

The New ERA of Policy Analysis



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Table of Contents

Introduction.....	1
Truth and Policy Analysis.....	3
Due Diligence.....	5
<i>Present reliable sources</i>	7
<i>Be transparent</i>	8
<i>Be fair and objective</i>	9
<i>Provide citation</i>	10
<i>Avoid errors of omission</i>	11
Elements of Rigorous Analysis.....	12
Table 1: Scoring based on Elements of Rigorous Analysis.....	14
Limitations.....	15
Results.....	17
<i>Creating Great Neighborhoods</i>	17
<i>The Jobs are Back in Town: Urban Smart Growth and Construction Employment</i>	19
<i>Investing in a Better Future: A review of the fiscal and competitive advantages of smarter growth development pattern</i>	21
<i>The Fiscal Impacts of Alternative Single Family Housing Densities</i>	23
<i>Choices in Zoning: The High Cost of Density</i>	26
Key Findings.....	29
Table 2: ERA Score Given to Density Reports.....	30
Recommendations.....	31
Conclusion.....	31
References.....	33
Appendix A: Checklist for Assigning an ERA Score.....	35
Appendix B: Table for Assigning an ERA Score.....	36

1.0 Introduction

The United States, as a vibrant democracy, has always had a number of controversial issues being debated in the public forum, at national, state, and local levels. The decisions made by elected officials in resolving diverse policy issues are often based on comprehensive policy analyses. Unfortunately, these policy reports often show a lack of high quality research. The current trend in policymaking has in many ways been ideologically driven than policy driven from a reliable research base. As a result of this phenomenon, public policy decisions are often made in a scholarly vacuum, which can result in public policy that may not reflect evidentially-based knowledge.

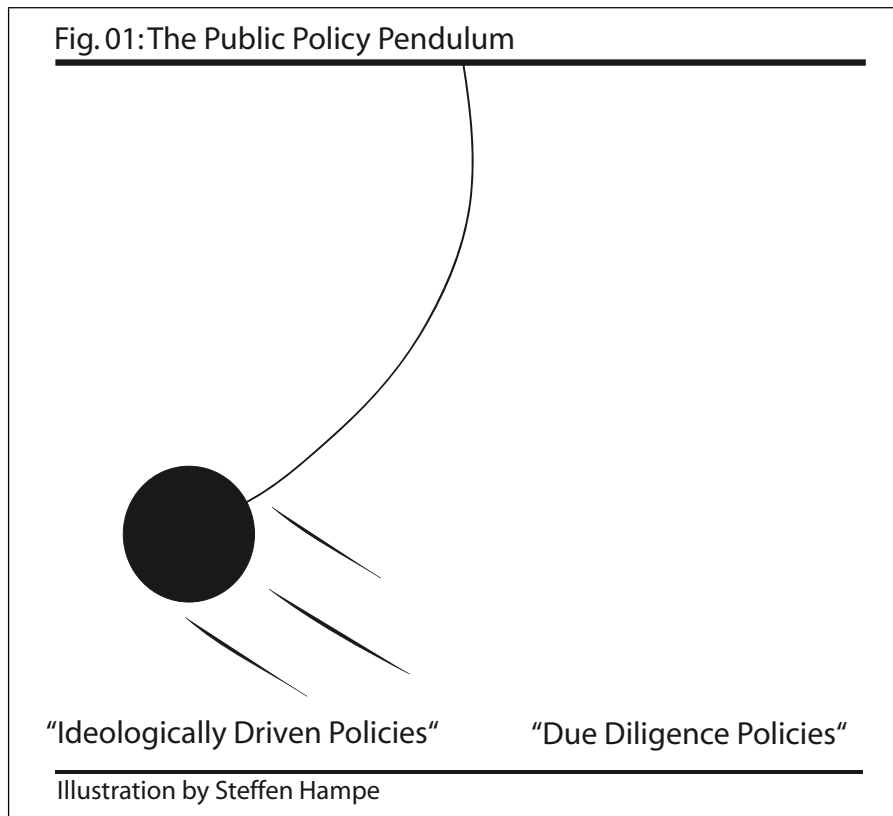


Figure 1: This figure represents the current status on public policy debates and illustrates how recent policies have been largely ideologically driven. The purpose of this report is to provide a basis for moving the pendulum towards policy principles that are based on standards of due diligence and which mirror certain quality standards. Evaluating policy reports, which use the

standards of care and due diligence, can improve the policy making process by providing better and more reliable outcomes as well as reducing unintended negative consequences.

The purpose of policy analysis in shaping public opinion is best described by Alice M. Rivlin, the former Vice Chair of the Federal Reserve Board: “Realistically, there's no absolutely "right" answer to most policy problems. What good analysis does is raise the quality of policy debate and decision making. It provokes counter analysis; it exposes positions built on bad analysis or no analysis. It gradually works its way into policy”. According to Galster (1996), policy analysis or research can be used as a means of exerting control over the policy process. Galster compares this process to a stage upon which the action occurs. The three elements of the process are: 1.) conception of the problem, 2.) public policy, and 3.) policy research. Every component is equally important, but policy research plays its role only when policy makers are open to new conceptualizations or genuinely interested in answers, are uncertain about them, and, in addition, are willing to wait for them. At the same time Irwin (2003) considers the goal of the policy analysis as an achievement of *objective rationality*. This term refers to analysis based upon careful reasoning, logic, and empirical observation that is modestly influenced by emotion, predispositions, and personal preferences.

Consequently, objective rationality needs specific standards and criteria for addressed policy problems. These standards should be unified and well articulated by public policy analysts to minimize personal preferences, emotions and predispositions. The purpose of this report is to demonstrate the practical applications of such standards as analyzing tools and thus providing an example of objective rationality as a significant goal of any policy analysis. Furthermore, this report emphasizes the critical importance of due diligence standards in objective and rational policy making. By applying the standards of due diligence decision making processes will provide better and more reliable outcomes as well as potentially reduce unanticipated consequences from ill-conceived policy actions. Without such rigorous analysis, the conclusions made by a report may be questioned.

This research report proposes specific standards of due diligence and due care to raise the quality of policy briefs on any given topic provides to at least a minimum of standard of quality. The

proposed standards of due diligence are applied to five research reports on a controversial topic in the U.S. – the issue of density in communities. It is necessary to note that while this report is not another report on the issue of density and its related problems, this policy brief uses these selected reports on density to apply the standards of care and due diligence. The system developed in this document will be referred to as the **Elements of Rigorous Analysis (ERA)** and is the basis for evaluating the minimum standards of due diligence in policy analysis. This report seeks to swing the pendulum from ideologically driven policies back to policy reports that are based on rigorous standards and raise the quality of policy analysis and debate in contemporary society.

2.0 Truth and Policy Analysis

“Truth” is an abstract concept, difficult to quantify or measure and almost never universal. Analyzing social policy is the exploration of the conditions and influences that prompted intervention and an examination of the impact of intervention. Policy analysis is an applied social science directed at documenting trends, conceptualizing interrelationships, diagnosing causes, and assessing alternative treatments; it aims to systematically increase understanding of social phenomena or public policy impacts (Galster, 1996). Through policy analysis, causes and conditions of social problems can be more thoroughly understood and interventions can be more effective. Seeking truth in social policy is the pure and uncorrupt pursuit of knowledge and understanding, whereby solutions to complex problems are often as diverse as the causes.

