Benefits of developing multiple prototypes:

- **Provides increased flexibility to effectively adapt to site conditions**. Site characteristics such as topography, wetlands, streams, tree conservation and buffer requirements, neighbors, road proximity, etc. vary from site to site. The ability to select among multiple prototype options provides flexibility to develop the most cost-effective design for a particular site.
- **Enhances opportunity to optimize solar orientation**. School architects make every attempt to locate the building and site amenities to achieve optimum benefit from solar orientation. Daylighting can be used to reduce energy consumption in the building. Football, soccer, baseball, and softball fields should be oriented to eliminate direct sunlight affecting competition.
- **Provides options for building access and traffic circulation**. The building entrance locations for parent queuing and bus drop-off, as well as access to service entrances, vary in different prototype floor plans. NCDOT and DPI (School Planning) typically require separation of car and bus traffic onto the site where possible, to maximize pedestrian and vehicular safety. Multiple prototypes provide the opportunity to select a plan that works best for the site.
- **Accommodates varying school capacity.** Alternative designs facilitate different capacity needs. Some prototype designs are more easily adaptable to unique needs at a particular location.
- **Opens opportunities.** Inviting the involvement of multiple firms increases the participation of additional innovative design professionals in our building program. It also distributes workload, preventing a design team from being overloaded with several concurrent projects.
- **Provides comparative cost data.** Evaluation of prototype construction and operating costs provides valuable data when considering whether to repeat or retire use of that prototype for future projects.

Why develop new designs?

- **Identify cost effective options**. In the recent RFQ for designer selection on upcoming CIP 2013 projects, FD&C broadened the application of prototype use to include school designs constructed outside Wake County, modified as required to meet WCPSS' program standards. This methodology assisted in identifying designers with demonstrated capabilities to deliver a quality facility at a competitive cost. Consequently, WCPSS reflected this lower cost in its projections for CIP 2013 in an effort to stretch bond dollars without compromising the educational program.
- **Gain the benefit of multiple prototypes**. Prior to the recent RFQ, there was only one middle school and one high school prototype available at the needed capacities for those schools. With the additional prototypes, we gain the opportunity to take advantage of the flexibility they provide in selecting the optimum design for a site.
- **Educational program drives design**. There is a need to continuously assess our current-use prototypes, and evaluate whether a design is to be retired. As the educational program changes, the design of schools needs to change also. For instance, having break-out collaborative space allows teachers to deliver instruction in various ways (lecture, individual research, group project, etc.) in the same class period. Adding another population to the school (e.g. Pre-K, Special Education, hearing-impaired, etc.) and/or state-mandated changes (e.g. science classroom requirements) modifies the space standard of the facility.
- **Evolving building technology**. Advancements in building technology and increased emphasis on sustainability changes strategies in HVAC, roofing, security, and information systems. Also, changes in the construction industry create the need to re-evaluate basic features of a school design. For example, the rising cost of steel has encouraged increased use of load-bearing masonry in lieu of structural steel frame construction.