Design Excellence Team Interim Report

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INTRODUCTION

This is an interim status report of the Design Excellence Team of the Growth Policy Steering Committee. It is a work in progress. The ideas and analysis contained here will continue to evolve as the team continues to work on further exploring the options for achieving design excellence in Montgomery County.

This paper explores the nature of design as it relates to the built environment, what design excellence is, what the qualities/attributes of good design are, why it is important to consider design excellence while formulating a new growth policy, what are the costs of bad design and benefits of good design, how to achieve design excellence, who influences the design process, what are the factors that impede achieving design excellence, what some of the other jurisdictions have done to achieve design excellence, how to measure design excellence, and options/ideas to achieve design excellence in Montgomery County primarily through a public review process but also through other ways, and promote the value of good design for all public and private developments.

Since the field of design covers almost every product used by humans, a discussion of design can take many forms and incorporate numerous disciplines in the fields of art and science. But in this paper we are concerned only with the design of the built environment. More specifically, we will be discussing the design of physical development, which can be new development on vacant land or the redevelopment of an existing building or facility.

WHAT IS DESIGN EXCELLENCE (OR GOOD DESIGN)?

Design is the process by which we shape our environment for the specific purpose of containing or facilitating human activity. This activity takes many forms: living, commerce, transportation, recreation, etc. At a very basic, minimal level design serves the purposes of housing these activities. All buildings, roads, and other parts of the built environment are built for one or more of these specific functions. Therefore, design must be functional. But no building exists in isolation, separate from its context. We experience it, visually and otherwise, as part of a continuous whole (the context), which changes as we move through space and time. Even if a building is built for a specific purpose, it is experienced in more than one way. We attach different values to various parts of our physical environment: some buildings become instant landmarks, and some are cherished icons because of their historic role even if they are not architecturally significant. Others may have a significant value only for a particular segment of the community. Design is therefore just not purely functional, concerned only with how the

building or space “works”. It is also concerned with some other qualitites beyond pure functionality.

By its very nature design is creative, complex, and seeks to integrate a diverse set of objectives into a conceptual whole. Some of the objectives of design, when referring to built environment, may include sustainability, social justice, aesthetics, historic, cultural, and environmental preservation, functional and efficient infrastructure, and cost effectiveness, to name a few.

If defining design is difficult, defining good or excellent design can be more elusive still. Humans are not satisfied with just meeting the purely utilitarian or functional needs in their shelter and building activity. Always inspired by the beauty of nature, they look for something more than just a utilitarian purpose in their man-made environment. That is the beginning of the quest for design excellence. There is no one factor that defines design excellence. It is a combination of more than one attribute. And more importantly, how different parts of the development relate to each other and to the project’s surrounding as a whole has a greater impact on the quality of the design of a space or development. As a goal, design excellence is about creating better communities, about creating places “where people can afford to live and want to live.” Research has shown that there are some universal attributes of design that are common to all great places, buildings and communites. This paper is primarily concerned with defining those qualities and how to achieve them and not with a prticular style of architecture or taste in the appearance of buildings.

> “*Urban design is the art of making places for people. It includes the way places work and matters such as community safety, as well as how they look. It concerns the connections between people and places, movement and urban form, nature and the built fabric, and the process for ensuring successful villages, town, and cities.*”
> (By Design, Urban Design in Planning Systems: Towards Better Practice, by CABE.)

Universal Qualities of Good Design

Following is a broad list of the qualities of good design that research has consistently shown to be associated with good design in community building. They can be grouped differently, or categorized in a different way with a much more detailed list depending upon the preference and purpose of the analysis.

Good design is:

- **Competitive.** Successful communities are economically competitive and leaders in innovation and creative thinking.
- **Affordable.** They are affordable to all segments of the society in terms of housing, education, transportation and recreation.
- **Safe.** Safety is an essential part of good design. Well-designed places must feel and be safe at all times.
- **Functional.** Great places and buildings perform their basic function in a most efficient way without negatively impacting their surroundings.