Conditions exist whereby public policy and social ideology exist in a mutual and flexible relationship. Gerston (2003) states that in a constitutional democracy “the free exchange between those of us outside of government and those within it assures that the public policymaking process is fluid, dynamic, and malleable” (p. 4). However, a gap exists between individual experiences and social ideologies. “Typically backed by the strongest power holders, the mainstream ideology defends and rationalizes a society’s particular social, legal, moral, religious, political and economic arrangements” (Blau with Abramovitz, 2004, p. 121).

Because policy analysis is embedded in social conditions and human behavior, some argue it is impossible to separate personal experiences and subjectivity. Galster (1996) argues that “public policy decisions should be normative, with ethics and democratic philosophy playing important roles in policy research, because policy always affects people. For policymakers or policy researchers to pretend otherwise is dangerous” (p. 2). The challenges of achieving objective social policy and objective social policy analysis are intertwined. A fundamental challenge to objective analysis is to develop a shared understanding of social problems and acceptable solutions. According to Galster (1996), “ideology plays a central role in our choice of what are defined as social problems, what their severity and consequences are, and what range of governmental response is appropriate” (p. 8).

People define social problems, as they do the remedies to those social problems. The policies that intend to structure social function are created by people, and Long, Tice, and Morrison (2006) argue that,

“While scientists strive for objectivity, each determination in the research process is influenced by one’s position, past experiences, and current outlook on life. Definition of concepts, formulation of theories and hypotheses, selection of variables, and decisions concerning the means of analysis involve an act of will by someone, traditionally the researcher” (p. 228).

Social problems are defined as such by people, and the policies that seek to address those social problems are also created by people in a value-laden environment.

Furthermore, policy analysis is conducted by people who are themselves influenced by personal experiences and biases. “The thinking of scientists is confined intellectually, by professional discipline, and experientially, by the individual scientist’s life experiences” (Long, Tice, & Morrison, 2006, p. 227). Policy analysis may be swayed by professional motivations, political pressures, and other motives. Deciding which policies to focus on and which problems to explore further is a function of different influences and intentions.

We see, therefore, that the identification of social problems and the selection of acceptable policy actions to address these issues and all the processes that take place in a value-laden, subjective, ideological milieu.

Social scientists seek knowledge and understanding. They rely on evidence and observations as the basis for their conclusions, but social scientists are nonetheless guided by ideology. Theories about social policy and phenomena are based on underlying assumptions about the nature of social life, they represent certain idea sets and values about the way things are and ought to be, and they allow us to analyze the relationship between scientific thought in a discipline and the social context in which it arises (Reed, 2005). Though analysts strive to remain objective, different professional and personal biases impact social policy formation and analyses.

If as this discussion suggests, the identification and analysis of complex social issues are subject to strong individual and societal norms, what, then, is the basis for supporting objective rationality in policy analysis? The answer to this lies in the *consequences of implementation* in public policy. It is in the process of policy implementation that inaccurate, ideological causal relationships such as misconceptions, misunderstandings, and misinterpretations result in the increased probability of policy failure. That is, policies that fail to achieve the desired outcome and/or create additional unanticipated social problems (Galster, 1996, p. 240). Because policy conception, analysis, and implementation do make a real difference in people's lives, every effort must be made to the extent possible, to minimize misunderstandings. This, then, is the basis for rigorous analysis and a standard of due care and due diligence in policy research, it reduces errors in policy implementation.

3.0 Due Diligence

Due diligence is the basis for sound and well supported policy analysis, upon which objective and logical arguments can be presented. Due diligence should underlie all policy analyses regardless of any other variation in methodology, scope, context, or purpose. Taking into consideration the broad social implications of policy, the following standards of due diligence are taken from various professional guidelines.

The Code of Ethics of the National Association of Social Workers (NASW) prescribes social workers' ethical responsibilities to the broader society. While not specific to due diligence in policy analysis, the Code of Ethics urges social workers to "be aware of the impact of the political arena on practice and advocate for changes in policy and legislation to improve social conditions in order to meet basic human needs and promote social justice" (NASW, 1999, 6.04). Other evaluation and research standards set forth in the Code of Ethics regard social workers' obligation to due diligence in a clinical setting. When structured for a macro or policy context, the evaluation and research standards that most apply are: to monitor and evaluate policies, the implementation of programs, and practice interventions; promote and facilitate evaluation and research to contribute to the development of knowledge; carefully consider possible consequences and follow guidelines developed for the protection of research participants; and report evaluation and research findings accurately by not falsifying or fabricating results (NASW, 1999).

The American Institute of Certified Planners (AICP) manual indicates thirteen various technical standards for planners, the standards are an important step in defining standards that could be applied to a density report, but provide a more universal application when merged with other professional standards. According to the AICP manual (Solin, 1997), the thirteen standards are:

1. Standard of Care: Practice with the level of skill, knowledge, and quality that is required and expected of any member of the profession.
2. Maintenance of Adequate Records: Keep, update, organize, and otherwise promote the adequate maintenance of records.
3. Responsibility for Technical Competence: Understand the technical uses of punctuations, language, and outlines for documents.
4. Possess, Maintain, and Upgrade Qualifications: Maintain constant advancement on new advancements or standards of practice.
5. Avoid Errors of Omission and Commission: Use sufficient care to avoid errors that would significantly affect arguments and conclusions.
6. Practice with Due Diligence: Examine and evaluate documents for substance and quality.
7. Substantiate Findings: Validate the findings.

8. Present Reliable Information and Disclose Substantive Deficiencies: Present information that is factual and credible, as well as disclose the limitations of the findings.
9. Performance of Required Investigation: Perform the required investigation of the study to reach the most reliable and valid findings.
10. Explain Cause-and-Effect Relationship: Explain causal relationships.
11. Rational Consideration of Alternatives: Acquire other reasonable alternatives for findings.
12. Avoidance of Misleading Communication: Avoid taking action on personal judgment or perspectives that are not based on factual evidence.
13. Optional Certification of Findings: Seek additional certifications that endorse the findings.

Criteria from the American Psychological Association (APA) that mirrored AICP include using proper citation, crediting the original author of content and material, and being transparent. Consideration was given to criteria from NASW, APA, and AICP. It was concluded that the AICP technical standards encompassed elements of due diligence from other professions and would therefore be the basis for determining the 5 elements of rigorous analysis most relevant to policy analysis.

The standards are termed Elements of Rigorous Analysis (ERA), and are accompanied by a numeric score. They are reflective of the shared goals and intentions of establishing professional standards of due diligence. **Policy analysis that reflect due diligence include the following six elements: 1. present reliable sources, 2. are transparent and explain cause and effect, 3. are fair and objective, 4. provide proper citation, and 5. avoid errors of omission.** Ultimately, due diligence allows policy analysts to present a more thorough understanding of the problem, offer credible and well supported findings, and ultimately maintain the focus on the content of the issue.

3.1 Present reliable sources

The use of reliable and diverse sources creates a sturdier basis for analysis. Analysts can use a broad range of sources in their analysis, including those directly or indirectly impacted by the

policy, those who influenced the policy planning or implementation process, and those who are for or against the policy. Each source may provide a different set of data or illuminate a different dimension of the policy analysis. Patton and Sawicki (1993) offer the following suggestions when determining the reliability of a source: make sure the position of the author is supported by facts, never rely on a single source, understand how the facts were generated, if the facts cannot be found then check the facts of similarly related issues, and check how terms are defined and measured.

