

**A Case Study in Planned Growth: An Evaluation of a Proposed
Elgin IL Annexation and Developments in the Context of Smart
Growth and New Urbanism**

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Introduction

This paper arose from a case study of a proposed annexation and development on the borders of Elgin, IL., in Kane County, one of the fastest growing counties in the Chicago Collar County region. As a *pro bono* consultant to a citizen's action group opposed to the annexation, Preserve Campton, I initially prepared an analysis of the plan submitted by the developer to the City of Elgin. I also live in Campton Township, the targeted area for this development, and over time, became a more active participant.

My first report to our group assessed the accuracy of the developer's projections regarding fiscal impact and its consistency with Elgin planning guidelines. I also evaluated the plan using general principles of 'smart growth' management. This case study also raises issues of how smart growth principles can be applied, or misapplied, to manage "Edge City" growth into prairie and farmland.

In this paper, I review and evaluate the principles of "Smart Growth" and "New Urbanism" designs often used to plan and legitimate new urban fringe developments. I suggest a multidimensional model to evaluate proposed plans that takes into account environmental, fiscal, and social institutional impacts generated from new developments. Smart Growth principles are designed to reduce 'sprawl', so that concept is reviewed. The proposed plan is then evaluated using the suggested model. First, the basics of the plan and its context are presented.

The Elgin Comprehensive Plan

Elgin is an edge city of Chicago with a 2000 population of 94,487 and an estimated 2004 population of 97,761. Elgin lies approximately 50 miles from downtown Chicago and 25 miles from O'Hare airport along the Northwest Tollway, I90. In 2004, Elgin released its public draft of its comprehensive plan projecting Elgin to become the 2nd largest city in Illinois, increasing its 2000 population from 94,487 to 162,416 by 2030. Nearly all of this growth is occurring west of the city, primarily because other suburban towns about Elgin in the other directions.

[Insert Figure 1: Boundary Map of Elgin and Surrounding Municipalities Here]

The Elgin initiative can be understood in part as generated by the competition with other communities in the area and the fragmented regional planning characterizing the area.¹ This entire area, the far west Chicago Collar County area, is targeted for rapid development over the next two decades. Campton Township, a central largely unincorporated area in Kane Co. that borders Elgin township is projected to have its population increase from its 2000 figure of 14,072 to around 30,000 by 2030.

The Stony Creek Development

In Nov. of 2004, Residential Land Fund, a speculative land developer, submitted an annexation petition to Elgin requesting the annexation of 602 acres lying in a southwest area that was outside the outline of the original Far West Plan. The land in Campton Township, an unincorporated area, was partly agricultural and partly land owned by the Glenwood School for Boys, a large residential-educational charitable schools serving children from low-income single-parent families.

Nearly as soon as the Stony Creek development and annexation petition were made public, a citizen's group, Preserve Campton, formed in order to study, and eventually oppose this development (<http://www.preservecampton.org/>). From Nov. 2004 until Aug. 10, representatives from this group stalked the proceedings and contributed to over 24 hours of testimony transcribed

in over 1,000 pages before the Elgin Planning Commission. On Aug. 10, the annexation petition was finally heard by the Elgin City Council. No other annexation petition or development plan ever generated as much controversy as did the Stony Creek plan.

Smart Growth and New Urbanism Principles and Elgin's Implementation of Principles

Smart Growth principles are designed to manage the impact on the environment, to foster communities, and to accommodate increased population without 'sprawl'.² New Urbanism community designs are used to create 'small town' life styles with urban amenities, reduce reliance on the automobile, create a 'sense of place', minimize the impact on the environment, and reduce sprawl.³ In this section, I briefly list the principles which will be used to evaluate the planned Stony Creek development.

The dual approaches of Smart Growth planning and New Urbanism design are designed to minimize urban and suburban sprawl. Sprawl is often equated solely with housing densities, but it is a more complex concept than simple household density. The most systematic effort to objectively measure the extent of sprawl uncovered four dimensions of spatial patterns that characterize sprawl:

1. Low Development Density – to combat sprawl, urban type densities are preferred, densities more like the rural villages of the early 20th century before reliance on the automobile.
2. Segregated Land Uses – bedroom communities (uni-functional) are not as desirable as mixed use areas where residential, occupational, commercial, leisure activities can be found at a central site.
3. Lack of Significant Centers – urban areas are characterized by tight clusters of central destinations where social and economic interactions are dense; sprawl is characterized by the absence of centers for multi-purpose activities. There is correspondingly no "sense of place", or identification with a place and belonging, and the necessity of making multiple trips, usually by automobile, to perform normal activities.
4. Poor Street Accessibility – sprawl areas lack integrated street networks and access to major arteries and thoroughfares, as well as the capacity for mass transit solutions.⁴

General Smart Growth Principles⁵

- "1] Development is economically viable and preserves open space and natural resources."
- "2] Land use planning is comprehensive, integrated, and regional."
- "3] Public, private, and nonprofit sectors collaborate on growth and development issues to achieve mutually beneficial outcomes."
- "4] Certainty and predictability are inherent to the development process."
- "5] Infrastructure is maintained and enhanced to serve existing and new residents."
- "6] Redevelopment of infill housing, 'brownfield' sites, and obsolete buildings is actively pursued."
- "7] Urban centers and neighborhoods are integral components of a healthy regional economy."
- "8] Compact suburban development is integrated into existing commercial areas, new town centers, and/or near existing or planned transportation facilities."
- "9] Development on the urban fringe integrates a mix of land uses, preserves open space, is fiscally responsible, and provides transportation options."

Principles of New Urbanism Design

New Urbanism designs emphasize densities that are able to sustain multiple uses of land, develop a sense of community or place, and prevent sprawl. These dense, multi-use plans are most appropriate for satellite communities close to Edge Cities. The prototype of this village development is Celebration, FL., The most successful communities incorporating this design are in the Portland, OR area. These dense developments are clustered around light transit sites and multi-functional commercial developments. They replicate small village and city life with enough

population to support retail and commercial, as well as cultural and recreational activities.

Lower Dependence upon Automobile Transportation
Multiple Use of Land
High Density
Sense of Place

Elgin Principles of Smart Growth

Section 3 of the Elgin Comprehensive Plan lists 10 synthesized principles of Smart Growth and New Urbanism that should be reflected in new developments:

1. Create a Range of Housing Opportunities and Choices.
2. Create Walkable Neighborhoods.
3. Encourage Community and Stakeholder Cooperation.
4. Foster Distinctive, Attractive Communities with a Strong Sense of Place.
5. Make Development Decisions Predictable, Fair and Cost Effective.
6. Mix Land Uses.
7. Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas.
8. Provide a Variety of Transportation Choices.
9. Strengthen and Direct Development Towards Existing Communities.
10. Take Advantage of Compact Building Design.

