councils of the municipalities located within the electoral area of the school community council of the school under review.... The purposes of this school review committee are: (a) to gain an understanding of the board of education's review process and to share information with the board of education to facilitate the development of viable options for the school that is the subject of the review; (b) to bring forward information and additional considerations to the board of education, in the form of written submissions, in

the context of the school review; and (c) to share information respecting the review process with the public and to provide the board of education with written feedback from the public as the review progresses".

Notwithstanding, the final decision-making phase of a review by current joint educator-resident committees has resembled that of the corporate model [106]. For example, in [89], "The Accommodation Review Committee (ARC) will present its accommodation report to the Board of Trustees. Board administration will examine the ARC accommodation report and present the administration analysis and recommendations to the Board of Trustees. The Board of Trustees will make the final decision regarding the future of the school(s)" during a public meeting.

In more detail in [108], "If the board of education decides to consider the closure of any school ... [it] must, not later than February 1 of the year in which the potential closure of the school ... is to come into effect: (a) pass a motion: (i) to consider the possible closure of the school ... and (ii) stating the effective date of the possible closure ...; and (b) ... notify the public of the motion [in] (a). The board of education, not later than March 31 of the year in which the potential closure of the school ... is to come into effect, must hold a meeting of the electors of the school community council to advise the electors of the motion..."

In conclusion, therefore, residents need to know who will be closing their schools in order to both privately and publicly lobby those decision makers [91]. They need to know the timing and schedule of the closure review in order to plan their activities. They need to know the closure review procedure in order to make sure about the appointments or elections of their representatives. They should furthermore be apprehensive about publicly-dissenting behaviour between members of a joint educator-resident committee since this may work against saving their school [12]. Finally, even though they may ultimately be disappointed about their participation having little effect on closures, this cannot be a reason for failing to participate. The aforementioned bargaining approach to closures acknowledges the various powers of community representatives that enable this participation. These powers of residents, and the constraints upon their effectiveness, are discussed in the next section, including how to write a brief for

presentation to a school board on behalf of their school.

5. HOW TO FIGHT A CLOSURE DECISION

A school board's announced or rumoured 'decision', 'consideration', or 'proposal' about a particular school's closure will mark the beginning of a final phase of its closure review. The typical decision procedure in this final phase, as described in the previous section, will probably comprise a public meeting(s); a subsequent debate of trustees assisted by administrators; and final vote of trustees.

Community residents, who may have participated in closed educator-resident committees, and lobbied privately during earlier phases of the review, should accordingly mobilize and prepare for formal arguments on behalf of their school during these impending public meetings. A community representative's participation in a public meeting may solely consist of presentation of his or her written brief and passive listening to trustees' debates of it.

This section answers who will be involved or not during a closure review, and why; and what these participants usually do during its final phase, versus what they could do. These answers are from analyses of published letters written to the editor of a local daily newspaper about a particular closure review [109]. These research answers are notably from a particular perspective of structuration theory, and so, the next two subsections are theoretical and empirical digressions about this theory. The casual reader may wish to skip these two subsections.

5.1 Structuration Theory

Structuration theory has been a popular sociological conceptual framework for studying social behaviours since the early-1980s when it was published by a British sociologist [110]. Coincidentally during the approximate same period, a French sociologist wrote an independent version of the same-named theory, but he had a less innovative relationship between actors and structures [111].

English-speaking geographers and planners were probably more exposed to Giddens's theory owing to, first, his prolific publishing in their language; second, critics' equally rigorous publishing about him and his theory; and finally,

his unique capacity for debating his critics in print. In particular, a geographer then at Cambridge University UK, published an interview with him exploring their mutual interests in understanding behaviour in space and time [112].

Giddens's structuration theory innovatively resolved a long-standing division in the social sciences between 'micro' approaches, which focused on the behaviour of individual human beings; and 'macro' approaches, which emphasized social structures and relations at the expense of an understanding of the human subject. Structuration theory acknowledges that human beings are thinking and knowledgeable agents, who possess consciousness about themselves, their own behaviours or activities, and the activities or behaviours of others. The theory however also acknowledges the occurrence of activities in a reality where previous actions have contributed to the formation of virtual social structures above and beyond the individual.