The use of diverse sources and inclusion of multiple perspectives protects analysts from bias. Policy analyses that rely solely on ideologically based research are prone to bias. Analysts that use only one source are often perceived of as beginning with “conclusions and conduct investigations aimed only at uncovering evidence in support of their preordained position” (Galster, 1996, p. 242). Though not always detrimental, the inclusion of findings from such research can be less problematic when they are accompanied by findings from other sources and from diverse perspectives.

3.2 Transparent and explain cause and effect

Analysts should describe the problem clearly, state the assumptions that guide their argument, and explain the data used to arrive at their conclusion. When presenting data, analysts need to define the factors in the formula, list the data used to generate the results, and provide a rationale for using a particular model of analysis in the given context (Patton & Sawicki, 1993). Models or calculations used for analysis should be described in detail so that readers can understand how the findings were obtained and be able to replicate the process if they so choose (Patton & Sawicki, 1993). When applied in a formal and rational problem-solving framework, multiple data sources and diverse methods of analysis are used to more thoroughly examine the problem (Irwin, 2003). Policy analysts should justify the use of qualitative and quantitative data and explain how the data was used to determine the key findings. Unclear assertions or arguments can distract the reader from the actual content of the policy analysis and lead to misunderstandings in policy development and implementation.

Because the consequences of policy are often not measurable by numbers alone, the use of both qualitative and quantitative data often provides a richer understanding of the problem.

Quantitative data is often used in policy analysis because it provides concrete, tangible information and allows complex issues to be more easily understood. Qualitative data can often better capture the complexity of social issues by describing the often intangible impact of social problems and policies that attempt to remedy them. Both quantitative and qualitative data are important tools for policy analysis, and both can demonstrate the implications of public policy.

Another way in which policy analysts describe and present data is through the use of graphs, charts, maps, and tables. Visual images allow analysts to capture the significance of complex social issues in a simple and easily understandable form. According to Orfield (1997), demographic and economic data mapping “allowed politicians to quickly create images of both demographic patterns and the implications of fiscal and land use policies” (p.14). Visual representation of data can lead to unique interpretations of data and findings that may otherwise not be noticed. Policy analysis that is transparent labels graphs, charts, maps, and tables clearly and accurately, reducing the opportunity for misinterpretations.

3.3 Fair and objective

The ultimate goal of policy analysis is to achieve objective rationality through reasoning, logic, and empirical observations (Irwin, 2003). Policy analysis is more reactive than other parts of the larger policy process, such as planning or implementation (Patton & Sawicki, 1993), but each part is equally susceptible to personal opinions and biases. As a social science, policy analysis cannot be divorced from the analysts’ conceptions of the problems, biases, or perspectives. Galster (1996) argues that policy analysis cannot be independent, objective, or infallible. While analysts are inevitably affected by policy, fair and objective analysts maintain focus on the policy itself rather than on distracting or irrelevant material.

Policy analysis is a response to an issue, not a response to an analyst. When exploring alternate points of view or attempting to strengthen their own argument, analysis is given to the content of the problem or the effectiveness of the policy. The views of authors should not be dismissed, nor should the authors who present them be attacked. Policy analysts offer a more credible and effective analysis when it is grounded in fair and objective exploration of the problem.

By identifying alternate points of view, the policy analyst offers a more comprehensive understanding of the problem. Exploring different perspectives can raise the level of debate by displaying the problem and alternative solutions in all their complexity (Patton & Sawicki, 1993). A thorough analysis incorporates a diverse range of relevant views and values and then effectively responds to each. Analysts may respond directly or indirectly but should be guided by well supported and reliable data.

Presenting alternate points of view may also force the analyst to reexamine their opinions, values, and assumptions (Gerston, 2002). Analysts may adopt the alternate view if the other argument is validated by facts and data, is well supported, and makes intuitive sense. Policy analysis is guided by a constant process of learning and communicating. Social problems are dynamic; the meaning and significance may change among people, throughout time, and across contexts. As a social scientist, policy analysts should approach alternate points of view and diverse data with objectivity.

Analysts that identify diverse perspectives ultimately provide a richer understanding of the problem and important considerations and a more reliable argument. It is equally important for analysts to acknowledge that different points of view do not cancel each other out. Different points of view are not necessarily mutually exclusive, but may instead represent different approaches to understanding the same problem.

3.4 Provide proper citation

Crediting the original authors and sources of information is not only a legal obligation, but is mandated by professional ethics as well. Citation should be provided in the body of the text, clearly differentiating the work of the analyst from the work of others. Methods such as the American Psychological Association (APA) provide a means of structuring citations so that readers can easily find sources of information used in the analysis. The APA and other common models present a unified and understandable means of crediting and providing access to sources (APA, 2001).

A reference page includes a more detailed citation. Just as data used in the analysis support interpretations and findings, so reference citations document statements made about the literature and sources (APA, 2001). Because all the sources are clearly displayed, the reference page also provides an opportunity for quick assessment of the number and quality of sources used.

3.5 Avoid errors of omission

In their attempt to understand the implications of complex social problems, policy analysts are often constrained by limited time and resources. Analysts, therefore, must often compromise between time and depth of analysis (Irwin, 2003). While such constraints are not uncommon, policy analysts should always disclose the limitations and weaknesses of their analysis. Limitations and weaknesses of the analysis may be a result of the analyst's ability or capacity to perform or they may be a result of factors that are not in the analyst's control. Perhaps there is limited research or few substantive sources from which to draw upon. Or, perhaps the research and sources used in the analysis are difficult to validate. By disclosing the limitations and weaknesses first, the policy analyst addresses a potential critique of the analysis before it is made and minimizes the potential misunderstanding by others that may occur in interpreting the "strength" of the findings. In a thorough report, it is important to cite the limitations and weaknesses. The failure to do so would be an example of an error of omission. A thorough and effective report will admit these weaknesses, bringing more credibility to the other portions of the analysis.

Given that social science research is often constrained by time and resources, analyses will inevitably contain limitations and weaknesses. The unstated, tacit assumptions or perceptions contained within an analysis can still prove useful in the attempt to understand policies and their implications. What points of view were not represented? What assumptions are made about the problem? Who benefits from the policy and why? Policy analysis should reflect an understanding of the social and cultural conditions that influence how problems are conceptualized and approached. Analyzing the policy in its social and cultural context may also reveal flaws in the way policy is implemented, allowing policy planners to confront resistance or inadequacy directly.

In the next section, the standards of due diligence are applied to 5 reports on density and assigned a score based on the elements of rigorous analysis.

4.0 Elements of Rigorous Analysis

The research group was given five density reports by the Michigan Municipal League, under the direction of Arnold Weinfeld:

1. Creating Great Neighborhoods (Kackar, A. & Preuss I. (2003). *Creating Great Neighborhoods*)
2. Urban Smart Growth & Construction Employment (Mattera, P. & LeRoy, G. (2003) *The Jobs are Back in Town: Urban Smart Growth and Construction Employment*)
3. Investing in a Better Future (Muro, M. & Puentes, R. (2004). *Investing in a better future: A review of the fiscal and competitive advantages of smarter growth development patterns*)
4. The Fiscal Impacts of Alternative Single Family Housing Densities (Najafi, et.al (2006). *The Fiscal Impacts of Alternative Single Family Housing Densities: Infrastructure Costs*)
5. Choices in Zoning: The High Cost of Density (Anderson, B. (2005). *Choices in Zoning: The High Cost of Density*)

The original task was to review the density reports and present an analysis of the benefits and drawbacks of high-density development. After discussing the content of the reports, it became clear that the variation in due diligence among the reports would skew any conclusions made by the research team. The variation prompted the research group to focus instead on the elements of due diligence in policy analysis.