Multidimensional Evaluation

In my review of planning and impact literature, and of several consultant impact reports evaluating specific developments, I found that most evaluations of proposed developments had the highest validity when assessing the technical conformance with existing ordinances, were slightly weaker in assessing accurately the fiscal impact of the new development, and were the weakest in assessing the dimensions of sprawl and environmental impact. These aspects: sprawl, environmental impact, and alteration of the quality of life, are the most subjective aspects and hardest to quantify. They tap, in part, the aesthetics of living in a particular area. A multidimensional approach to evaluating the impact of proposed developments, I argue, has to consider at least 6 major domains. Developments can be evaluated by:

1. Consequences for Sprawl
One needs to be skeptical of rhetorical conformance with smart growth principles which can be manipulated or masked to sustain or even increase the rate of suburban development that removes productive agricultural land and open space.⁶ Densities alone are not determinative of 'sprawl' assessments. One needs to evaluate other dimensions as well.
2. Environmental Impact
Threats to physical environment. Added burden of new development on land use and natural resources. (Brower & Leon, 1999.)
3. Fiscal Impact – Institutional Impact. Each development impacts not only the municipal government, but related social institutions: schools, health care, other public services.
4. Transportation. The concept of sprawl evaluates the extent to which transportation alternatives are available to lessen the dependence on the automobile.
5. Sustainability – A dimension of the environmental impact, but worth considering separately as it focuses on the future, and as such, involves more assumption and a different methodology.

Development is highly regulated by local and regional planning commissions. However, most of these planning commissions focus on compliance with technical ordinances and zoning qualifications. Each planning area has a general statement of long term growth principles and specific objectives. In Illinois, none of the regional long term plans are legally binding on local jurisdictions.

A Case Study: A Detailed Description of the Stony Creek Plan

Proposed development plans typically follow a general outline. The density and form of the development are presented. Based on the proposed housing stock, population projections are made. Based on population projections, revenues and expenditures for governmental units are estimated.

This section briefly describes the Stony Creek development as presented in the document, "Fiscal Impact of Development: Impact of a Residential and Commercial Development to the City of Elgin, School District #303 and School District #301," prepared by Strategy Planning Associates, Nov. 4, 2004. This plan is initiated by the Residential Land Fund I, and will be referenced as the RLFI plan⁷. The planned developments are Stony Creek East (Putze parcel – Ryland Homes) and Stony Creek West (Glenwood School parcel – Dartmoor Homes).

The first part of the report assesses the compatibility of the RLFI plan with Kane County and Campton Township long range plans. Section 1 of the Elgin Comprehensive Plan states: "The growth management strategies for Elgin's planning area are generally consistent with those described in the Kane County 2020 land resource Management Plan and in the proposed 2030 update to the Kane County Plan."⁸ The central focus of my review will be on density and compatibility with these articulated land use planning principles. The second part evaluates the projections made in the plan, specifically those regarding revenue and cost estimates to Elgin.

The key aspects of the RLFI plan reviewed include the following basics:⁹

Stony Creek West (Glenwood site)
373 total acres
600 homes on 186 buildable acres
122 acres open space (33%)
65 acres right of way
Stony Creek East (Putze site)
229 total acres
372 homes on 122 buildable acres
70 acres open space (31%)
37 acres right of way

Original Plan

Total: 972 single family homes on 602 acres (308 buildable acres)
3,575 residents
1,026 school age children
653,400 ft² office/retail (15 acres), of which 392,040 ft² are sales tax generating establishments.

Updated Plan reported in Camiros memorandum.¹⁰

Total: 960 single family homes on 602 acres (308 buildable acres). The distribution between Stony Creek East and West is not specified in the Camiros memorandum.
3,540 residents
1,067 school age children (594 in district 303; 473 in district 301).

Latest updated plan released to media:

Total: 940 single family homes on 602 acres (308 buildable acres)

Density

Kane County has estimated that the population in the "Critical Growth Corridor" in central Kane Co. will increase by 150,000 residents by 2030, a threefold increase from the corridor's 2000 population of roughly 47,000.¹¹ It is likely that the centrally located townships of Sugar Grove, Blackberry, Campton, Plato, and Rutland will experience most of this growth. If evenly distributed,

one can project that Campton township will have increased its population by somewhere between 30,000-35,000 new residents by 2030. The Stony Creek developments represent fully 10% of this 30 year projected growth within the next 10 years .

Review of the proposed development indicates that the density and land use patterns are incompatible with County and Township growth and planning targets. The RLF1 plan and Elgin's annexation will create more of an urban context than one consistent with existing land use patterns. The planners refer to the "urban-style" development explicitly in discussing transportation and density issues.¹² Figure 1 displays the patterns of household density in Kane County in 2000. Nearly all of the areas in Campton Township have household densities below 2.0 per acre. The area of and surrounding the proposed development has a gross household density at the census block level of less than .50 households per acre.

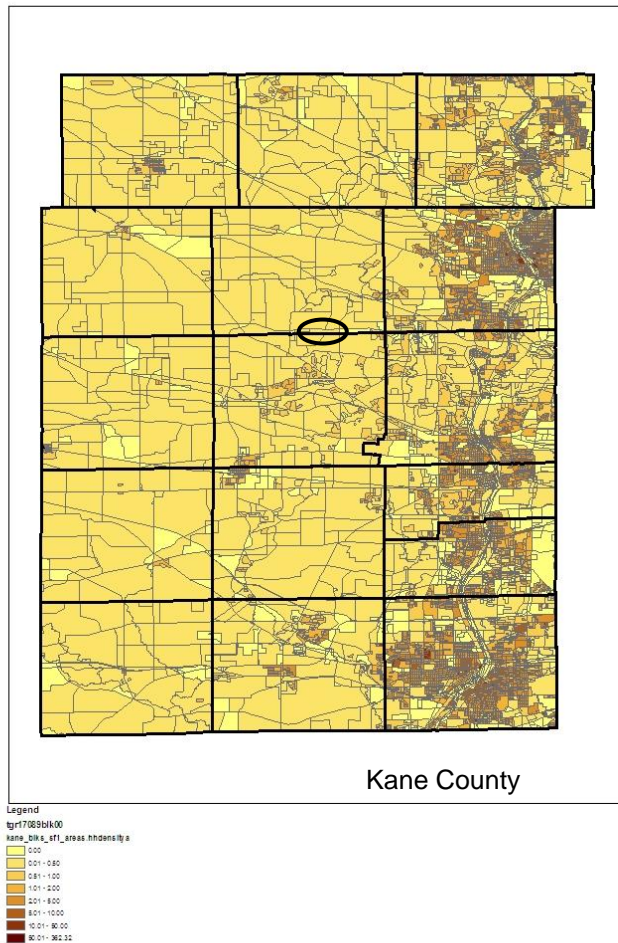


Figure 2: Density of Kane County 2000 Census Blocks, Households per Acre

The proposed developments, as measured from the intersection of McDonald and Corron Roads, are roughly 2.7 miles from the intersection of Corron and Bowes Road, an additional .5 miles to the intersection of Bowes and Nestler. The distance from the development to Rt. 20 is 5.9 miles. While the area closest to Rt. 20 is earmarked for high density development, the areas south of Bowes road nearly all have densities consistent with the Rural Residential, or Estate Residential zoning categories. The type of development proposed in the RLT1 plan is better suited for land immediately adjacent to existing city and village centers than it is for land in the midst of agricultural, open land. This large geographical area between the higher density housing just

south of Rt. 20, and McDonald road has a different character than the more urban areas. A better land use strategy dictates that more adjacent land is filled in with the more dense housing rather than leapfrogging to create a denser urban development among less dense areas.