Those social structures may be referenced as enabling individuals, groups of individuals, or even collectivities of individuals to do what they want. Conversely, those social structures may impinge upon them in constraining them from doing what they want. This so-called duality of structure has a dynamic circularity where (in no particular order) human actions contribute to formation of those abstract or virtual social structures; and the (un-) knowingly-referenced structures enable or constrain those human actions.

The purpose of this discussion is to illustrate how core structuration concepts (inserted in single quotation marks) may 'sensitize' a researcher as to how people could or did act in general; that is, at what is called an 'ontological' level. Note therefore that structuration theory is a 'second-order' theory and does not prescribe a specific course(s) of action in a particular situation; that is, at an 'ontic' level. Consequently, a supplementary 'first-order' substantive theory is always required about human behaviour in a particular situation, such as that discussed in the previous sections for explaining why schools close, and why residents get upset.

In structuration theory, residents are social 'agents' or 'actors' who will think about their school's closure, and thus, they would be 'reflexive' about it. They may reflect from within

their 'practical consciousness', about how they should have reacted earlier to social trends culminating in declining student enrolments. They moreover should be able to share their feelings, from within their 'discursive consciousness', about the closure with friends and neighbours. They may be sad or angry about it voiding a period of their or their children's childhood, and thus negating their personal 'ontological security'. Even ex-residents who are 'time-space distanced' because they live far away, may think as an 'absent' as opposed to 'present' actor about contacting residents or the authorities to fight the closure.

Also in structuration theory, social actors who reflect on what they do, and what others do, will activate 'virtual structures' that have entered into their understanding about ways of acting or not. These structures embody not only the social and legal/legislative 'rules' of individual behaviour, but they also provide concrete 'resources' for actions. For example, as hypothesized in a previous section, parents and guardians will have 'authoritative resources' enabling their involvement in children's education as a reward for meeting their legal obligation to educate them. Taxpayers will have economic 'allocative resources' from financially supporting their own school district instead of another one; and political ones from their voting of trustees onto the school board.

Even so, most residents fighting a school closure may be constrained in their involvement by the legal/legislated procedural 'rules' for a review that were summarized in the previous section. Moreover, the 'rules' of social decorum in private and public interactions with school board trustees and administrators may postpone further public action until the review is essentially finished. Indeed, inexperienced community representatives may not realize the social constraints on them from the previous actions of school administrators and residents. These previous actions may have created and routinized the conventional rules and resources for either making a closure decision, or fighting it. Subsequent social actors will internalize, utilize, and refine what they judge are the most useful of these rules and resources in their actions. During the course of this, they (un-) intentionally reaffirm these rules and resources, and therefore reproduce social relationships within the particular situation. This 'duality of structure' therefore explains the virtual origins of social constraints upon residents in a school closure

review as being in their own and others' earlier behaviours.

For example, as previously mentioned, residents' criticisms as well as those of administrators have been behind an evolution in the procedures for closing a school from a committee-based process to a corporate model, or vice versa. In this case, the structurationist's interpretation would be that residents (un-) intentionally helped administrators to define the useful 'rules' and 'resources' during a closure review. Another example is if residents have agreed with administrators about a school's closure solely impacting students and their parents and guardians – and thus not impacting other neighbourhood residents. The structurationist's interpretation would be for parents and guardians to have (un-) intentionally excluded individuals who may have different 'resources' from their aforementioned authoritative ones as parents or guardians.

As clarified in the next subsection, empirical analysis with structuration theory is complicated by the interdependence between the individuals (un-)involved in a closure review, and their (in-) effective actions if they are in this duality with their rules and resources. It is clearly difficult to know where to break into this theoretical duality for analysing behaviour. Individuals may have become more involved either if they can instantiate more rules and resources for their involvement, or vice versa. For this and other reasons, few geographical or planning applications of structuration theory have analysed a duality of structure.

5.2 Empirical Applications of Giddens's Structuration Theory

Structuration theory has nominally been applied in a wide range of social and human science disciplines. Even so, most geographers and planners have avoided engaging with theoretical and methodological reservations about the core concept of a duality of structure [113]. Only three of 25 geographical or planning applications measured a duality of structure in their analyses; and only two of these had a spatial duality of structure. The latter is where an area's geography created by human action has become a structural enabler or constraint for future action. This, for example, is illustrated by the locations of licensed group homes where a planned minimum distance between them ultimately reinforced clustering in the inner city [114].

