



Approaches to Delivery of Ambulatory Medical Facilities

— Development and Construction Methods by Third-Party Providers

There are two distinct delivery methods in the construction of medical facilities that are currently in use by many of the major health care systems. On-campus development teams and third-party ambulatory developers build notably different products that are driven by different specifications, regulatory requirements, physical constraints and construction methods.

Ambulatory construction methods may be wholly unsuitable for on-campus facilities, and on-campus construction standards excessive for an off-campus medical office building (MOB) or Ambulatory Surgery Center (ASC).

In fact, the biggest risk to ambulatory network construction is building off-campus facilities to hospital-grade standards. Again, these are different products for different applications.

— Shorter Time to Market

Both delivery methods also have well-established internal processes that affect the design, development pre-construction, construction and commissioning cycle. In perhaps every case, the cycle from project charter to occupancy is far greater in on-campus construction, the costs higher and flexibility lower.

Third-party developers, on the other hand, have the ability to be more nimble, with streamlined processes, simpler approvals, easier permitting and reduced regulatory requirements. Add in the latest national trends, materials, and methods for first-class MOB construction, and you easily achieve shorter time to market at a much lower cost, with a quality that is commensurate with the application.



Novant Health Building

— Construction Methods

There are a wide variety of modern construction techniques and products that have been developed in the last decade that are changing the construction industry from what was common before. Each of these has the ability to reduce construction time and cost while maintaining overall quality and sustainability. Some of the options that are suitable for ambulatory facilities include precast flat panels, flat slab construction, precast cladding panels, concrete walls and floors, and precast concrete foundation. All of these methods offer advantages over traditional construction methods for hospitals and acute care facilities, and are quite common in the commercial world. They are uncommon, however, on hospital campuses.

Materials

Where hospital and acute facilities are typically built with heavier materials to meet seismic codes, reduced vibration and the need to support heavy equipment, MOB and ASCs use materials more suited to typical commercial structures. Structural costs are typically 20 to 50 percent less, matched by correspondingly shorter schedules and regulatory approvals.

Systems

Other building systems such as fireproofing, mechanical systems, plumbing and electrical systems are significantly different for ambulatory facilities when compared to on-campus hospital construction. Mechanical systems can be as much as a third lower. Fireproofing and plumbing can be half as expensive. Ultimately, operating costs track favorably with these less expensive subsystems.

— Off-Campus Method

Generally, health systems' on campus teams and third party ambulatory developers build *different products*. Both parties serve valuable, but *different roles*.

The #1 risk is building an off-campus building to hospital grade standards.

Ambulatory Facility Developers

- *Best practice* MOB approach for off campus facilities.
- Best practice approach means utilizing construction methods that are consistent with up-to-date national trends for first-class MOB development using most appropriate and efficient systems for required function and economics.
- Approach is in use and under development by Duke, UNC, Mission, and Novant for off-campus facilities.

Traditional “In-House” Teams

- *Institutional* approach for on campus acute care facilities
- Institutional approach means utilizing construction methods that are consistent with up-to-date national trends for first-class hospitals and acute care facilities that are built to a different building code and standards.

— How can our clients be confident in the final product?

- The depth of experience from in-house and constructed general contractors, engineers, and property managers is unrivaled. These building systems and construction methods are best practice approaches. They are in use by most major hospital systems.
- Davis Moore uses an engineering firm to perform material testings of foundations, floor loads, steel tests, etc. on all projects to guarantee building quality.

Other health systems have gotten comfortable with the ambulatory developer approach using the following:

- Meeting with project team (architect & GC) and talking through the specs and how they compare to other buildings in the market.
- Have a third party architect review standards.
- Have in-house team review plans and specs.

Off-Campus vs. On-Campus Savings

Building System	Off-Campus Mobs	Cost Range	On-Campus Hospital Facilities	Cost Range
Structure	Built from 8-12 lb./SF structural steel	\$12–\$15 PSF	<ul style="list-style-type: none"> Built from 10-15 lb./SF structural steel or poured concrete structure (depending on height). Reason for heavier building is stricter seismic codes, reduced vibration, flexibility for heavy equipment at any location (i.e. x-ray) 	\$16-\$20 PSF
Fireproofing	0-1 hour rating period	\$0-\$2 PSF	Require at least a 2 hour fire rating to the structure since patients are under anesthesia or invalid	\$3-\$4 PSF
Building Envelope	<ul style="list-style-type: none"> Heavy single ply PVC over Polyiso roofs like most class A office buildings 20 year warranty 	\$8-\$14 PSF	May have BUR or Cold Applied Liquid roof for longer life and added protection since there is 24 hour occupancy	\$17-\$25 PSF
Plumbing Systems	<ul style="list-style-type: none"> PVC drains in the floor No medical gas piping Overflow scup- 	\$10-\$18 PSF	<ul style="list-style-type: none"> Cast iron drains in the floor Medical gas piping Overflow drains at roof 	\$21-\$33 PSF

Graph continued on next page.

Off-Campus vs. On-Campus Savings Continued

Building System	Off-Campus Mobs	Cost Range	On-Campus Hospital Facilities	Cost Range
Mechanical Systems	<ul style="list-style-type: none"> • Package roof top units that deliver forced conditioned air. • HVAC ramps down on nights and weekend for energy savings. • Electric reheat • Lower air changes • No inherent redundancy • Plenum return 	\$19-\$22 PSF	<ul style="list-style-type: none"> • Central cooling/heating plant that delivers chilled or heated water. • Hot water reheat with boiler • Ducted return • Need more AC capacity, run 24/7 and require more air changes. • Added tonnage, air changes and run time drive up energy consumption. • Hospital/chiller system will be very expensive upfront but cheaper to operate over a long time and give more redundancy. 	\$40-\$65 PSF
Electrical Systems	<ul style="list-style-type: none"> • Do not require generator back-up • Aluminum feeders common • MC Cable for Branch Circuitry 	\$26-\$40 PSF	<ul style="list-style-type: none"> • Require generator and uninterruptable power system back up to keep operating rooms up • Cooper feeders • Branch Circuitry 	\$65-\$80 PSF

— The Project Team

Working with a third-party ambulatory developer does not supplant the traditional in-house teams. Instead, the most successful programs utilize a team-work approach that brings together the best of both worlds.

The off-campus ambulatory developer is a specialist who understands the unique characteristics of the health system and how to help reflect those needs in the medical, retail market by bringing together uniquely experienced site selection, construction management, architecture and general construction firms with a track record in this unique development space. They can bring a specialized understanding of the off-campus environment to the in-house development group, and leverage the organizational expertise during the approvals and review process. Plans and specs then get the benefit of two perspectives.

This is often evident early on in the site selection process where the off-campus firm uses its experience in access, traffic counts, area and regional growth patterns and other more commercial components to off-site location.





The third-party team is able to approach the project as a design/build effort based on availability of different sites, different demographics and alternate construction methods.

The team is thus able to bring multiple options to the health system. Furthermore there is always competent brokerage, finance and risk management expertise on the team, all focused on delivering these unique facilities.



— About Davis Moore

Physician practice groups and health care systems turn to Davis Moore to provide assistance in strategic planning and development of ambulatory network growth. Over the past 20 years, Davis Moore principals have provided leadership in more than 300 medical facility transactions totaling more than 4 million square feet. We understand the issues and opportunities that affect today's health care providers and can tailor ambulatory real estate solutions to meet each provider's specific goals.

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