- **Accessible.** Well-designed places are easily accessible to all segments of the society through various means of access—cars, transit, walking, biking, etc. They are not just walkable in that they have a sidewalk; the sidewalks and trails are convenient, pleasant and safe. At the same time, the buildings are handicap accessible in the best possible way.
- **Distinctive.** Buildings and open spaces add to the character and aesthetic quality of the community. Well designed places are pleasing to see, feel, and be in. They have a distinctive identity.
- **Diverse.** Successful communities are diverse in terms of population: they welcome people of all ages, income, and social background. They are diverse in terms of their built environment: they have a variety of building types, uses, and open spaces.
- **Sustainable.** They are sustainable from an environmental perspective (low environmental impacts). They are sustainable from an economic and maintenance perspective (low operating costs for the private owners, low infra-structure cost for the municipal services). And they are cost-effective on a long-term basis.
- **Durable/adaptable**. Good design is durable and flexible. Some buildings are made to last a long time (civic buildings, for example). Other can be adapted to different functions if they are no longer suitable for their original purpose. For example, a flexible classroom design should allow the room to divide into two smaller classrooms of 15 students each when the enrolment increases from 25 (the maximum class size) to 30 students instead of having to bring a trailer on site for the extra classroom.
- **Context Sensitive**. Good design is always sensitive to its context. As the development becomes denser in the future, context becomes even more significant since the potential conflicts may be more intense and require better design skills on the part of the designer. A deeper understanding of the context helps identify when it is appropriate to blend in with the surroundings (AFI in Silver Spring) and when it may be appropriate to stand out (the Discovery Headquarter in Silver Spring).

WHY SHOULD WE CARE ABOUT GOOD DESIGN?
And how does design excellence relate to growth management?

Good design is a growth management issue because growth is fundamentally a quality of life issue. Growth is never neutral. It is going to have an effect on the community's quality of life—positive or negative. The impact may not be felt immediately as each building or renovation is completed. But the cumulative effect will be felt and will make a difference to the community's quality of life at some point in the future. Growth management is all about avoiding, minimizing, and mitigating the negative impacts and maximizing the positive aspects of growth. Good design is one of the tools to help manage the desired growth and improve the quality of life of the community. We want good growth, not bad growth, and design quality is the only difference between the two.

From a purely economic point of view we cannot afford to ignore the importance of good design and what it can do to help increase the County's competitive edge in attracting quality businesses and workers in the twenty-first century global market. Good

design is one of the most cost effective ways to achieve that edge. Now that Montgomery County is moving from the *greenfield* development phase to a redevelopment phase, the design and character of that development is going to be much more important than it has been in the past. Research has shown that a better-educated professional segment of the population is attracted to places that have the energy and vibrancy associated with well-designed places for living, working and leisure activities. The new generation of workers is looking for more diverse and attractive places to live and work. And this group can move to other places that offer such qualities far more easily than their parents' generation did.

All development has certain costs and benefits: economic, cultural, social, and environmental. These costs and benefits can be: intentional and unintentional; tangible and intangible; explicit and implicit; short-term and long-term; avoidable and unavoidable. Bad design has additional costs. It is very expensive in the long-term, more so for the community than the developer since a larger share of these costs is borne by the community. For example, an owner can get rid of a building that doesn't have economic value anymore (sell at a loss, or even abandon it). But the community doesn't have that option, and suffers the negative consequences (loss of value for adjoining properties, unsafe conditions) for a much longer period. Even the short-term costs to the developer are ultimately passed on to the community in higher rents, prices of goods and services and other ways. That is why the public sector should be more concerned about the costs of bad design.

The other side of that coin is benefits of good design. Good design can bring some additional benefits to both the developers and the community. For the developer the benefits might be more short-term and purely economic. For the community a good project can be a benefit to the surrounding properties (economic), a source of affordable housing (social) and may have a great open space or amenity (cultural) that would be there for a very long time.

The following is a brief discussion of the costs of bad design and benefits of good design.

WHAT ARE THE COSTS OF BAD DESIGN AND BENEFITS OF GOOD DESIGN

Costs of Bad Design

Bad design imposes different direct and indirect additional costs on the sponsors, the users, and the neighbors of the project as well as the society at large. Some of these costs are more obvious while others are hidden. Some may be well known and short-term but others might not be known for a long time.