Four further geographical or planning applications were constrained by their data from observing a virtual duality. They thus confirmed a methodological reservation of the theory. This reservation revolves around what sociologists call ethnographic data from in-depth surveys or diaries of individuals. The reservation is about the unstated requirement of these data through time or space for observing, first, actors' instantiation of structural rules and resources; and second, those structures enabling or constraining their or others' behaviours, and so on and so forth.

Similarly, two additional geographical or planning applications confirmed a theoretical reservation by measuring an agency-structure dualism in which structure overpowered agency, or vice versa. This reservation is that virtual structures may not apply to all spatial behaviours if structural contexts for them endure in time and space, regardless of whether reconstituted by specific individuals in specific encounters.

These aforementioned applications are among 22 authored by geographers or planners, or published in geographical or planning journals between 1982 and 2000. These and an additional 31 potential empirical applications of structuration theory were found by means of electronic and manual searches of English-language journals, chapters in books, and books published during that period [115]. A subsequent update of electronic and manual searches as of mid-2008 found potential applications in an additional 27 journal articles, of which three were written by geographers or planners [113].

On the one hand, geographers and planners have applied structuration theory to a wider range of topics than imagined by Giddens – although he himself only illustrated its application in re-interpretations of others' earlier non-structurationist research, as have done two more recent theorists refining his version [116,117]. He thus may have imagined regional transformation as the topic of six of 25 applications. For example, a post-communist city's spatial organization was being transformed by residents' reduced travel from their new suburban locations into its former core area [118].

On the other hand, five possibly-unexpected additional applications have been about housing and land-use development. For example, a neighbourhood's physical and social decline might accelerate if disreputable loan sharks and

slum lords moved in to cater to disadvantaged residents including undocumented immigrants [119]. And three more applications were about each of plant or school closure, or job or home loss or gain.

In sum, geographers and planners' applications appear to have confirmed at least two hypothesized practical limitations of structuration theory. First, they have applied it more for interpreting the formal spatial behaviours of individual people; and less those of groups or collectivities such as nation states and social movements; and none of either's emotionally- or culturally-motivated or sanctioned behaviours. For example, 14 of 19 applications with empirical analyses analysed ethnographic data from in-depth surveys or diaries of individuals; while the five exceptions tended to analyse collectivities as individuals. Second, their types of studied behaviours were observable formal social interactions, usually in modern settings, rather than in socially- or economically-developing ones.

Finally, geographers and planners' recent applications of structuration theory have declined not only in number, but also in 'quality', especially in comparison with the recent 12 published by information technology and organization researchers. That is, two recent geographical or planning studies are similar to eight earlier ones in applying no structuration concepts. Furthermore, the third recent application resembles another eight earlier applications by referring to other structuration concepts than the core one of a duality of structure.

5.3 Who Will Be Involved, or Not

If generalising from letters written to the editor of a local daily newspaper about a particular review of schools, then most residents involved in a school closure review will be parents or guardians of children enrolled in a reviewed school [109]. These men and women, together with their children who are probably too young for direct involvement, have the most socially- and economically-invested in this school. Women's friends may be found there as well as their children's friends; and they may have participated in fund-raising for it. Both women and men may have personal experience with its quality of education after visiting facilities and speaking with children and educators. They receive newsletters sent home from school with

early notifications of schedules and meetings. Men may more likely defend the school as a concrete benefit of property tax payments.

Parents and guardians who have met their legal obligations to educate their children are consequently entitled to involvement in decisions to close their school. If this becomes the sole entitlement for involvement, however, then representatives of other groups may be excluded or at least marginalized. Usually so excluded are elected and administrative representatives of municipal and higher-level governments, including community planners. In any case, cautious or inexperienced community representatives may not alert these professional and academic experts if they are unacquainted with them or their work. Last, school principals, teachers, and support staff will have dual allegiances to a school and to administration, and so, they may naturally decline involvement until assured of transfers within the school system [120].