After collaboration within the group, a template for rating due diligence standards was developed. The established criteria would serve as a tool when reviewing the document and assigning a score. Each author read 2 of the 5 reports and rated the standards of each report according to the ERA score, with a score of 1 being “Not observable”, 2 being “Some indication”, and 3 being “Observable”. The process for obtaining an average ERA score can be understood on 3 steps.

A checklist was used in determining whether standards were unobservable, sometimes observable, or observable (see Appendix A). A table was also used to further assist in the process of assigning a score (Table 1). The table outlines the indicators used in determining whether a standard was not observable, sometimes observable, or observable. While it includes the same information as the checklist, the table provides a more visual guide for assessing the overall absence or presence of due diligence standards.

First, each report is read and given a numerical score for each of the 5 criterion. Researchers assigned to read the same article met to review the criteria and assign an ERA score to each standard of due diligence.

Second, the report's element scores were then added together and then divided by 5 (5 Elements of Rigorous Analysis) to identify the unweighted average score of each report. This makes it easier to compare the different scores of the reports and helps to establish a score ranking. The average ERA score was 2.17 for the first report, 2.83 for the second report, 2.67 for the third report, 2.00 for the fourth report, and 1.67 for the fifth report.

Finally, the unweighted average score of the 5 reports were added together and divided by 5 (5 evaluated research reports). This allows policy analysts to recognize the combined average score of the reports. This permits the analysts to compare individual reports to the overall average and maybe to exclude specific reports for further decision making processes that fall under a chosen score minimum (for example the overall average). The unweighted average, 11.34, was divided by 5, resulting in a total average ERA score of 2.268 for the 5 density reports.

Table 1: Scoring based on the Elements of Rigorous Analysis

	Present Reliable Sources	Be Transparent and Explain Cause and Effect	Be Fair and Objective	Provide Proper Citations	Avoid Errors of Omission
3 <i>(Observable)</i>	<ul style="list-style-type: none"> - Many sources used - Sources contain diverse perspectives - Credible sources used throughout document 	<ul style="list-style-type: none"> - Use of data is explained - Adequate explanation for how a conclusion was obtained - Document displays data in some form (i.e. charts, tables) 	<ul style="list-style-type: none"> - Alternative points of view presented - Few statements based on opinion or personal bias - Statements backed by evidentiary analysis 	<ul style="list-style-type: none"> - Sources are cited consistently - Citations follow professional guidelines consistently - Reference page included 	<ul style="list-style-type: none"> - Limitations adequately disclosed - Weaknesses adequately disclosed - Personal biases and assumptions adequately disclosed
2 <i>(Some Indication)</i>	<ul style="list-style-type: none"> - Some sources used - Sources contain some variation in perspective - Credible sources used sometimes 	<ul style="list-style-type: none"> - Explanation of data limited - Some reasons given for how a conclusion was obtained 	<ul style="list-style-type: none"> - Alternative views sometimes presented - Opinions or personal bias the basis of some arguments - Some evidentiary analysis 	<ul style="list-style-type: none"> - Some sources cited - Citations sometimes follow professional guidelines 	<ul style="list-style-type: none"> - Some disclosure of limitations - Some disclosure of weaknesses - Some disclosure of personal biases or assumptions
1 <i>(Not Observable)</i>	<ul style="list-style-type: none"> - Few sources used - Sources include no variation in perspective - Credible sources rarely used 	<ul style="list-style-type: none"> - Data not explained - No indication for how conclusions are reached - Data not displayed in some form 	<ul style="list-style-type: none"> - Few alternative views presented - Opinions main basis of argument - Statements rarely backed by evidentiary analysis 	<ul style="list-style-type: none"> - No citations of sources used - Citations do not follow professional guidelines - No reference page 	<ul style="list-style-type: none"> - No disclosure of limitations - No disclosure of weaknesses - No disclosure of personal biases or assumptions

5.0 Limitations

It should be noted that there are several limitations associated with the ERA rating system. These limitations are described below:

First, it is argued that a public policy document must meet certain standards and criteria of due diligence before it can be considered as an effective evaluation. And while there is a definite need for such rigor in analysis, it should be noted that accurate and well developed studies may be dismissed from thought if the report is not properly written. As a result, implementing the ERA score limits new ideas from being considered if the idea is not properly published in a way that meets the evaluative criteria.

Second, new ideas will lack the research and other documentation when compared to concepts that have existed for some time. As a result, policy documents describing these new ideas will have a low ERA score in providing alternative sources. It is important to note this limitation, such that new ideas are not immediately dismissed because there isn't preexisting evidence to support the new and innovative idea.

Third, properly rating a document with an ERA score is limited to the extent which the reader's rating is reliable or valid. If the individual making the rating does not perform effectively, or has another agenda, the results may be skewed. It is therefore important that multiple, well qualified individuals review the documents to develop the ERA score.

Fourth, the process is limited in the sense that it requires time, effort, and potentially money to perform the analysis.

The following excursus provides basic background information on density in Michigan to help orient readers who may be unfamiliar with the current circumstances. Then, examples from the 5 reports are given to illustrate the reasons for assigning criteria a certain ERA score.

Excursus: The Subject of Density – Some Background Information:

Urban Sprawl is destroying Michigan’s farmlands at an alarming rate. Between 1981 and 1992 the Great Lakes basin lost more than 4.5 million acres of farmland, which equals nearly the size of Lake Ontario. According to the American Farmland Trust, of the top 20 most threatened farmland regions in the USA, five of them are in the Great Lakes region (Michigan Land Use Institute, 2000). Even though Urban Sprawl threatens Michigan’s environment, there are many innovative and good faith efforts underway by Michigan cities, townships, and counties to manage growth and change effectively, despite steady or even declining population in the state (website: [apa michigan report](#)). A national and even global attempt to address poorly planned and sprawled development is the so called Smart Growth movement with its more design oriented associate New Urbanism.

In the course of debating Urban Sprawl, density has emerged as a hot topic. But what exactly is density? “Density is generally defined as the amount of residential development permitted on a given parcel of land. It is typically measured in dwelling units per acre – the larger the number of units permitted per acre, the higher the density; the fewer units permitted, the lower the density” (Meck & Morris, 2004). There are two different ways of measuring density:

Gross Density: Total residential units / total development land area

Net Density: Total residential unity / total residential land area (excludes roads and other uses)
(Meck & Morris, 2004)

6.0 Results

The standards of due diligence were applied to reports on density in Michigan cities. Each report was analyzed based on the previously defined standards of due diligence, and the examples below are given to demonstrate the application of the ERA evaluation model.

Creating Great Neighborhoods - Average rating: 2.17

Kackar, A. & Preuss I. (2003). *Creating Great Neighborhoods*.

Article summary

The article examines the multiple advantages of dense communities through the description of selected density initiatives across the country. The authors argue that density helps to create walkable neighborhoods, supports housing choice and affordability, expands transportation choices, improves security and helps to protect the environment. The study shows that neighborhood design, mixed uses, and location play key roles in determining the success for dense communities.