Research shows four major categories of the costs of bad design. All of these categories can be divided into sub-categories. And each one can be a sub-category of another. For example, lower income families have to pay a higher percentage of their income for shelter (economic cost), which may leave them with less disposable income for health related costs (social), or they have to live farther out paying higher

transportation bills (economic) and have less time to spend with their family and friends (social). Similarly, traffic congestion has direct environmental and indirect economic and social costs.

Economic costs:

1. Lower return on investment due to lower prices or slow sales.
2. Higher operating costs to building operators as well as occupants (residents, workers).
3. Bad publicity and negative corporate image, which could translate into loss of future business.
4. Lower property values in the future.
5. Higher travel costs for lower income residents due to lack of affordable housing in the County.
6. Lower tax revenues as a result of lower property values.
7. Higher public service costs (police, sanitation, transit, etc).
8. Publicly funded costs to mitigate or correct environmental degradation (stream restoration, flood protection, etc).
9. Loss of competitive edge may result in job loss and economic decline.

Environmental costs:

1. Poor air quality because of excessive and avoidable tree removal.
2. Poor air quality from traffic leading to more greenhouse gas emissions and increased urban heat island effect.
3. Loss of open space due to extended roads, water and sewer lines, electric utilities, and dispersed fire and police services.
4. Poor quality of drinking water caused partly by excessive impervious surfaces near stormwater management systems, streams, and other resources that impact ground water.
5. Loss of forests especially along streams that protect animal habitat critical to keeping waters clean.

Social costs:

1. Segregation of communities by income, race, and educational needs.
2. Health costs for the occupants of a building with poor indoor air quality, or lack of active recreation in a neighborhood.
3. Lack of equal access to recreational and leisure activates to all segments of the society.
4. Lack of communal feeling and a sense of belonging to a community.
5. Loss of quality time with family and community.

Cultural costs:

1. Loss of open space as a visual and recreational amenity.
2. Loss of history and cultural heritage.
3. Loss of identity, local character and building traditions.

Benefits of Good Design

Benefits of good design are the opposite side of the cost/benefit coin. They can be divided into the same four categories: economic, social, environmental, and cultural.

Economic benefits

1. Higher return on investment due to higher prices or sales.
2. Lower operating costs to building operators as well as residents.
3. Positive publicity and corporate image, which could translate into greater future business.
4. Higher property values in the future.
5. Lower travel costs to middle- and lower income residents when more affordable housing is available near jobs.
6. Higher tax revenues as a result of higher property values.
7. Lower public service costs (police, sanitation, transit, etc).
8. Lower publicly funded costs to mitigate or correct environmental degradation (stream restoration, flood protection.
9. Increased competitive edge of a community in the global marketplace.

Environmental benefits:

1. Better air quality and the quality of the drinking water supply.
2. Preservation of animal habitats.
3. Protection of wetlands and other sensitive environmental resources.
4. Improvements to environmental resources in the case of redevelopment where existing development is old and does not meet the current minimum regulatory standards.

Social benefits:

1. Well-integrated communities (by income, race, and educational need).
2. Lower health problems for the occupants of a building, a neighborhood, or society at large.
3. Equal access to recreational and leisure activates to all segments of the society.
4. Positive communal feeling and a sense of belonging to a community.
5. More quality time with family, friends and community.

Cultural benefits:

1. Preservation of open space as a visual and recreational amenity.
2. Preservation of history and cultural heritage.
3. Preservation of identity, local character and building traditions.
4. Better access to cultural amenities for all segments of society.

HOW TO ACHIEVE DESIGN EXCELLENCE?

First and foremost, achieving design excellence requires a champion and committed leadership at the highest level of decision-making in the community. Any effort to achieve design excellence without such a committed leadership will not last long and be neglected over time. It will slowly loose its momentum while raising false hopes

of the community interested in raising the standards of design and ultimately result in disappointment.

Building great communities is not the job, or the responsibility, of just one entity alone. It will also not be achieved by just the public sector through stricter building controls or design guidelines. Building communities is a complex and time consuming process involving a series of decisions by various participants. Good design can only be achieved through a shared vision of the entire community and the collective will of a number of participants in both the private and the public sector through their decisions at various stages of the process. The following discussion explains the role of different decision makers in the design process and why achieving design excellence is so difficult.