The planning analysis further assumes that some local workers will also live in the area. It is implausible that low-wage retail and office workers will occupy housing with median value of \$505,000, a cost of housing inconsistent with Elgin's Far West plan (\$325,000 average).¹³

Gross density is useful to estimate the overall environmental impact. Net density is more useful to understand the actual density levels in local living space and the aesthetic qualities of the developments, for example whether they are experienced as dense urban-like environments or suburban residential. The gross density of the entire development is 940 (revised) homes/602 acres = 1.56; for Stony Creek West, 573 homes/373 acres = 1.54 (revised plan); for Stony Creek East, 367 homes/229 acres = 1.60 (revised plan). Using the updated estimate of the number of households and the buildable acres in each subdivision contained in the Plat of Annexation, the net density (940 units/308 acres in lots = 3.05 units per built acre) will exceed that of surrounding residential areas by a large margin. The level of density proposed in Stony Creek is even greater than that typical of developments zoned as the higher density, Resource Management designation, as well as that specified in the Settlements of La Fox concept plan, designated as a Transportation Oriented Priority Place.

The land referenced in the RLF plan is earmarked for development in the Kane County and Campton Township using three zoning categories: Countryside/Estate Residential, Rural Residential, and Resource Management.

"The purpose of Resource Management is to provide opportunities for the implementation of Smart Growth development that respects the character and carrying capacity of the land. In the Resource Management category, land uses and densities will vary. Small portions will develop as countryside estate and rural residential developments with the respective densities of those map categories. Others will develop as Priority Places and master-planned communities with densities similar to the successful developments of Fox Mill and Mill Creek (1 to 1.32 units per acre). Developments under municipal jurisdiction could develop as Priority Places at higher densities based on their adopted plans, the trend and character of the area, and environmental limitations. The density of development where the County Board will be responsible for granting zoning should be based on prevailing county standards and regulations, surrounding use and densities, soil suitability, preservation of natural features, stormwater Best Management Practices, and the character of the area.

"Developments in the areas designated Resource Management must preserve and enhance open space. At least 40% of the gross area of each planned unit development within Resource Management should be preserved as open space that protects the environment, provides recreational opportunities, creates a transition from the city to the countryside, and preserves and protects water resources."¹⁴

If 40% of the land is left open per Kane County guidelines for Resource Management zoning instead of the RLF plan's 31.9%, 286 acres (308 acres less an additional 7%) would contain the housing, yielding a net density average of roughly 3.29 houses per acre.¹⁵ This net density equates to an average lot size of .30 acres. Campton Township planning documents also note that commercial development typically is not used in density calculations submitted by developers. The Township recommends that every 3,500 ft² of commercial development count as a housing unit in mixed developments.¹⁶ This amount to 187 additional units in the planned development, increasing the gross density to 1.87 units per acre. The net density, adjusted for the Kane Co. open space requirement of 40% and the additional density from commercial buildings, increases to 3.94 units per acre (although the status of commercial development has fluctuated).

The proposed Stony Creek developments will have a minimal gross density, 1.56, that is greater

than the 1 to 1.32 units per acre cited for Fox Mill and Mill Creek developments zoned as Resource Management areas. A more dramatic comparison can be made with the Settlements at La Fox concept plan for a Priority Place Transportation Oriented Development; that current plan shows a gross density of 1.02 units per acre with 41.9% earmarked for open space and parks.¹⁷

Calculations based on the 2000 census data yield a median gross density, at the census block level, of 1.16 households per acre for all of Kane County.

The Table below compares the proposed development to three recent and one newly proposed Campton Township developments, again highlighting the higher density of Stony Creek.

Table 1: Comparison of Recent Campton Township Residential Developments to Stony Creek

Development	Tot. Acres	Housing Units(Lots)	Gross Density (D.U./Tot. Acre)	Net Density (D.U./Res. Acre)	Ave. Lot Size
Fox Mill	738.34	679	1.22	2.78	.36 acre
Settlements of La Fox ¹⁸	1,254.00	1,275	1.02	2.00	.50 acre
Mill Creek ¹⁹	1,522	2015	1.32	2.87	.35 acre
Thornwood	442.82	1102	2.49	3.40	.29 acre
Stony Creek	602.00	940	1.56	3.05	.33 acre

Fox Mill and Mill Creek are designated Resource Management areas, relatively high density developments by Kane County zoning categories. These areas are so designated because of their proximity to major thoroughfares, e.g. Rt. 64 and key intersections. The Thornwood development is even denser, a density justified by its close proximity, near adjacency, to Randall Road and its shopping strips. While these densities are high by Kane County patterns circa 2000 and the Kane County guidelines, they can be justified using Smart Growth principles because of their location. However, the level of density proposed in the two Stony Creek developments is inconsistent with existing land use patterns or Smart Growth principles. Its densities exceed even those in Resource Management zoned areas, approaching the urban-like “low densities” of Thornwood without supporting rationales. Such a development would dramatically alter the appearance and quality of residential life in the Campton Township area, transforming a rural residential area into an urban area. Residents of Campton Township have committed tax revenues to purchase open space to preserve the rural, low density environment. The Stony Creek development negatively affects that tax payer investment and undermines its purpose.

Population & School Population Impact

Tables 2 & 3 in the RLFI plan contain the population projections. Population estimates are based on the housing stock and applying the ‘multipliers’ provided in the Table of Estimated Ultimate Population per Dwelling Unit.²⁰ While accurately applied, the Public Use Micro Sample Census data upon which they are based are nearly 10 years old and may not accurately reflect the typical population per dwelling generated from new construction in Campton Township.

The K-8 student population generated for District 303, 417, when interpolated to K-5, represents approximately 300 students, nearly half the recommended size for elementary schools in Illinois. This certainly will necessitate capital development, which is not included in the RLFI plan. District 303 estimates the total cost for facilities to be \$14,734,941.²¹ The impact on District 301 is comparable, but offset somewhat by higher tax levies.