Present reliable sources: Observable

The authors argue that development with density costs less as opposed to conventional “sprawl” way. In one of the paragraphs they bring the following example:

“Density cuts infrastructure costs. A report by U.S. Office of Technology Assessment (OTA) found that it cost a western city \$10,000 more to provide infrastructure to a lower density suburban development than to a more compact urban neighborhood. Similarly, the Urban Land Institute (ULI) found that infrastructure costs per housing unit drop dramatically as density increases. The combined cost of utilities, schools and streets falls from \$90,000 for one dwelling sited on four acres to just over \$10,000 per unit for developments of 30 units per acre (OTA-ETI-643, 1995; ULI, Weiman, 1996” (p. 7).

Be transparent and explain cause and effect: Some indication

The authors do not disclose the assumptions underlying their argument, that high density development creates convenient amenities, walkable neighborhoods, reasonable taxes and environmental quality. On page 12, for example, the authors describe in details the affordable housing project in Breckenridge, CO. \$1 million dollar subsidies ensure the affordable price of housing in Wellington neighborhood for essential city employees, like police officers, nurses and

teachers. The authors do not disclose the assumptions that underlie their argument, explain how those assumptions were arrived at, or how the assumptions may have impacted the report. Looking at this perfect example of affordable housing through the subsidies provided by local government, one can wonder how is that related to density. The authors do explain how they arrived at other conclusions throughout the paper, however, and presented transparent arguments for their main findings.

Be fair and objective: Some indication

The authors do not criticize anybody's work or views, nor do they say that their approach is the only acceptable method. However, they do not present alternative points of view. The authors describe in detail how density helps to create great places through the creation of walkable neighborhoods, support of housing choice and affordability, help to expand transportation choices, support of community fiscal health, the security improvement and environmental protection. Case studies of successful high density neighborhoods are presented and illustrate instances of successful high density development. However, the authors do not identify potential disadvantages, alternative perspectives, or important considerations that may lead to a different analysis. Having fully documented and cited the advantages of high-density cities, the authors do not identify disadvantages or other perspectives.

Provide proper citation: Observable

One of the projects described by others is Courthouse Hill development in Arlington, Virginia. It is an infill condominium and townhouse development project. The authors bring the following phrase as an abstract:

“The innovative project fosters a sense of community and space in an otherwise highly urbanized area, and its layout provides for effective traffic management in a livable community – a combination not often achieved”. – Urban Land Institute award citation, 1998, page 27.

Avoid errors of omission: Not observable

The authors did not disclose the limitations of their study, the assumptions underlying their central argument, or the shortcomings of their conclusions. They did not indicate whether the case studies were representative or responsive to diverse needs nor disclose the limited application of the

findings. They did not discuss any limitations of research, any difficulty in obtaining data, or any shortcomings of their key findings.

The Jobs are Back in Town: Urban Smart Growth and Construction

Employment - Average rating: 2.83

Mattera, P. & LeRoy, G. (2003) *The Jobs are Back in Town: Urban Smart Growth and Construction Employment*.

Article summary

The article argues the benefit in terms of construction jobs associated with smart growth development and attempts to determine the accuracy of the belief that sprawl generates more construction jobs. In doing so, the article describes the many benefits of construction jobs associated with urban reinvestments, and attempts to quantify the often overlooked costs associated with new development along the urban fringe. The article concludes in saying that urban reinvestment and redevelopment creates just as much, if not more, construction work when compared to sprawled developments.

Present reliable sources: Observable

An example where the author presents a reliable source is when they reference a study by Arthur Nelson in the Journal of Planning Literature to build their argument. The authors state, “here we find that rehabilitation investments are in the range of \$100,000 or 167% more per new resident than in business-as-usual regions” (p. 52).

Additionally, when discussing job creation as related to sprawl, the article directly references the 600 page report by the Federal Transit Administration, entitled “The Costs of Sprawl”, to further support their argument (p. 7). A third example is the authors’ reference of the U.S. Census when discussing population figures (p. 8). As mentioned, this report cites the claims made and also uses a diverse range of documents from various perspectives. In doing so, and using a wide breadth of reliable sourcing, this trait can easily be identified as observable.

Be transparent and explain cause and effect: Observable

Throughout the document, the authors explain the reasoning used to draw their conclusions. Further, the methodology used to reach the conclusion is clear and well-explained. Without clear transparency, it is likely that many of the authors' assertions would be dismissed. An example of this transparency can be found in the document when the author states that "highway spending involves costs other than labor" and that construction "expense is not present when an existing road is being improved" (p. 31) when using to describe the hidden costs of sprawled developments.

Be fair and objective: Some indication

The goal of the document is to show that smart growth and dense development do not necessarily result in less construction jobs. To make that statement, the authors briefly present the opposing point of view that sprawled development results in more construction and more work. The document presents several case studies. In each of the studies, the authors do not to criticize the work or views of others, and they disclose that their approach is just one of many that could be taken. However, alternate points of view are only minimally presented and do not provide an adequate understanding of the differences in perspectives. Thus, this documentation only shows 'some indication' of being fair and objective.

Provide proper citation: Observable

The following example shows how sources are properly cited: "There are other benefits to smart growth, as the literature is beginning to show. They relate to higher incomes (Nelson and Peterman 2000; Nelson and Foster 1999)." This type of referencing, along with a bibliography, provides more descriptions on the source and can be found throughout the document.

Avoid errors of omission: Observable

In the beginning of the document, the authors bring forth the weaknesses of their paper. An example of disclosing weaknesses from the document is given below:

"Unfortunately it is not possible to directly compare the construction job-creation impact of new highways with new mass transit projects, because of an absence of comparable data for the latter" (p. 2).

In this statement, the author is bringing forth evidence that the analysis may be weak in this particular category.

Investing in a Better Future - Average rating: 2.67

Muro, M. & Puentes, R. (2004). *Investing in a better future: A review of the fiscal and competitive advantages of smarter growth development patterns.*

Article summary

In their report for the Brookings Institute, Muro and Puentes conduct a meta-analysis of density and smart growth research. Their literature review explores the extent to which growth and development can benefit governments, businesses, and regions during fiscally stressful times. They find that the literature suggests the cost of providing public infrastructure can be reduced through planning and design, economic performance is enhanced when new development promotes vital urban centers, and suburbs also benefit from investment in healthy urban cores.

Present reliable sources: Observable

In their report on the fiscal and competitive advantages of smart growth, Muro and Puentes (2004) provide 69 references to support their argument. The number alone signifies depth of research, and the diversity of sources used signifies breadth as well. Professional journals from various fields and perspectives are used throughout the paper, including planning, real estate, economics, business, and environment. Some sources are reports from state and federal government departments, such as the Massachusetts Department of Food and Agriculture and the U.S. Department of Commerce. Some sources are from Universities and others are from news papers. Data represented in the analysis is supported by multiple sources and perspectives, and the arguments and conclusions are much stronger as a result.