An exception to this exclusion of almost everybody else from a closure review occurs where school supporters, including those without children, have selected a system for either a particular religion taught in its curriculum, or its language or ethnicity. In Canada, for example, publicly funded and administered Catholic separate schools provide religious instruction in that faith. These schools in pre-closure eras were located adjacent to or near to places of worship, and with attendance areas aligned with parish boundaries. Catholic separate school boards are therefore obliged to listen to concerns about closures accelerating declines in congregations. They may especially have to do this if their closed schools are transferred to another (secular) system in which their students can enrol.

5.4 What Can Be Done

Residents probably nowadays begin their formal involvement in a closure review when participating in joint educator-resident committees. Their formal involvement correspondingly finishes with the writing of a brief on behalf their school, as proposed in the next subsection. In between, they may also engage in public advocacy by writing letters to the editor of a local newspaper, and in private lobbying of politicians and administrators.

The effectiveness of private lobbying of trustees and administrators is difficult to assess as it occurs behind closed doors, although schools are apparently easier to close in the absence of it [89], and community-minded trustees must appear to be responsive to it [27]. Furthermore, as also mentioned in a previous section, trustees representing neighbourhood wards should be more effectively persuaded than those elected for the district at-large. Residents may however be falsely reassured by the private receptiveness of trustees, administrators and/or educators to their concerns, so that they unwisely plan for a similarly cordial and equitable hearing in public.

Ironically, residents' public decorum during a brief closure review may forestall the mobilization of protest rallies, demonstrations, picketing, and strikes/keeping children home from school [27]. Public political actions and voice threats, including complaints about unfair review procedures, are postponed until after a board's decision against a school is either announced during a public meeting, or suspected after a closed meeting.

Similarly much later postponed are opportunities for exercising voice threats. Transfers of children and property tax payments from one board to another are not perfunctory, with possible requirements for tuition fees, and definite paperwork and notice for a request. Moreover, transfers will probably be delayed until the beginning of the next school year. The act of not voting for a disloyal trustee will have to wait even longer until the next municipal election. Hence, residents can more easily talk or write about their allocative political and economic (tax) resources as bases for action during a closure review. School boards however will know about the legal rules constraining them from exercising those resources until later.

These constraints notwithstanding, especially parents and guardians will have more first-hand and up-to-date experience than officials can possibly have about students' education in a school, and the intersection between this and the local community. Residents' personal examples of these knowledge resources may therefore be featured in ideal written or presented briefs on behalf of a school, as proposed in the next subsection. Note however that multiple briefs exploiting these plentiful knowledge resources about the same school should be edited and coordinated to save authors from repeating each other.

5.5 How to Write and to Defend a Brief

An ideal community brief will start with the author's establishing his or her entitlement for writing it and expecting it to be heard and considered. As mentioned, most authors will be parents or guardians who are writing on behalf of their children. However, grandparents or other family members may have similar personal knowledge about affected students.

An author may however resist focussing upon personal and student inconvenience of a school's closure. Even students who are disabled or have special needs may be expected to ride a city- or school-bus if farther than a maximum walking distance from school. Furthermore, an author should not mistakenly presume everybody's agreement with an inference about a school's closure harming a neighbourhood. As already mentioned, this inference is not persuasive for a school board whose administrative jurisdiction extends only as far as the schoolyard. Moreover, as clarified in the next section, closed schools frequently reopen as schools without a neighbourhood function after a transfer or sale to a different system.

A brief may remind about a school's historically-successful graduates; the community support for its current educational quality; and its better future with growing and in-moving families. An ideal community brief should, however, critically analyse the application of the factors in the school board's policies for deciding whether to close a school or not [12]. It should not only criticise a board's application of data to the closure factors, but it should also try to contribute new information or data about the school not collected by the school board [27]. Criticisms alone may provoke the school board as owner of private data into retaliating by exposing everybody else's inexperience with analyses of its data.

In general, residents should attempt to exploit their more intimate knowledge of a school and its neighbourhood in collecting or requesting custom data or information. A school board may have to be put into the position of providing data that are either inaccessible to residents, or too time-consuming for them to collect. For example, school board data about current enrolments and facilities will be assumed as accurate, but they may be out-of-date for a review year. Even more so, data about future enrolments may not count families who have moved into the

neighbourhood, especially into new housing developments. Furthermore, new students may not be included in projected costs of post-closure busing. Note that survey data about in-migration and neighbourhood change is much more compelling than is anecdotal evidence.