According to exchanges between the developers and District 303, a property donation will be made to site an elementary school. While this contribution is the norm, it does not address the shortfall in operating expenses estimated by the Camiros analysis and accepted by District 303, of \$1,969,168 annually.

Revenue Estimates: Property Tax

Revenues from property tax depend on the market value of housing, set by the planners at an average value of \$475,000 and \$525,000 for the two developments. Earlier versions of the plan placed the average market value of houses at \$354,000, a value more inline with the guidelines in the Elgin Far West plan. In an analysis of the property tax revenue performed by District 303, the District concludes: "It would seem the estimated average value of homes in the proposed development of \$495,700 used by Strategy Planning Associates is much higher than the 2003 assessed values of comparable homes."²² I examined the assessed value of a few homes in the area using the Campton Township Assessors online database and conclude that the projected property tax revenues used in the RLFI plan are more comparable to larger homes situated on lots closer to .67 acres than the sizes planned for Stony Creek. The District's observation that the projections are inflated by around 25% seem more plausible than the RLFI plan's projections.

It is also worth observing that the weighted average market value of \$505,864, taxed at the Elgin rate of 1.9047/\$100, equates to an annual property tax bill of \$9,635 to the homeowner. To the extent that property tax liabilities affect purchase decisions, this amount may affect the market value.

Revenue Estimates: Sales Tax

The RLFI plan estimates that 36.74% of the projected Elgin revenue from the Stony Creek developments will come from sales tax.²³ Based on their assumptions, combined residential and commercial sales tax is estimated to total \$2,224,134 annually at build out.²⁴ But the assumptions used to project these estimates appear to be optimistic.

Impact analysts argue that projected sales tax revenues are more reliably projected from calculations based on sales generated by square foot of new retail space rather than the consuming behavior of projected residents. The RLFI plan provides both retail space and household consumption calculations, and adjusts for double counting revenues predicted from the commercial space and household consumption. The RLFI assumptions do not take into account the important redistributive effect of new commercial developments, merely shifting sales from one point within the taxing unit boundaries to another. This adjustment is only assumed to be 5%. Other analysts have used a 20-25% assumption for the redistributive and double counting adjustment. Furthermore, given the average job commute for region residents exceeds 30 minutes (2000 Census), it is clear that residents have a wide geographical range in which to convenience shop.

Household consumption estimates are predicated upon base household income. The RLFI plan estimates the household income of new residents to be "...at least \$202,346"²⁵. This estimate is based solely on extrapolations from the projected cost of new housing (\$505,864 weighted average) and the formula that buyers purchase housing worth 2.5 times their household income. This expected household income is atypical of those found in Campton Township where the Census 2000 reports a median family income of \$103,735. Only 516 Campton Township families, or 13%, reported incomes greater than \$200,000. The Cariros analysis uses mortgage rate lender tables to estimate a more likely revised family income of \$125,000 for future residents.²⁶ Thus, I conclude that the RLFI plan overestimates the likely family income of new residents by roughly 62%. This inflates the estimates of sales tax revenues. The RLFI plan estimates sales tax revenue from new residents at \$550,704²⁷, the Cariros analysis estimates it at \$141,000 at buildout; indicating an overestimate of 390%.

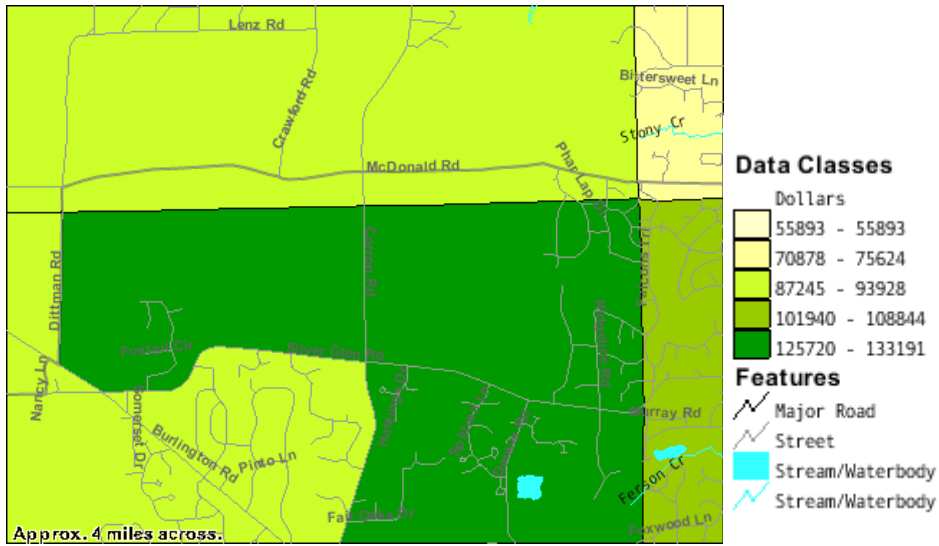


Figure 3: Median Household Incomes in 60175 zipcode.

The second dimension of sales tax revenue is based on estimates of revenue generated per square foot of retail space. A graph illustrating the average sales per square feet of various kinds of businesses in neighborhood shopping centers is presented below.²⁸ The RLF1 plan uses an estimate of \$250 per square foot of commercial space, the high end of plausible estimates. Given that the mix of the commercial development is not specified, and that the sales are variable by type of establishment, one should place little confidence in the projection of sales tax revenue to Elgin.