Decision makers

All decision makers/actors in the development process have some role in shaping the design of the project and ultimately our built environment. Some have more influence than others based on their priorities, knowledge of the design issues, and proximity to the design process. Generally, the more distant a participant is from the actual designing of the project, the less influence he or she has in the design process. For example, the architect of a building or the engineer of a road project has greater direct influence on the design of the final product than a banker who finances the project, but who may not even know, or need to know, the site.

The typical list of actors in a medium size development project includes: the developer, the property owner, the investor (the banker), the land planner, the architect, the landscape architect, the transportation planner, the environmental planner/engineer, the government planning agency staff, the local government approval authority, the local permitting department, to name a few. This list would of course vary depending upon the type and magnitude of the project and the nature of permits required before the project can proceed.

The most critical participant or actor in any development project who has the most influence on the quality of the design of the project is the designer, which is typically an architect, a land planner or an urban designer. On a small project involving only a building it may be just the architect of the building and possibly a landscape architect. On a larger project involving multiple buildings, roads, open spaces, and other facilities, there may be one of these professionals for each stage or part of the project.

Factors that Impede Design Excellence

Since nobody disagrees with the general notion that all developments should be well designed, the fact that there is so much bad design in our built environment indicates that a better understanding of the development process and the factors that impede good design is needed.

Bad design does not just happen; it requires a lot of work. It is the result of a series of bad decisions made during a complex process by different actors at various times. These decisions are made not necessarily in bad faith, but they are certainly guided

and controlled by conflicting priorities and requirements of the various parties involved. Following is partial list of factors that may hinder achieving the best possible design of a development.

1. **Lack of commitment to design excellence.** For example, a developer may want to deliver something quickly and cheaply to reduce carrying costs and to capture the market before the demand changes. Achieving better design, however, may require him to take more time to explore other design options.
2. **Lack of knowledge and design skills on both the private and public side**. Sometime the designers and those reviewing and approving their projects don't have the right knowledge or skills to raise the right questions that would lead to better design exploration.
3. **Higher initial cost** in terms of time, money and resources.
4. **Lack of a comprehensive design-oriented review process** that asks the right questions and requires that better design alternatives be explored and evaluated.
5. **Lack of consensus or a shared vision** of what is good design among different stakeholders. For example, most storeowners want parking right in front of their stores, and for stores to be visible from the highway. The community, on the other hand, may prefer stores more integrated in to the community and oriented to pedestrians.
6. **Conflicting priorities of different stakeholders.** A developer may define the problem in terms of maximizing units and profits, while the community planner defines the problem as compatibility and environmental preservation.
7. **Lack of easy and simple methods to assess value added by good design.** This becomes especially difficult in assessing non-economic values such as social and cultural benefits.

Design Excellence Efforts by Other Jurisdictions

We are looking at what other communities have done to achieve design excellence. So far the research indicates that all communities that have adopted some measures to raise design standards stress the need to stay away from becoming a taste police, and that achieving design excellence should not be about prescribing formulas on how to design buildings and spaces.

The techniques and approaches also differ from one community to another depending upon their goals and vision, and the means available to them. Some communities like Columbus, Ohio have a very old tradition and commitment to achieving design excellence not just through government regulation but also through the leadership of a non-profit entity comprising visionary civic leaders. In New York City, as recently reported in a newspaper article, the Chairwoman of the City Planning Commission sent an unwritten but strong message to the development community that if they want a favorable review of their discretionary projects they better have reputable, internationally known architects on board.

We are looking in particular at the following aspects of what others have done to achieve design excellence:

1. What research is available on design excellence? (Articles, books, other documents)?

2. What have others done to achieve design excellence? (Both public and private entities and their approach, experience, and implementation strategies).

3. What projects can we use as prototypes of good design?

4. How design excellence is measured quantitatively and qualitatively?

Options/Ideas to achieve design excellence

As stated earlier in this paper, design excellence cannot be achieved without the unconditional, ongoing commitment and leadership of the most influential decision makers in the development process, both in the public and private sector. On the public side it is the elected and appointed bodies that allocate funds for public projects and create legislation that all developments in a locality must follow. On the private side, it is the developers as well as the ultimate users and buyers of what the developers build.