Be transparent and explain cause and effect: Some indication

For their report on density, Muro and Puentes (2004) consistently explain how data is computed and how it applies to the analysis. They assemble data from other density reports, explaining how variables were defined and measured in each report and then detailing how it is applied to their argument. With each argument easy to understand and well supported, the eventual conclusion is

stronger and more convincing. Each table is clearly labeled and easy to read, and the data is explained and justified more thoroughly in narrative form. The following passage and table are taken from the report as examples of a transparent argument:

“The costs per dwelling unit ranged all the way from a low of \$9,252 for downtown Orlando (1989 dollars) to a high of \$23,960 to serve new homes in Wellington, a low-density fringe development. And the study went further. By deeming the ‘compact’ and ‘contiguous’ growth cases ‘planned’ and the others ‘unplanned’ the analysis estimated the savings that might accrue from smarter, planned growth.”(p.15).

Table 2. Community and Regional Costs per Single Family Dwelling Unit Under Planned and Unplanned Development in Florida (Duncan and others, 1989)

Category of Costs	Unplanned Development	Planned Development	Unplanned v. Planned Development	
Roads	\$7,014	\$2,784	\$4,230	60.3%
Schools	6,079	5,625	454	7.4%
Utilities	2,187	1,320	867	39.6%
Other	661	672	-11	-1.7%
Total	\$15,941	\$10,401	\$5,540	34.7%

Source: Office of Technology Assessment, *The Technological Reshaping of Metropolitan America*

Measures for “planned” and “unplanned” are given, as is their application to the analysis. The table is titled, labeled, and cites the source of information.

Though the data is clearly presented and explained, the report is a meta-analysis of numerous reports. As a result, most of the evidentiary analysis is based on the conclusions made by others. The detailed process for arriving at each conclusion is not explained thoroughly.

Be fair and objective: Some indication

Muro and Puentes present arguments made in pro-sprawl reports and explore the impact different concepts have on density research. They consider other arguments fairly and objectively, never criticizing the author or the author’s perspective. In presenting alternative perspectives, Muro and Puentes (2004) state that “dispersed, low-density living clearly remains a popular preference among American households. What is more, significant evidence suggests that such development patterns bring with them lower land and housing costs – a significant factor in a nation with

serious housing affordability challenges” (p.5). However, Muro and Puentes argue the advantages of sprawl do not preclude the disadvantages. They only minimally present alternate perspectives and continue at length to outline of the economic and fiscal benefits of concentrated development.

Provide proper citation: Observable

Proper citation allows readers to verify the source of the data. Disagreements with data given can then be traced back to the proper source, and the focus stays on the data or the content of the analysis. Each table presented by Muro and Puentes is titled and data is labeled. More thorough explanation of data and implications are given in narrative form and reference the table. All citations made in the paper contain the author and date, and each is included in the references at the end of the report.

Avoid errors of omission: Observable

Muro and Puentes state the limitations and weaknesses of their report. The following passage is an example:

“This admittedly limited definition of smart growth is necessitated by the limited scope of academic literature to date...this proxy definition fails to capture the full social, environmental, and design dimensions of smart growth, and leaves aside the much broader panoply of goals (such as transportation choice and social equity) and tools (such as open space preservation) that constitute the smart growth paradigm” (p. 4).

Here the authors describe how external factors impacted their report and the consequences of limited research.

The Fiscal Impacts of Alternative Single Family Housing Densities - Average rating: 2.00

Najafi, et.al (2006). *The Fiscal Impacts of Alternative Single Family Housing Densities: Infrastructure Costs*.

Article summary

The Fiscal Impacts of Alternative Single Family Housing Densities: Infrastructure Costs” is a market based solutions report prepared by the MSU Land Policy Institute in May 2006. The report examines how high and low density single family housing developments influences the

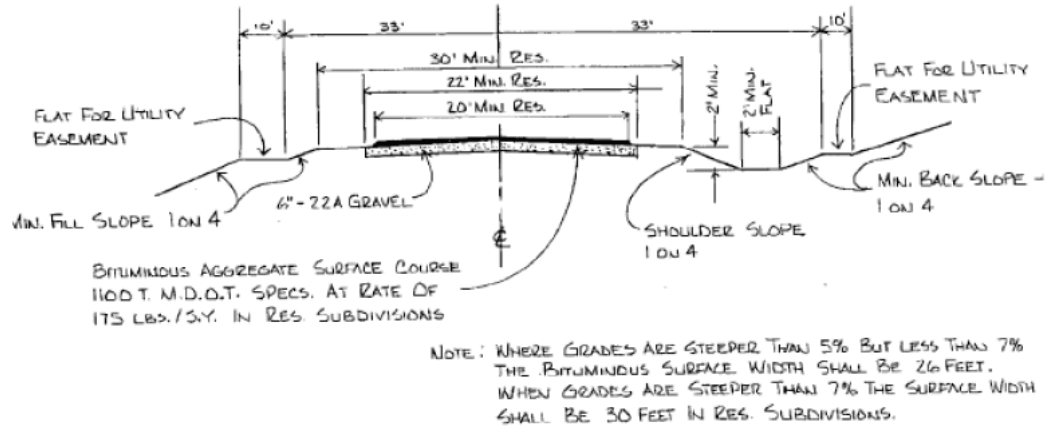
expenses of providing services to residents, predominantly transportation, water, and sewer services. The report highlights that the construction, operation and maintenance costs are lower in residential areas or subdivisions that provide a high density. Eight case studies across Michigan for both high and low density developments provide the contextual structure and the foundation of the report's key findings.

Present reliable sources: Some indication

The report on the fiscal impacts of alternative single family housing densities by the MSU Land Policy Institute provides 28 references (on 56 pages) to support the stated arguments. The number of references and the diversity of sources reveal that the report offers some indication in terms of depth of research. Professional journals and reports from a range of fields are used in the paper. However, the list of references lacks a high quantity and especially shows that almost half of the used references are dated. Seven of the 28 references are from the 1970s, three are from the 1980s and one is even from 1957.

Be transparent and explain cause and effect: Not observable

To illustrate the importance of conducting a transparent investigation, the following example is drawn from a 2006 report by the MSU Land Policy Institute:



TYPICAL CROSS SECTION

NO SCALE

NOTE: SEE CURRENT RD. COMM. SPECS. FOR ADD'L. DETAILS

*Silver Lake Farms #2 X-Section
 Circa 1989
 (is a public road)*

(MSU Land Policy Institute, 2006, p. 17)

The example reveals the significance of including clear and understandable illustrations for density research and analyses. The illustration is highly technical and difficult to understand without prior experience or knowledge in the field. Analysts attempting to clarify complicated issues should provide clear illustrations and explain data thoroughly so that laypeople can easily read and understand the argument and conclusion. People unfamiliar with construction and infrastructure industries may not understand the meaning or significance of the technical drawings in the report. Data and illustrations need to either be self-explanatory or accompanied by explanation; otherwise, the reader may be distracted from the analysis in attempting to understand the information.

Be fair and objective: Some indication

The stated arguments in the report focused on the content and not on individual opinions. Alternative points of view are presented without the authors discrediting their work or dismissing it as erroneous. Rather than attacking alternate research and analysts, the authors of the report

promote high density by identifying cost benefits in terms of infrastructure costs. The following passage is an example of a fair and objective argument:

“In the realm of land use issues, “density” is a loaded term. It has a negative connotation for those people who do not want to live too closely together. It is seen in a positive light by people who are concerned about the provision of municipal services, traffic congestion, and walkability of their neighborhoods. Density means different things to different people. Trying to achieve high density without regard to design and impact on a community could be problematic. However, high density does have its benefits” (MSU Land Policy Institute, 2006, p. 7).