Sales per Square Foot - Neighborhood Shopping Centers 2002

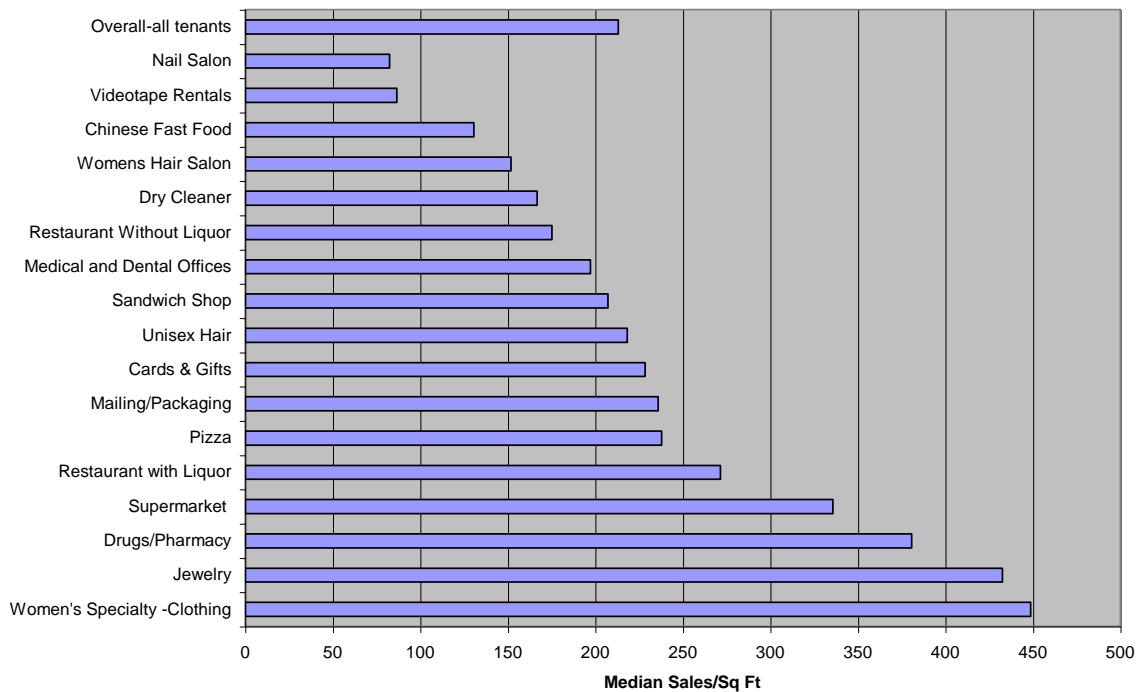


Figure 4: Commercial Sales Revenue Estimates

A plan from a comparable case uses the more appropriate overall figure above for Midwest, neighborhood shopping centers, \$213 per square foot.²⁹ The RLFi plan inflates its estimate of this source of revenue by at least 17%. Again, there should be some downward adjustment due to the redistributive shopping from existing Elgin locations that is sure to occur. Since all major access roads pass through Elgin, RT. 90, Rt. 20, Randall Road, this competitive redistribution could be quite high. The plan makes an adjustment of 5% downward for the commercial component to adjust for double counting of residents from the two projection methods. This adjustment made in the RLFi report is surely too low, inflating the expected revenues to Elgin from sales tax. An analysis of a comparable plan, Grand Prairie, projects a lower percentage of expected sales tax revenues from off-development shopping, 50%, rather than the 70% used in the RLFi report, based upon a guess about how much of that expenditure will be captured by existing city businesses.³⁰

Given the assumption-driven nature of the residential component of the sales tax estimates, I am skeptical of their validity. If incomes are more representative of those within Campton Township, and if double counting from household and commercial based sources are considered, and the extent to which sales in the new development represent sales redistributed from existing Elgin sources, the RLFi report estimates are likely upwardly biased, perhaps by as much as 300%, or as little as 20%, putting the new residential based sales tax increase closer to \$225,000 annually. The Camiros report similarly disagrees with the assumptions in the RLFi plan and re-estimates combined commercial and residential sales tax revenue of \$1,495,818 at buildout rather than the RLFi plan estimate of \$2,224,134.³¹ This represents an RLFi overestimate of 48%.

One should also note that the full realization of sales tax revenue will occur only after build-out with a full and profitable occupancy of the commercial space, also depending upon the composition of the retail operations. The revenues for the first several years will be below the full level, producing a gap between needed expenditures and revenues over this initial period.

Revenue Estimates: Governmental Distributions

Many of the enumerated intergovernmental transfers based on per capita measures will require a special census or await the 2010 census counts. The cost and timing of such a census is not taken into account, therefore inflating the revenues from this source.³²

Revenue Estimates: Impact Fees

The RLFI report did not contain detailed impact fee schedules; rather I relied on the projected fees contained in the Far West Area Development Strategy slides: Impact Fee Analysis (City Fees) and Impact Fee Analysis Overall.³³ From the aggregate figures presented, I calculated the per dwelling impact fees for 3, 4 and 5 bedroom dwellings. The numbers in parenthesis are the fees based upon an updated impact fee worksheet contained in the proposed Stonebrook project, that updates to 2005 dollars.

Table 2: Derived Impact Fees per Dwelling

	Jurisdiction				Enacted Increment	Total per Dwelling
	City ^a	School Land	School Capital	Library		
3 bedroom	\$7,625 (\$7,583)	\$1,011 (\$1,071)	\$5,526 (\$1,830)	\$156 (\$160)	\$1,000	\$14,318 (\$11,644)
4 bedroom	\$8,409 (\$8,408)	\$1,674 (\$1,774)	\$5,526 (\$3,116)	\$202 (\$208)	\$1,000	\$16,631 (\$14,506)
5 bedroom	\$8,414 (\$8,414)	\$1,275 (\$1,351)	\$4,308 (\$2,441)	\$203 (\$209)	\$1,000	\$15,200 (\$13,415)

^aCity includes park land and capital, water, sewer, roadway, and public safety.

These fees appear to be at the lower limit of estimated off-site infrastructure costs (see Expense Estimates, below). Without a detailed analysis of the needed off-site costs of this development, one cannot assert, as the RLFI plan does, that the fiscal impact to Elgin will be positive.

Expense Estimates

The RLFI report uses the Service-Standard Method of fiscal impact evaluation. This method is most suited for moderate sized communities, 50,000 – 100,000 that are experiencing stable and consistent growth.³⁴ Given the context of the Far West development initiative under way in Elgin, this assumption is not warranted. Especially in the area of capital expenditures, but in staffing needs as well, it is likely that a simple linear extrapolation of costs calculated on a per capita basis will underestimate the costs to Elgin at the build out of this development. While each planned development may use the simplified Service-Standard Method, Elgin planners need to calculate the entire burden of the new development in the context of the full set of developments planned and on the horizon. Furthermore, the Service Standard Method usually contains service specific manpower and capital improvement estimates absent in the RLFI plan.

The RLFI report does not include specific service based costs and restricts estimates of capital improvement to limited debt servicing and road work to be at 15% of additional operating cost estimates. In a development of this size, average cost estimates should be complemented with specific marginal cost adjustments, as several services may reach tipping points or saturation levels. For example, an additional fire station in the southwestern area is planned.

In general, developers do not cover the costs of infrastructure needed to support the development. In a review of infrastructure costs of developments in eight Illinois communities, including St. Charles and Aurora, University of Illinois researchers observe:

Over all, value of dedications and fees ranged from a high of \$3,683 per unit in Bloomington to a net subsidy in Urbana. None came close to \$15,000 to \$30,000, the estimated cost of providing off-site infrastructure based on national data. Whether the imposed fees and dedications cover the specific infrastructure costs in any of the particular communities, however, can not be determined without further examination of

local conditions and methods of infrastructure finance. It is possible, for example, that the difference between costs and fees is made up in annual taxes or service charges, though given the magnitude of the difference this seems unlikely.”³⁵

The current RLFI plan offers no detailed assessment of the off-site capital costs. Elgin needs this information to accurately assess the burden to current Elgin residents as well as the development.