In conclusion, the reality is that few community residents will write more than a single brief on behalf of a closing school, whereas school board officials will eventually have read or listened to dozens of these briefs. Residents should therefore be prepared for officials' tried-and-tested answers, possibly utilizing their proprietary data and analyses, for refuting community criticisms of a decision to close a school [90, pp 1616-1617]. Residents should further be prepared for deflections of their criticisms as being outside a school board's administrative jurisdiction. For example, if residents criticise a school's closure as hollowing out their neighbourhood after the loss of its social focal point, the answer may be that the school board is not a community planner. Relatedly, they should be prepared for simple solutions of safety or supervision concerns outside the schoolyard. For example, if residents complain about young children having to walk across busy streets to their farther recipient school, the answer may be to promise an assisted crosswalk program for students.

In other words, a resident's writing/presenting and defending a brief on behalf of a school is not an easy task, although this may ultimately be his or her most personally-satisfying action during a closure review. Besides, a written brief will be useful for future community representatives if it lives on as a written or electronic historical record about how somebody else fought against their school closure successfully or not.

6. HOW TO FIGHT AGAINST A CLOSED SCHOOL'S PROPOSED REUSE

Action is required during this final stage if a school was not saved from closure, and its proposed disuse or reuse may be a new source of conflict [29,121]. Vacant schools were frequently disused in the past, except possibly for storage. Nowadays, school boards similarly to other public and private organizations are financially motivated to quickly and permanently dispose of their disused facilities and small sites [5,122,123]. Sales as opposed to leases terminate the responsibility and expenses for ongoing maintenance and security of mothballed

buildings. They may also generate substantial one-time revenues [124].

School boards however may have a unique legal constraint on disposing of surplus property [77,93]. They may only sell surplus property to private owners after first offering it for sale or lease to other governmental and public organizations at fair market value. This process promotes not only different types of reuse than those of comparable private land (cf. [125]). It also promotes different timings of reuses, with temporary reuses preceding certain permanent ones.

Popular combinations of the types, timings, and methods of reuse are illustrated with an analysis of 52 closed public and Catholic separate schools in Windsor, Ontario [25]. Sixty-percent of closed school properties in Windsor have been sold to private owners, with one-half of those being reused for housing. This reality is quite different from a historical 'community preferred' one for long-term reuse of a closed school as either a community centre in public ownership, or another neighbourhood school [126-131].

6.1 Types, Timings, and Methods of Reuse

If further generalizing from Windsor, then fewer than a handful of closed schools will be disused at any particular time in a district; and those in the majority of reused ones will have five basic types of reuse. (1) An educational reuse is a school for children or adults by either a public or private educational organization – where the latter conversion to private schooling is more common outside of Canada [15]. (2) Private or public housing may be constructed with either a conversion of an existing building, or a redevelopment, or a combination of both. (3) Examples of institutional reuse are an office building, a place of worship, a museum, or a medical care facility. (4) A community reuse is either a municipal-owned and operated building, such as a community centre, or a site redeveloped as a park. And (5) a commercial reuse is either an adaptive reuse or a redevelopment for retail or industrial services.

While approximately one-quarter of all of Windsor's closed schools have been reused for housing, a possibly-surprising slightly-larger proportion have reopened for educational use by a school board as its original or new owner. These educationally-reused schools would have

been designated for this during closure reviews, as most received it as their first reuse within one year of closure. Approximately one-half of them have been redeployed for non-neighbourhood educational programs within the system closing them, such as for French immersion or adult education. The other one-half have similar non-neighbourhood educational uses after either transfers to different school boards, or educational organizations such as a university; or sales to private organizations.

These reopened schools are simple reuses with few interior and exterior alterations of buildings and sites. They in particular have the same exterior appearance as had the pre-closure one. Their special educational programs are however designed to serve more students than in their neighbourhoods, and so, few local children may initially attend them. The vast majority of their young or adult students now arrive and depart in school buses and private motor vehicles from across the city.