The report identifies that although there is no economic or physical reason why it should be so, owners of larger lots appear to pay lower user fees for public services than owners of small lots. Overall it can be said that the report “The Fiscal Impacts of Alternative Single family Housing Densities: Infrastructure Costs” hints at some alternative points of view but lacks to discuss pro low density arguments in depth.

Provide proper citation: Some indication

As mentioned earlier proper citation allows readers to confirm the source of the data and incongruities with data given can eventually be traced back to the proper source. Each table and figure presented by MSU Land Policy Institute is titled and a more systematic clarification of the presented data is given in narrative. However, no table provides a source. It can be assumed that most data was acquired by the Land Policy Institute. Yet, future researches that want to reproduce and intensify the study’s focal point will have difficulties in analyzing the used data. Or in case that the data was conducted by the author who wrote the report, needs to label the data, table or illustration with “own data”, for example, to inform the reader where or how to obtain the data. From a more positive perspective it needs to be elucidated that all citations made in the paper contain the author and date, and each is integrated in the references at the end of the report.

Avoid errors of omission: Some indication

The MSU Land Policy Institute states some limitations and weaknesses of their report on the fiscal impact of density. The following passage is an example: “It should be noted that this analysis is limited to those subdivisions that are within local government public service boundaries and to the three public services listed above (e.g. storm water infrastructure was not included in this analysis)” (MSU Land Policy Institute, 2006, p. 7).

Choices in Zoning: The High Cost of Density - Average rating: 1.67

Anderson, B. (2005). *Choices in Zoning: The High Cost of Density*.

Article summary

This article discusses the issue of density and how it pertains to various townships in Michigan. This document was created by Bill Anderson, Legislative Liaison to the Michigan Township Association, and gives insight on the concern that townships are having with the new development in townships. The author argues that certain infrastructures that will harm township if density is developed in these areas. Some concepts discussed are: transportation, density, the meaning of “villages”, economic development, and zoning.

Present reliable sources: Not observable

The author makes no reference to the source of information used in the report. For example, the author states “Local officials know that the days of federal funding for sewer plants have come and gone” (p.5), though doesn’t specify which local officials made the statement. If the author used specific names or sources, the argument would have been more reliable. Similar statements made throughout the report suggest that opinions serve as the basis for argument rather than evidentiary analysis.

The author uses only 2 sources throughout the document, one of which is the U.S. Census. Since the census only uses those who participated in the survey, an undetermined number of people are not included in the findings. No other credible source is used to support the argument, and the conclusions are, as a result, less reliable.

Be transparent and explain cause and effect: Some indication

Earlier in this paper we described being transparent as a method in which the paper describes the problem clearly and provides the data used to obtain their conclusion. This brief showed some indication of being transparent. The author argues that the cost to maintain a township is less than the cost to maintain a city. The author uses the U.S. Census to support the eventual conclusion, stating that,

“According to the U.S. Census Bureau, cities in Michigan spent nearly \$12 billion on municipal operations in fiscal year 2001-2002. During the same time period, townships spent \$1.7 billion-one eighth the amount of cities” (pg. 6).

This information does give strength to the author’s conclusion on the idea that townships are saving money on municipal operations. Although this gives some data that supports the conclusion, it does not state the problem clearly or provide an adequate explanation of the data and conclusions.

Be fair and objective: Some indication

An example of the author making unsubstantiated assertions can be seen in the following paragraph from the report:

“The lack of sidewalks goes unnoticed by most residents. The roads are wide enough to accommodate cars, bikes and walkers. Generally, car traffic is minimal enough so that even younger bikers interact easily with the traffic. Storm water runoff is of minor consequence, because most water never makes it to the ditch, much less the retention pond. Water from roads, driveways and roofs is simply absorbed by the front lawn. The only time a resident sees any governmental service is when the snow flies and the road commission truck clears the subdivision roads” (Anderson, 2005, p.9).

This statement is a view from the author on urban areas and has no factual backing nor does it suggest alternative points of view. This argument relies primarily on opinion and does not have any statements that are supported by evidentiary studies.

Provide proper citation: Not observable

The statement below is an example of where the author does not source or cite the material used for the Macomb Township:

“What is ignored is that this activity will likely accelerate the exodus from our core city areas. In today’s market, the outer ring around Detroit keeps land values at a premium by limiting the supply of building. Thus, these growth areas are able to keep a steady growth pattern yet one that does not overwhelm the community. Some areas are testing this limit, however, such as Macomb Township, which has seen 1,500 new houses annually for the past several years” (pg. 13).

The source of data is never cited, and it is impossible for the reader to verify its legitimacy or reliability.

In the conclusion the of the policy document the author does not provide a reference page or a bibliography. Consequently, if a person wants to refer back to the authors information, they will find that they cannot, which is detrimental to the person using the document to create a policy.

Avoid errors of omission: Some indication

The error of omission was some what difficult to find in this brief although some indication was found. The author mentions in the brief that there are occasions of when planners fail to mention certain information on “new urbanism.” During this section the author explains that there are some limitations that planners have when creating “new urbanism”, for example creating density without further cost to the public domain. There are few examples in the brief but at times it’s reflected on the same limitations and there were more that could have been written.

7.0 Key Findings

Among the five reports on density issues described above the most rigorous one with a score of 2.83 is **Urban Smart Growth & Construction Employment**, and the lowest score is 1.67 for **Choices in Zoning: The High Cost of Density**. The average score of the Elements of Rigorous Analysis (ERA) for these particular five articles is calculated by summation of each score divided by five, which is 2.27. In addition to **Urban Smart Growth & Construction Employment (2.83)**, **Investing in a Better Future (2.67)** is above the average score. The other two, **Creating Great Neighborhoods (2.17)** and **The Fiscal Impacts of Alternative Single Family Housing Densities (2.00)** are below average score. It should be mentioned that we are only comparing these five reports to each other. In future, we suggest that the universal average score may be developed for a particular section of policy briefs based upon reports evaluation for some period of time, for instance, annually.

Table 3: ERA Evaluation Results

Rank	Report Name	ERA Score
1	Urban Smart Growth & Construction Employment	2.83
2	Investing in a Better Future	2.67
3	Creating Great Neighborhoods	2.17
4	The Fiscal Impacts of Alternative Single Family Housing Densities	2.00
5	Choices in Zoning: The High Cost of Density	1.67

The following table summarizes the article's observable adherence to standards of due diligence. A numerical score (1 = Not observable, 2 = Some indication, 3 = Observable) was assigned to each criteria. Based on the numerical assigned, an average unweighted score was assigned to each report.