Expense: Roads and Transportation

No estimates are provided in the original plan regarding the increase in vehicles, trips, and the consequent demand for new lanes and widened roads. The 2000 census estimates that the minimum number of vehicles is 2.2 per household in Campton Township. Based on these figures, the new developments will generate an additional 2,068 vehicles. The number of trips per day per vehicle is variable by location. If we assume 3 trips per vehicle per day) a minimum of 6,204 more vehicle trips per day in the immediate area using Bowes, Nesler, Silver Glen, McDonald, and Corron Roads. In a subsequent report, an overall rate of 9.4 trips per household was used to project 8,845 additional vehicle trips per day.³⁶ Current use of the Corron corridor is estimated to be between 2,000-3,000 vehicle trips per day. The Stony Creek development will increase the immediate traffic flow by factor of at least 2 (3,000 to 6,000 trips), and by perhaps as much as a factor of 4.4. Kane County engineers project Corron, Nesler, and McDonald Road (east of Corron) to be extremely congested by 2030 not including the RLFI high density development.³⁷

The review of the Traffic Generation Analysis provided by Western Engineering points out the cumulative effect of the Stony Creek development along with others in the corridor. A more comprehensive analysis is needed before one can conclude that the existing roads can bear this additional traffic load. The consequences for the flow of traffic into Nesler/Rt. 20 and Randall are not evaluated. This and proximate developments will likely require capital improvements to the roads to maintain safety standards, not to mention convenient access. Expanding Corron and McDonald to four lane highways will dramatically alter the countryside. Residents are also concerned about the quality of road maintenance, especially snow plowing during winter months.

Expense Estimates: Staff

Costs are calculated on a per capita average basis and the report does not examine the existing capacity of Elgin departments providing city services. Is there excess capacity that would justify a linear extension of costs, or are capacities saturated where marginal cost estimates are more appropriate? What levels of service quality are produced with existing allocations?

Expense Estimates: Capital Improvement

The only capital expense included in the RLFI plan is 15% of operating expense for debt service and road maintenance, \$241,484 per year. According to the review of infrastructure costs reported in Oregon, and echoed by the Illinois study, analysis of capital infrastructure costs should have at least the following aspects.

- Any estimate of infrastructure costs must be explicit about, at least, the facilities considered, capital and operation and maintenance costs, on-site and off-site, and marginal and average costs. . .
- Because on-site costs do not vary much by subdivision design, any large differences in cost per single-family housing unit are usually a result of differences in off-site costs, which are more heavily dependent on the location of the development than on its design. The construction costs of off-site facilities (e.g. improvements to arterial streets, sewer and water trunk lines and treatment plants, schools, fire stations) are on the order of \$15,000 to \$30,000 per housing unit for new development at the urban fringe. Estimates could be even higher depending on what services get included and the specifics of site and locational characteristics relative to existing off-site facilities.”³⁸

Taking a value from the lower range, \$20,000, this produces an estimate of non-school, off-site infrastructure costs to Elgin of \$19,440,000. The RLFI plan reports a total cost after completion to be \$1,850,000. This figure seems exceptionally low compared to the figures produced by the cited reports that reviewed several case studies in several regions of the country.

One such capital expense could be the need for emergency response. Fire station access could be a problem given the location of the nearest fire station to the new development, Fire Station 4 at 599 S. McLean Blvd. Response time, the standard for urban areas is 4 minutes, would be affected by the Randall Road and Rt. 20 congestion. Given the full context of the Far West plan as well as the size of the Stony Creek developments, Elgin has plans to develop two additional stations, and these costs should be included. From the Elgin Strategic Plan, one can see that the anticipated costs of building and equipping a new station, Fire Station 7, is currently budgeted at \$4,500,000.³⁹

Based on the 2000 population of Elgin and its existing 5 stations, Elgin currently allocates a fire station for every 17,220 residents; which equates to an infrastructure cost of \$261 per resident, just for fire protection. To what extent do impact fees currently in place cover these costs? The Elgin Impact Fees Worksheet indicates a one time impact fee of \$714 for all public safety improvements attributable to a 4 bedroom home. I recommend a more detailed and systematic analysis of the capital costs and associated impact fee revenue per dwelling to determine if the capital outlays required are covered. Elgin's impact fee schedule generates an impact fee per 4 bedroom dwelling to equal \$8,409.29 for city fees, \$4,890 for schools. The reports that I previously cited indicate a range from \$15,000 - \$30,000 total, with a caveat that all impact assessments need to take in the local conditions to determine the costs. With the rapid development of the Far West area, Elgin should undertake detailed analysis of the costs of each development and make that information publicly available during hearings.

Given that the development extends a large Fiscal Planning Area that will have to be newly incorporated and meet environmental regulations, Elgin officials need to obtain a more realistic estimates of the capital costs of this annexation project. When capital infrastructure costs are included, the residential portion of development is not likely to pay for itself. Extensive commercial development in the Far West area will be needed, just as the Fiscal Impact analysis for Elgin's Future Growth report documented.⁴⁰

Comparing the anticipated impact fees derived in Table 2, \$16,600 for a 4 bedroom dwelling, to the range of values reported in the cited Illinois study, \$15,000-\$30,000, there exists a likely and considerable shortfall of capital improvement funds from this development.

School Expenses

The RLFI report itself shows an annual operating deficit for District 303 of approximately \$900,000 per year, and a lowered average Equalized Assessed Value (EAV) for new students. The letter from District 303 to Deputy Planner Todd Wyatt documents several miscalculations and increases the estimates the burden this development will have on District 303, a district that has had difficulty in passing school referenda to raise the tax rate.⁴¹ Provision for a school site is not made.

District 303's estimate of an annual operating deficit from between \$1,400,000 and \$2,000,000 per year seems defensible. The impact fees assessed by the City of Elgin will cover at best 20% of the cost of capital improvements needed to accommodate the new students. Elgin's annexation of the proposed property and approval of the Stony Creek East development will place a great burden on District 303 and its supporting taxpayers.

The situation for District 301 is more optimistic, due to the higher tax rate in that district, as well as the property taxes due to commercial development, which is questionable. Based on the Camiros Report reanalysis of the revenues to D301, I recalculated the projected revenues for

2015 by deleting the revenues attributed to the commercial property tax revenue.⁴² With this assumption, no commercial development, the 2015 figures show a deficit of \$297,038 instead of an operating surplus of \$500,845. The existing capacity of District 301 schools needs to be considered, especially since this district will receive students from additional developments planned in the Far West area. Average costing is not appropriate if new structures are needed to absorb the new students. Thus, under the assumption of zero commercial development in D301, its schools are projected to operate at a deficit throughout buildout of the development, although at a smaller amount, -\$297,000, than that estimated for D303, -\$2,000,000.