Another approximate one-quarter of all closed schools in Windsor have institutional uses. Some of these are simple reuses, such as for community centres, offices, or places of worship serving clients from outside their neighbourhoods. Others are adaptive reuses with either major interior renovations such as for a senior's centre; or major exterior alterations such as additions for a hospice. These however have illustrated how simple and adaptive reuses may have changeable 'temporary' types of use through time. In Windsor, for example, four closed schools with an institutional first reuse have now been adapted or redeveloped for housing; whereas two current institutional reuses were first reopened as schools. An institutional or educational reuse might therefore not be permanent until it has had significant reinvestment in either adapting it with additions, or redeveloping it with demolition of buildings and site clearance, both of which would require planning permission, as mentioned below. In comparison, visibly-permanent land use change occurs after not only the infrequent redevelopments for commercial or industrial services, but also the more popular ones for redeveloped and adaptive private housing.

Most housing reuses in Windsor are redevelopments as new single-detached houses along one side of a street inside the existing road and utility network. Two anomalies are a high-rise apartment building and a complex of

townhouses, but these were permitted with special government funding and planning regulations during the late-1980s. A minority of three older-style schools and one modern-style school have been adaptively converted to apartments or condominiums.

Permanent housing reuses have historically been the most delayed, as they generally have been built after a median post-closure lag of nine years. One particular reason for this delay in Windsor has been the recency of especially single-detached housing on some of the earliest closed school sites. Meanwhile, these sites were never disused, and their temporary reuses as either a school, an institution, or a community centre would not have required new permissions from professional planners. In contrast, permanent reuses for houses and some institutions would require a rezoning of the property, about which residents should be notified. Hence, another reason for delayed housing reuse is the inability to apply for this planning permission until after a school's closure. This coincidentally would enable a school board's deflections of criticisms during a closure review, for example, about its closing a school for sale revenue from a land developer, and then its aggravating nearby residents' loss of their school with a major construction project.

6.2 Rezoning Process

A rezoning is a formal planning procedure for, first, notifying residents about proposed land use change in their immediate neighbourhood; and second, inviting their concerns about it before any change occurs. The zoning of a parcel of land prescribes the permitted types of uses of it, and the basic regulations about each use's coverage, bulk, and location on the legally-defined lots [132]. Most school sites nowadays are zoned as permitting institutional uses. These may vary from one municipality to another – but in addition to a school, they should include a place of worship, a day nursery, a business office/facility of a public authority/non-governmental organization, or another educational institution. A rezoning from institutional to a more appropriate designation is therefore required for four aforementioned popular reuses: namely, the conversions of a school building into public or private dwelling units, or offices; and the redevelopments of a site as a small subdivision of new houses, or offices, etc.

When an application for a property rezoning is submitted, the residents within a specified distance, such as 120m, will be notified by mail if they are on the assessment rolls; and these notices are also published in the local newspaper. A public meeting of the Planning Advisory Committee (PAC) in municipalities in Ontario is a primary forum for residents to speak about a rezoning application. They may attend a subsequent city council meeting, and appeal to the Ontario Municipal Board (OMB) as a last resort.

The OMB was created as an adjudicative tribunal in Ontario, Canada, in 1897. In particular since 1932, it has heard the appeals of individuals, organizations and municipalities against land use planning decisions in the province. The OMB publishes the reports about selected cases during each year from among the hundreds that are decided. The precedent-setting cases and decisions about the reuse of sites (some of which are cited below), may be referred to outside of Ontario. An OMB decision may only be appealed to the provincial minister for a procedural irregularity.

A more locally-responsive PAC is composed of elected city councillors, and other residents who are appointed by the city council. They review planning reports on behalf of residents, hold public meetings, and make recommendations to city councillors who will make the final decision. In particular, the PAC will receive a report from professional community planners with their own opinions about the rezoning application, plus those of representatives of potentially-interested municipal departments and agencies. The subject is no longer the closure of the school, but rather the planning of the proposed reuse in relation to the policies and regulations affecting the building and site, and the effects of the alterations on the municipality and its residents. Planners will explain during a rezoning process how a tool called site plan control can mitigate the objectionable environmental and social effects of a proposed land use change.

6.3 Residents' Concerns about Reuses

An application for a rezoning will normally be approved if a proposed type of (re-)use is compatible with both the types of surrounding land uses and the policies for them in the municipality's official plan [133]. Conversely, a rezoning may be denied if it applies for a type of land use that is nowhere near the site, and thus

would require a more complicated amendment to the official plan. In particular, a closed school site rezoning should be compatible with the planning policies that encourage the reuse, development, or redevelopment of institutional lands or buildings for other uses. Low-density housing usually surrounds schools with the exception of some of the oldest ones. Rezoning a closed school site to residential use is therefore a simple planned alternative to preserving it as an institutional use.

