



Feasibility Study

The Who, What, Where, When and Why

By Dan Caldwell, Principal
Stout & Caldwell Engineers, LLC

For purposes of this Ask the Expert, we will focus on the “What” ~ What is a feasibility study? According to our trusted free encyclopedia, Wikipedia, it is a practicality assessment of a proposed project or system. This may seem extremely broad but it is ... Feasibility studies are used across industries to evaluate a project's potential for success. They balance project costs and the prospective value to be attained. The rationale is to look at both strengths and weaknesses as a way of determining whether the proposed project should move forward, be reworked or dismissed altogether.



No matter the industry consideration is given to external project risks, known as the Four Ps (Plan, Processes, People, and Power) alongside what are termed POVs, or points of vulnerability. While organizations and developers have little control over the external risks, such as weather, government structure, environmental issues and sociocultural factors, they are able to more readily control and/or eliminate POVs. The unique risks and POVs for every project should be closely evaluated for possible solutions.

A feasibility study in the realm of civil engineering can come down to answering two questions: Will the proposed plan work? Should a company or developer proceed with it?

Using a basis of test work and comprehensive analysis, the resulting study presents enough information to determine whether or not the project should be advanced to the final engineering and production stages. Key components include the design, production schedule with process flow sheet, environmental considerations, estimated capital and operating costs, and an economic model. It should also include historical background, marketing research, legal requirements and details of operations and management. All these factors and more become part of a thorough evaluative study outlining a project's possible outcomes and alternatives with multiple solutions based on given criteria such as cost and functionality.

While a lot of these components may seem outside the realm of a civil engineering firm, many full service firms offer such services as an integral part of the initial stages of project planning. They recognize that by-passing a feasibility study to save time and money may often backfire. In fact, the possible issues and project pitfalls that should have been identified early in the process are not found, analyzed and corrected. Therefore the consequences of not following these steps can and often will result in project delays and increased costs.

Most importantly, a feasibility study must be objective. A company and/or developer should partner with an experienced civil engineering firm with the expertise in customizing it to properly assess the project's unique needs in an unbiased manner that will assist in making the best possible decisions. Project developers are not the only ones who benefit from feasibility studies either; communities, neighborhoods, corporations and individuals can all take value from the detailed information. It's a win all the way around.