Summary Points

The following points summarize my evaluation of the proposed annexation and Stony Creek developments:

- The proposal will urbanize an area zoned for less dense countryside and suburban residential living.
- The costs of the annexation and development to the city of Elgin are underestimated. Insufficient detail is paid to estimating off-site infrastructure capital costs.
- The revenues to the city of Elgin are over-estimated. Assessed value is likely overestimated given the relative high density and small lot sizes in the plan. Sales tax revenues are likely overestimated.
- The plan places an undue burden on District 303, and to a lesser extent, District 301.
- The proposal represents an aggressive and potentially anti-democratic act by the city of Elgin to over-ride the planning of affected local jurisdictions and the preferences of existing residents.
- The proposed annexation and development will not reduce suburban sprawl, but rather increase it, and will have negative impacts on the quality of life of Campton Township, and possibly, Elgin citizens.

Consistency of the Plan with Smart Growth and New Urbanism Principles

In this final section of my report, I first use the general principles of Smart Growth development to examine the RLF1 plan. Next, principles of New Urbanism are applied. Third, I apply the very specific implementation of Smart Growth principles articulated in the Elgin Comprehensive Plan, Section 3, to review the impact of the RLF1 plan.⁴³

General Smart Growth Principles.

“1] Development is economically viable and preserves open space and natural resources.”

The development removes undeveloped open space, bordering on natural wetlands, forest preserve, and open-space land in which the tax-payers of Kane County and Campton Townships have invested. The development will, in the most optimistic view, add little new revenue to Elgin above its costs, especially in the short run, providing the commercial sales tax revenues projected are realized, projections that seem unrealistically optimistic.

“2] Land use planning is comprehensive, integrated, and regional.”

The planning is inconsistent with the regional plans for the area developed by Kane Co. and Campton Township.

“3] Public, private, and nonprofit sectors collaborate on growth and development issues to achieve mutually beneficial outcomes.”

The Far West annexation and the specific development evaluated in this paper are almost solely a product of Elgin planners and the private developers. Campton and Kane County residents have approved bond referendums to purchase open space in an effort to limit sprawl and preserve existing housing values threatened by high density developments. The

annexation and RLF plan undermines this public good created by existing residents.

“4] Certainty and predictability are inherent to the development process.”

The plan intrudes on rural residential developments by placing a much denser urban type development in its midst. Once a break has been made with the regional plan, certainty and consistency in the types of development are weakened.

“5] Infrastructure is maintained and enhanced to serve existing and new residents.”

The plan contains little specification of needed infrastructure improvements, especially those off-site that will be provided by Elgin. The density of development will excessively burden existing roadways; and expansion of these roadways will further deteriorate the environment and quality of life.

“6] Redevelopment of infill housing, brownfield sites, and obsolete buildings is actively pursued.”

The plan leapfrogs over land more proximate to the urban type Elgin developments close to major thoroughfares. This strategy does not ‘in-fill’ land more proximate before extending the urban boundary. It also set a precedent that the density of future areas between the development and the existing urban boundary will be at least as great.

“7] Urban centers and neighborhoods are integral components of a healthy regional economy.”

The proposed development, with its urban-like density, is not connected to the “community” of Elgin. It will have a different “feel” and culture altogether. It will float as a residential satellite, hovering between Elgin, South Elgin, Burlington, and St. Charles.

“8] Compact suburban development is integrated into existing commercial areas, new town centers, and/or near existing or planned transportation facilities.”

The development does not have the size to generate a self-sustaining commercial center. The commercial development’s success will depend in some substantial part on the extent of drive-by shoppers, not local consumers out for a stroll. The development is not conveniently located near any mass transit and is around 5 miles from either a north-south or east-west major highway serving other suburbs.

“9] Development on the urban fringe integrates a mix of land uses, preserves open space, is fiscally responsible, and provides transportation options.”

The plan falls short on all objectives. Its open space donation (32%) is below that called for in the Kane County 2030 plan (40%). The plan is fiscally irresponsible in that it will cost Elgin more to integrate and maintain services than the development will generate in revenues, despite the optimistic projections. The development will depend totally on automobile access, using roadways in rural areas that are not able to easily sustain the increased traffic. Converting the roads to 4-lane highways will further destroy the rural residential quality of life.

Principles of New Urbanism Design

New Urbanism designs emphasize densities that are able to sustain multiple uses of land, develop a sense of community or place, and prevent sprawl. These dense, multi-use plans are most appropriate for satellite communities close to Edge Cities. The prototype of this village development is Celebration, FL., The most successful communities incorporating this design are in the Portland, OR area. These dense developments are clustered around light transit sites and multi-functional commercial developments. They replicate small village and city life with enough population to support retail and commercial, as well as cultural and recreational activities.

Lower Dependence upon Automobile Transportation

Sprawl refers to not only the low density development of outlying areas, but also the reliance on the automobile and the inchoate, leapfrog nature of development. The proposed commercial sectors for the Stony Creek development are not within a quarter mile or 5 minute walk of most or all of the units. A car trip will still be the preferred mode of transportation, even for convenience shopping. The site of the development is not on a major transportation artery, nor is it on a light rail line, such as the Settlements on La Fox planned development.

Multiple Use of Land

New Urbanism advocates the integration of small commercial, retail sales and residential development. Evaluations of “New Urbanism” designs have used the value of 10,000 households necessary to sustain a corner storefront, and a density of 10 units per acre to sustain a light mass transit system.⁴⁴ Neither of these densities are achievable or desirable for the proposed location. Thus, none of the benefits obtained from more densely packaged residential communities will emerge. Only 28 acres are allocated for parks, and there is no central village design.

High Density

This is one aspect of New Urbanism that appeals to nearly all developers and planners. Higher densities maximize returns on land investment and produce more economic provision of infrastructure. One study has successfully disaggregated the design features of New Urbanism that lead to an increase in housing value: the key variable increasing housing values was proximity to transit, but lot size (net density) decreases the value of the housing. The RLF1 planned development is long on the negative characteristics and short on the positive characteristics associated with value added New Urbanism designs.⁴⁵ To achieve the functional benefits of the New Urbanism designs, population concentrations of at least 5,000, and more realistically, 10,000 may be necessary. The RLF1 planned development will not have sufficient density to become functionally autonomous to an appreciable degree.

Sense of Place

The planned development will span two school districts, two townships. Without a unified school, cultural center, or other civic center, it is not likely to develop a unique “sense of place”, and not likely to identify with Elgin aesthetically, culturally, or socio-economically.

Elgin Principles of Smart Growth

Section 3 of the Elgin Comprehensive Plan lists 10 synthesized principles of Smart Growth and New Urbanism that should be reflected in new developments. It is worth emphasizing the deviations from these principles one can find in the RLF1 plan.