As already mentioned, the Ontario Municipal Board (OMB) has standardized the planning principles for small-site reuse in at least one province. This standardization has basically established the environmental and social limits for residents' tolerance of potential land use changes. Residents fighting a closed-school's reuse must therefore be able to object to its intolerable potentials for creating traffic; environmental deficiencies; loss of open space; activity conflicts; and/or crime and disorder [134].

For example, some reuses of a closed school after a vacant period may restore the levels of traffic and parking congestion to those on pre-closure schooldays, especially in the interior of an older urban neighbourhood along narrow streets with few driveways. Planners will use site plan control for locating entries to and exits from the property in order to properly circulate the traffic. A site plan control will similarly designate an area for off-street parking with a minimum size as prescribed by the regulations in the zoning bylaws. For example, most adaptive housing reuses do not create a large number of new dwelling units (up to 20 in one Windsor example); and so, an unobtrusive off-street parking lot can provide the minimum-required area at 1.25 spaces per unit. This capacity, however, probably only satisfies an anachronistic legal minimum for modern levels of car ownership.

Overflow of parked or mobile vehicles of residents, visitors, customers and suppliers on neighbouring streets is one potential environmental deficiency of a reuse [135]. Others include its appearance, noise, airborne particles, vibrations, and water effluent. Once again, a site plan control will attempt to mitigate these external effects for neighbours by means of the locations of the loading areas, the landscaping and the manufactured buffers. Also, unless the storm and sanitary sewers are old and were previously overflowing, engineers may testify

about their capacity for a lower number of permanent new residents than the daily number of students who attended the school [136]. In one Windsor example with old storm sewers, a system for the retention of storm water on the site of the closed school was designed that solved a neighbourhood problem. This type of retention system might also work if a redevelopment expands the impermeable area of the lot farther than may do an adaptive reuse.

Another reason for residents favouring a simple or adaptive institutional reuse is its preservation of open or playground space around the closed school. In comparison, adaptive housing reuses may encroach onto this space in order to provide the minimum parking lot; and worse, new houses and institutional buildings may pave over most of it. This loss may furthermore cause a local deficiency in open space that is conspicuous when a school property adjacent to municipal land had supplied an effectively-larger neighbourhood park. Even so, this local loss will not justify denying a reuse unless the under-provision of open space is more extensive. A local anomaly in open space will not be remedied if the standard for measuring the provision of open space is the amount for residents across a larger neighbourhood or district [137,138].

A reuse's encroachment upon its neighbouring houses and buildings, and its traffic and parking congestion will heighten the potential for conflicts between the activities of its residents or customers, and those of its neighbours. Residents who are next-door neighbours often have minor conflicts about such activities as the use of backyards, the parking of vehicles, and the behaviour of pets. These minor user-conflicts are hopefully resolvable as a cost of urban living that is outweighed by the saving from proximity and intermixture of land uses [139]. By analogy, this is why schools are located as ancillary uses inside residential neighbourhoods, even though residents may especially complain about high-school students' activities conflicting with theirs. Realistically, therefore, if a school and its neighbours had some user-conflicts while it was open, its reuse cannot be disallowed unless its activities are significantly worse.

A site plan control will also address most personal safety concerns arising from a reuse's physical arrangement of buildings, landscaping, and roads so that it is no more dangerous than it would be in a newly developed neighbourhood. Moreover, some fears about personal safety are

a special class of activity-conflicts based on the imagined criminal and disorderly activities of in-moving residents or visitors. These fears may be prejudicially and unfoundedly correlated with the social and economic character of the in-moving people. These are not valid planning reasons for denying otherwise permissible rezoning [140].

In conclusion, a closed school's simple or adaptive reuse as a community centre, a reopened school, or possibly an institution continues to be the most palatable for everybody during a closure review: Each of these reuses may look and function almost the same as did the closed school. They may have similar numbers of clients or students as before. They may retain neighbouring green space. Nobody else's permission for a reuse is required, and so, it can start as soon as the school closes.