1. *What should be the goals of design excellence in Montgomery County?*
   It should be a comprehensive approach not just to reduce the negative impacts of development but also to raise the quality of life of the community. The goals and objectives of design excellence should be articulated so that a concise public policy and an action plan can be formulated to achieve those goals (sustainability, affordability, walkability, etc).

2. *What resources and processes are needed for achieving design excellence?*
   Since development process is complex and multi-faceted, achieving design excellence would require strong leadership and long-term commitment by all decision makers. We will look at what is needed to achieve design excellence in terms of resources, improvements to public review processes, and the way we approach design in all aspects of the built environment.

3. *What are the roles of the Planning Department, the private sector, other agencies, and the community in achieving design excellence?*

4. Following is a list of possible actions, ideas, suggestions and options that we will explore further and determine how useful/feasible they would be in achieving design excellence in Montgomery County.

    a. There must be a champion and a committed leadership for the cause of good design in the County.
    b. Green tape for projects with design excellence.
    c. Incentives for projects that offer to conduct design competitions.
    d. Encourage (incentives) developers to hire good designers.
    e. Involve community in creating a shared design vision for the community.

f. For public projects (CIP), the County should adopt a value-based approach, which will look at the long-term costs and benefits rather than the current approach of looking only at the initial construction cost of the project.
g. Planning Board should have at least one member who is a professional planner, urban designer, architect, or landscape architect.
h. A promotional and educational campaign to raise awareness of good design for the developers, elected officials, professional staff, and the community.
i. Analyze public review processes (master plans, functional plans, preliminary plans, site plans, project plans, development plans, mandatory referral) to see how they can be improved to provide better guidance and controls to produce good design.

HOW TO MEASURE DESIGN EXCELLENCE?

Measuring design quality is somewhat like measuring a community's quality of life. There are quantitative as well as qualitative indicators. Initial research indicates that although quantitative measures such as economic and fiscal impacts are easily assessed, some of the more intangible aspects such as social and cultural impacts are also measurable. For example: there is literature suggesting that walkability of a community may have significant health benefits over the long term. Walkability can be measured by the number of intersections per square mile, or the number of entrances on a block. The following is a brief description of some of the statistical methods that can be used for measuring various costs and benefits of development.

The Hedonic Pricing Method (HPM) applied to property, it uses economic analysis of large databases to unbundle environmental attributes from the various other factors making up the price of a dwelling or a piece of land. It basically aims to determine the relationship between the attributes of a good and its price.

The Travel Cost Method (TCM) uses the time and cost incurred in visiting and enjoying a recreational site (historic, recreational, etc) as proxy measure of the price of entering it. Past applications have been mostly to freestanding attraction in areas outside the city but it could be applied to urban attractions such as town centers.

The Contingent Value Method (CVM) asks people directly what environmental valuations might be, i.e. what they will be willing to pay for a hypothetical environmental improvement or to prevent a deterioration, or what they will be willing to accept in compensation.

The Delphi Technique Seeks views of a panel of experts on their valuation of environmental changes or other issues. For example, what would be their estimate of how much development will be built or needed in a particular CBD or a defined area in the near future.

Cost Benefit Analysis (CBA) is generally used in evaluating social coast and benefits in the built environment. It requires significant data to aid the numerous calculations necessary to ensure that the evaluations are accurate. It is rarely used alone to make final decisions.

The Planning Balance Sheet Analysis (PBSA) is considered the closest method to CBA. It was devised to overcome the fact that many social costs are not easily measured in monetary terms. Rather than ascribing actual values to costs and benefits, the method merely maps where these should be placed on the balance sheet in terms of assets or liabilities.

The Multi-Criterion Analysis (MCA) is the application of more than one criterion to the task of judging performance or estimating the value where various alternatives are ranked according to criteria thought to be relevant, the best alternative being chosen by calculating the extent to which it outranks others on average.

The Analytic Hierarchy Process (AHP) A mathematical approach to decision-making, it was mainly designed to formalize the process of selecting between alternatives in a situation where full information is not available.

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