1. Create a Range of Housing Opportunities and Choices.

This development will introduce some upper-end housing into the Elgin market, but within its borders, the housing is fairly uniform. It is meant to attract buyers preferring single detached family housing. The anticipated market value of \$500,000 range for clustered housing with this level of density might exceed what the market will deliver.

2. Create Walkable Neighborhoods.

The neighborhoods will be walkable, but there appears to be a dearth of destinations. Students will not be able to walk to school, since the school location will be off-site. The sited commercial development is more conveniently located for passing traffic than for pedestrians. There is no village center or cultural focus point.

3. Encourage Community and Stakeholder Cooperation.

Kane County and Campton Township guidelines for the density of developments in this area have been ignored.

4. Foster Distinctive, Attractive Communities with a Strong Sense of Place.

The fragmented nature of administrative units, split school districts; the distance from the center of Elgin; the lack of administrative connection with St. Charles; the lack of central civic, sports, retail, or cultural centers make it highly unlikely residents will develop a sense of place.

5. Make Development Decisions Predictable, Fair and Cost Effective.

The cost effectiveness of this development is questionable. Again, revenues are overestimated; costs to Elgin underestimated. A thorough study of the capital costs, both on and off-site is needed.

6. Mix Land Uses.

The planned commercial sites may be unrealistic. Projected size and revenues are questionable given the competitive retail outlets on Randall Road and nearby Wasco.

7. Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas.

Current standards for setting aside open space are not met, 31.9% v. 40%.

8. Provide a Variety of Transportation Choices.

This subdivision will be isolated, accessible only via automobile. Planned commercial strip malls rather than centralized village stores will make walking and biking uncomfortable, even for convenience shopping.

9. Strengthen and Direct Development Towards Existing Communities.

The plan could well weaken the U-46 school district by locating up-scale housing, with its more educated residents who demand high academic standards, in St. Charles and Burlington school districts. The costs of the residential development will not be re-couped, draining tax revenues from the central city, especially in the short run. The development will create a financial burden upon District 303.

10. Take Advantage of Compact Building Design.

The housing density is high, consistent with Smart Growth strategies, but is unnecessarily high and inappropriate, given the Kane County zoning for this land, Estate Residential, rather than Priority Place or Resource Management designations.

Conclusions

My evaluation of the RLFI plan concludes that the proposed annexation and development will dramatically alter the quality of life and ambiance of the existing communities, transforming a rural residential area into an urban area. Sound planning locates such urban developments, with densities approximating what the Kane County 2030 plan allocates to Priority Places, closer to urban areas and follows a “fill-in” policy to place denser developments close to similar housing rather than the ‘leap-frogging’ character of the proposed plan. The RLFI plan is overly optimistic about the revenues generated. The EAV estimates used to generate property tax revenues are inconsistent with developments having similar lot sizes and net densities. Sales tax revenues are over-estimated. The report underestimates the expenses to Elgin, particularly those off-site infrastructure costs likely to be associated with such a massive development.

The plan is inconsistent with criteria of Smart Growth planning and management as well as the benchmarks for long-term growth and development established by Kane County and Campton Township. It creates an additional subdivision, a ‘bedroom’ development, without the charm and attraction of the rural residential densities. It relies excessively on automobile transport. It will not create a separate “sense of place”, nor is it likely to be culturally, socially, or economically integrated with Elgin’s core city.

I further recommend that Elgin refine its residential zoning codes to accommodate lower density residential development. The current low density residential codes SFR-1 and SFR-2, do not

provide enough variation since developers build to the maximum density within the range. More refinement for low density zones will be more consistent with the codes used by Kane County and the rural areas into which Elgin seeks to expand. If these codes reflect the limits of developmental thinking by Elgin officials, they indicate a lack of appreciation for the rural residential life style envisioned in the Kane County 2030 plan for specified areas.

The annexation and development proposal does not conform with the Kane County 2030 plan, nor the broad goals of strategic, smart growth outlined in Elgin's Far West Development Plan, nor current accepted principles of Smart Growth and New Urbanism design.

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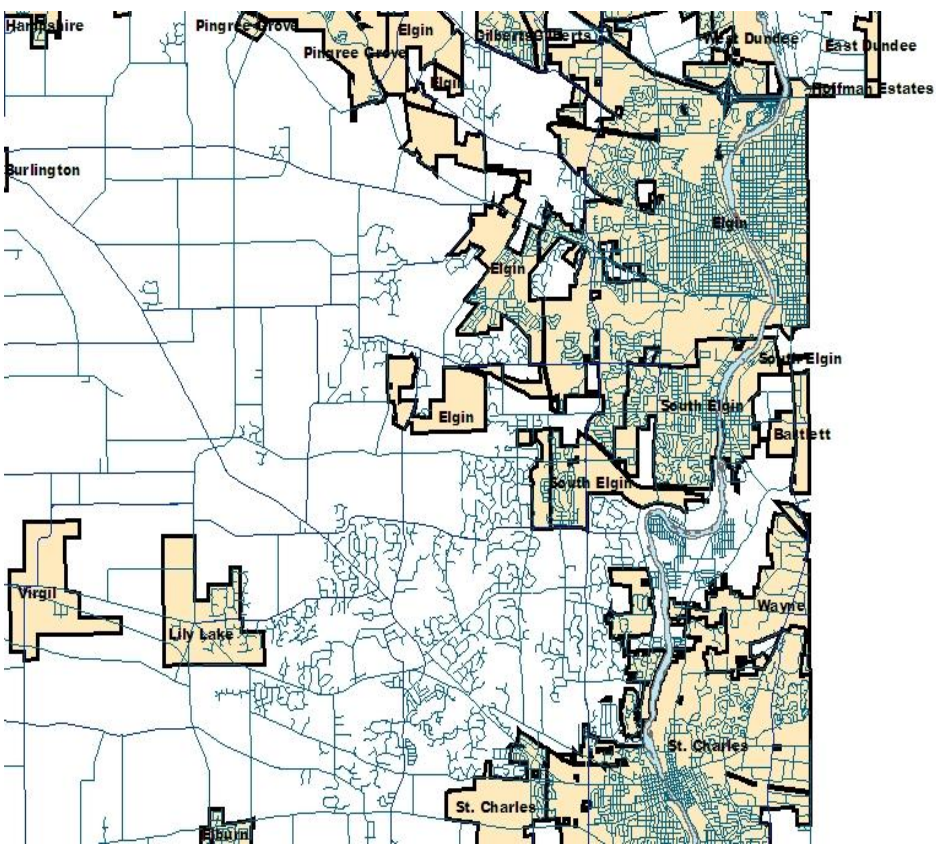


Figure 1: Elgin and Neighboring Municipalities' Boundaries.