Table 4: ERA Score Given to the Density Reports

Criteria	Article				
	Creating Great Neighborhoods	Urban Smart Growth & Construction Employment	Investing in a Better Future	The Fiscal Impacts of Alternative Single Family Housing Densities	Choices in Zoning: The High Cost of Density
Present Reliable Sources Be Transparent and Explain Cause and Effect	3 Observable	3 Observable	3 Observable	2 Some Indication	1 Not Observable
	2 Some Indication	3 Observable	2 Some Indication	1 Not Observable	2 Some Indication
Be Fair and Objective	2 Some indication	2 Some Indication	2 Some Indication	2 Some Indication	2 Some Indication
Provide Proper Citations	3 Observable	3 Observable	3 Observable	2 Some Indication	1 Not Observable
Avoid Errors of Omission and Identify Limitations	1 Not Observable	3 Observable	3 Observable	2 Some Indication	2 Some Indication
Unweighted Average Score	2.17	2.83	2.67	2.00	1.67

1 = Not Observable

2 = Some Indication

3 = Observable

8.0 Recommendations

After the review of several articles regarding density in urban growth situations, it is apparent that a piece of research must adhere to due diligence to be an effective and reliable piece of evidence for the argument made. Based on these readings, and summarized in the report, the following recommendations have been made:

- There is a necessity for having effective evaluative criteria to appraise a document. To judge the content, and due diligence of a given report, a set of criteria must be developed and uniformly applied to all evaluated documents to ensure the quality of the presented research.
- The selection of the evaluative criteria should adhere to a process of due diligence. In essence, the means of evaluation must be derived in such a way that meets professional approval, and yet still covers all the elements set forth through the process of due diligence.
- Within the criteria, the limitations of the evaluative measures must also be addressed. With every report being unique, developing an all-encompassing evaluative measure will ultimately lead to some unwanted and unexpected errors and limitations.

Conclusion

These criteria, as developed in this report, set forth a new and innovative way to ensure higher quality in policy analyses and therefore better policy. Policy analysis is mutually interactive with conceptions of the problem and policy initiatives (Galster, 1996). As a social scientist, policy analysts are undoubtedly affected by policy and influenced by their own personal views and biases. When performed with due diligence, however, policy analysis is the process of understanding complex social issues through objectivity and rationality. Strong, well supported arguments present reliable sources, are transparent, avoid errors of omission, are fair and objective, present alternate points of view, and provide citation. With due diligence as a guard against undue subjective influences, policy analysts use quantitative and qualitative data to provide a more comprehensive understanding of complex social problems.

Poorly developed policy analyses that fail to meet a minimum standard of rigor have the potential to increase misconceptions and misunderstandings. Policies conceived from inadequate analysis

can result in failed public programs that do not effectively address the public concerns they were intended to alleviate.

It is for this reason that policy analysis must adhere to the strict and binding principles of due diligence. For a document to hold weight as being based on facts, and not merely a collection of ones opinion, a standard of rigor is critical. The evaluative criteria developed in this essay can be an effective tool in ensuring policy analysis meets a required minimum standard of due diligence.

Despite the limitations that are inevitable, a set of reasonable criteria can be created and adopted by both professionals and academics. It is recommended that ERA scoring, once established and accepted, be applied to all documents. Finally, as a measure to ensure the practice of ERA, it is recommended that documents failing to meet minimum standards of due care be seriously questioned, as their evaluations and recommendations may not necessarily be based on factual or reasonable assertions. Poorly developed policy analyses that fail to meet a minimum standard of rigor, according to ERA have the potential to increase misconceptions and misunderstandings. Policies conceived from inadequate analysis can result in failed public programs that do not effectively address the public concerns they were intended to alleviate.

More rigorous policy analysis is essential for reducing the risk of unintended consequences and failed policy implementation. The ERA score will sort out the most comprehensive and reliable policy briefs and allow strong and well-reasoned foundation for policies to be implemented. Ultimately, ERA scoring will move the public policy pendulum towards the decisions made upon the evidential policies rather than ideologically driven.

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Appendix A

Checklist for Assigning an ERA Score

Checklist for Assigning an Elements of Rigorous Analysis (ERA) Score	
Developed by: Lauren Drolet, John Engle, Dipl. Ing. Steffen Hampe, Kairat Karmanov, and Misty Staunton	
1. Number of Sources _____	
2. Type of Sources Used (i.e. Government, professional, popular media, etc.) _____	
3. Are sources used throughout document? Yes ___ No ___ Sometimes ___	
4. Is the data clearly explained? Yes ___ No ___ Sometimes ___	
5. Is there explanation of how conclusions are obtained? Yes ___ No ___ Sometimes ___	
6. Is data displayed using charts, graphs, or other forms? Yes ___ No ___ Sometimes ___	
7. Are alternative points of view presented? Yes ___ No ___ Sometimes ___	
8. Are statements based on opinion? Yes ___ No ___ Sometimes ___	
9. Are statements based on evidentiary analysis? Yes ___ No ___ Sometimes ___	
10. Are sources used in the document given a citation? Yes ___ No ___ Sometimes ___	
11. Do the citations follow professional guidelines? Yes ___ No ___ Sometimes ___	
12. Does the document include a reference page? Yes ___ No ___	
13. Does the author disclose limitations of the report? Yes ___ No ___ Sometimes ___	
14. Does the author disclose weaknesses of the report? Yes ___ No ___ Sometimes ___	
15. Does the author disclose personal bias or assumptions? Yes ___ No ___ Sometimes ___	

Appendix B

Table for Assigning an ERA score

	Present Reliable Sources	Be Transparent and Explain Cause and Effect	Be Fair and Objective	Provide Proper Citations	Avoid Errors of Omission
3 <i>(Observable)</i>	<ul style="list-style-type: none"> - Are many sources used? ____ - Do sources contain diverse perspectives? ____ - Are credible sources used throughout document ____ 	<ul style="list-style-type: none"> - Is the data adequately explained? ____ - Is there an adequate explanation for how a conclusion was obtained? ____ - Does the document display data in some form (i.e. charts, tables)? ____ 	<ul style="list-style-type: none"> - Are alternative points of view presented? ____ - Are statements based on opinion or personal bias? ____ - Are statements backed by evidentiary analysis? ____ 	<ul style="list-style-type: none"> - Are sources are cited consistently? ____ - Do citations follow professional guidelines consistently? ____ - Is a reference page included? ____ 	<ul style="list-style-type: none"> - Are limitations adequately disclosed? ____ - Are weaknesses adequately disclosed? ____ - Are personal biases and assumptions adequately disclosed? ____
2 <i>(Some Indication)</i>	<ul style="list-style-type: none"> - Are some sources used? ____ - Do sources contain some variation in perspective? ____ - Are credible sources used sometimes? ____ 	<ul style="list-style-type: none"> - Is the explanation of data limited? ____ - Are some reasons given for how a conclusion was obtained? ____ 	<ul style="list-style-type: none"> - Are some alternative views presented? ____ - Are opinions or personal bias the basis of some arguments? ____ - Is there some evidentiary analysis? ____ 	<ul style="list-style-type: none"> - Are some sources cited? ____ - Do citations sometimes follow professional guidelines? ____ 	<ul style="list-style-type: none"> - Is there some disclosure of limitations? ____ - Is there some disclosure of weaknesses? ____ - Is there some disclosure of personal biases or assumptions? ____
1 <i>(Not Observable)</i>	<ul style="list-style-type: none"> - Are few sources used? ____ - Do sources include no variation in perspective? ____ - Are credible sources rarely used? ____ 	<ul style="list-style-type: none"> - Is data not explained? ____ - Is there no indication for how conclusions are reached? ____ - Is data not displayed in some form? ____ 	<ul style="list-style-type: none"> - Are few alternative views presented? ____ - Are opinions the main basis of argument? ____ - Are statements rarely backed by evidentiary analysis? ____ 	<ul style="list-style-type: none"> - Are there no citations of sources used? ____ - Do citations not follow professional guidelines? ____ - Is there no reference page? ____ 	<ul style="list-style-type: none"> - Is there no disclosure of limitations? ____ - Is there no disclosure of weaknesses? ____ - Is there no disclosure of personal biases or assumptions? ____

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