Maryland Department of Transportation
Original Date: September 30, 2016
Revised Date: September 30, 2016

Policy No: MDOT 701
Effective Date: September 30, 2016

Approved by: _____ Date: 9-30-16
Secretary

PRACTICAL DESIGN POLICY

Purpose
The purpose of this Policy is to:

1. Provide design principles, which focus on producing safe and efficient projects that address an area's most important needs at the most economical cost.
2. Provide a methodology by which these principles can be incorporated into all planning, preliminary engineering, and design activities.
3. Define when in a project cycle practical design methods and principles should be employed.

References
N/A

Scope:
Applies to all MDOT employees, contract employees, contractors, and consultants.

Responsible Party:
Deputy Secretary of Policy, Planning, and Enterprise Services

POLICY

I. Policy Statement

A. The MDOT hereby adopts Practical Design methods and principles and requires employees, contractors, and consultants to apply these methods and principles to all transportation projects.
B. The Practical Design model requires project decisions to be based only on the project's purpose and needs, thus allowing innovation and creativity. Implementation is required during the planning and design phases and assessed when construction finishes.
C. Practical Design establishes the following basic rules:
   a. Every project will make the facility safer after its completion.
   b. The design solution shall be reached in a collaborative environment.
   c. The design solution shall match the project need(s).
   d. Designs shall use the flexibility that exists in current engineering specifications and guidance while ensuring the minimum design thresholds are achieved.
   e. The goal cannot be to shift investment costs to maintenance. Rather, the goal should be to obtain the best value for the least cost.
D. The goal is to build good projects to achieve a safe, well-performing transportation system throughout the State.

II. Definitions

For the purposes of this Policy, the following words have the following meanings:

A. Cost Drivers means those elements encountered in the design process over which engineers have discretion or control.
B. Good Projects means a project that fulfills, and does not exceed, the needs while using sound engineering judgment and discipline to create the most economical solution.
C. Practical Design means designing transportation project solutions for a specific need for identified problem(s) considering safety, context, and expected performance. Practical design allows engineers to use innovation and flexibility in applying the appropriate design guidance to achieve the project's goals, balancing the least cost and impact while meeting the long-range goals of the transportation network.
D. Purpose and Need means a specific, objective statement of fact that articulates the transportation problem being addressed and what is needed to solve that problem. When drafting this statement, it is imperative that the needs of the transportation network are prioritized over the wants of a project. This allows engineers to evaluate every opportunity to reduce cost, allowing more projects to be addressed.
E. Value means the ratio of performance to cost and thus capable of being increased by either lowering the cost or improving the performance.
F. Value Engineering means a systematic method of examining performance to improve the value of projects or processes. While practical design may include value engineering, the two are not synonymous.

III. Supporting Documents

MDOT 701.01 Implementation Guidance
MDOT 701.02 Drafting a Purpose and Need Statement