Nevertheless, findings from Windsor, Ontario, have cautioned about their eventual liabilities. A simply-reused community centre or institutional use is now even more likely to be temporary when it cannot be staffed and maintained by a municipality or a charitable or private organization due to financial constraints. A reopened school is more likely to enrol students who drive or are driven from outside its neighbourhood in vehicles that create traffic gridlock twice a day – and it may be closed again if it is for specialised education. Similarly, an institutional reuse's citywide clients may create traffic throughout the day.

In comparison, low-density housing has been the most popular type of private reuse of closed school sites in Windsor. This reuse may become more popular in the future if school boards want new schools as opposed to old reopened ones, and government and organizations cannot afford to operate ancillary facilities in the long term. Housing is a controversial reuse for residents even though it should rarely include high rise buildings. It is also uncertain if a planned adaptive or redeveloped housing reuse cannot be confirmed or denied during a closure review. This section has explained the difficulty for residents' fighting against private housing as a proposed reuse unless they can fight against the characteristics of that reuse. Residents should therefore exploit the standardized principles for small site reuse in order to reduce the number, height and bulk of proposed single detached houses, to minimize paving of the lots, and to direct traffic etc. Participation in a rezoning process in this way should help to produce an

infill of low-density houses on a closed school site that eventually blends into a neighbourhood, as this is what has happened with time at least in Windsor.

7. CONCLUSION

Relatively few residents with children will have been immune from personally experiencing the review of a school for closure since the 1970s. Even now, schools are not only continuing to be closed as they have been in the past, but the reviewed and closed ones are also becoming less predictable. Closed schools are not necessarily the oldest, smallest, or most poorly located.

If residents truly value nearby education for their own and others' children, then they should start early preparations for fighting for their school. For example, old school-board reports or plans could be read in search of alerts about schools being monitored for declining enrolments, aging buildings, or other closure factors. These alerts should motivate the timely completion of Table 1's spreadsheet of closure savings and costs.

Then, residents could publicly and privately lobby local trustees and administrators about mitigating further deteriorations in the 'quantity' and quality of education. Possible mitigations may range from demanding repairs, renovations, and improvements to a school's buildings and site for modernizing its appearance and function; to proposing new urban development of vacant neighbourhood land for accommodating new in-moving residents. Note that requesting a specialized academic program for the school may not help unless students are permanently counted in the regular in-district enrolment.

Last, residents could try to dispel rumours of closure for not only current neighbours, who may react by moving out of the neighbourhood, but also representatives of future residents, such as realtors, who may begin not recommending moves into it. Residents could early-on also spend time contacting community representatives and/or non-aligned experts with more experience of closure processes.

Even so, the time required for these activities prior to the scheduling of a review may extend too long for a single resident. It may extend from before his or her children's enrolment in a school, to after their graduation. Realistically, therefore, fighting armed with the information in this study

may more frequently occur after a closure review has been scheduled.

This lateness of involvement will correspondingly reduce time for preparation, but the information in this study may nevertheless help to relieve a school from closure especially if a school board is not yet experienced with closures. For example, an inexperienced or indecisive school board could make a political error of simultaneously reviewing several schools; or an economic error of not having irrefutable closure savings; or a procedural error in its decision making. Under these circumstances, community representatives may be more effective in criticising the economic savings from closure in relation to the costs of it; requesting strategic missing data; and/or involving representatives from other organizations.

Notwithstanding, school boards in my experience are usually successful in eventually closing a reviewed school, even though they may have to review it more than once, and many years apart. Rare judicial reviews of school boards' closure decisions at least in Ontario have not rescinded closure decisions, and have at most ordered do-overs of closure reviews. Most school boards have now closed so many schools over long periods of time. They have learned, for example, to delay their closures to eliminate any economic arguments of the community; to amend their procedures for closures to minimize public conflict; and most recently, to close several neighbouring schools in exchange for a new school on one of the sites. Even so, residents and those assisting them should know after reading this study how not to expedite a school's closure by their own actions. Besides, reading this study after a failed fight against a closure should reinvigorate affected residents for more effectively fighting against a school's type and timing of reuse. After all, this reused school or site is the one with which residents will have to live for the foreseeable future.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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