

VIRGINIA DEPARTMENT OF HEALTH

Office of Licensure and Certification

Division of Certificate of Public Need

Staff Analysis

September 20, 2021

COPN Request No. VA-8571

Virginia Commonwealth University Health System Authority
Richmond, Virginia

Add One CT Scanner and One MRI Scanner Both Dedicated to Pediatric Care

Applicant

The Virginia Commonwealth University Health Systems Authority (VCUHS) is a public body corporate and political subdivision of the Commonwealth of Virginia governed by the Virginia Commonwealth University Health System Authority Act of 1996—Title 23, Chapter 6.2, 23-50.16: of the Code of Virginia. VCUHS operates VCU Medical Center, which is located in the City of Richmond in Planning District (PD) 15 within Health Planning Region (HPR) IV.

Background

Computed Tomography (CT) Scanners and Utilization in PD 15

According to Division of Certificate of Public Need (DCOPN) records, to date, there are 57 authorized CT scanners in PD 15, all of which are fixed-site scanners (**Table 1**). More specifically, 32 of the authorized scanners are located within acute care hospitals, while 25 are located within freestanding facilities. According to 2019 Virginia Health Information (VHI) data, the most recent year for which such data is available, all then-existing CT scanners in PD 15 operated at a collective utilization of 113.5% based on the State Medical Facilities Plan (SMFP) expansion threshold of 7,400 CT procedures per CT scanner per year. DCOPN observes that utilization of hospital-based CT scanners varies significantly from that of CT scanners at freestanding facilities. Specifically, hospital-based CT scanners in PD 15 operated at a collective utilization of 145.3% in 2019, while CT scanners located at freestanding facilities operated at a collective utilization of only 44.8% for the same period. Since 2019, 16 additional CT scanners have received COPN authorization in PD 15, of which four have actually been placed into service.

Table 1. 2019 COPN Authorized CT Scanners in PD 15

Hospital Based Facility	Units	Scans	Scan/Unit	Utilization
Bon Secours Memorial Regional Medical Center	3	36,845	12,281	166.0%
Bon Secours Richmond Community Hospital	1	4,708	4,708	63.6%
Bon Secours St. Francis Medical Center	2	23,183	11,592	156.6%
Bon Secours St. Mary's Hospital	4	44,380	11,095	149.9%
Chippenham Hospital	3	41,673	13,891	187.7%
Henrico Doctors' Hospital—Parham	1	10,315	10,315	139.4%
Henrico Doctors' Hospital—Retreat	1	2,839	2,839	38.4%
Henrico Doctors' Hospital—Forest	3 ¹	33,084	8,271	111.8%
Johnston-Willis Hospital	4 ²	28,927	14,464	195.5%
VCU Medical Center	9 ³	75,153	10,736	145.1%
West Creek Medical Center	1 ⁴	--	--	--
Hospital Based TOTAL and Average	32⁵	301,105	10,754	145.3%
Freestanding Facility				
Bon Secours Chester Emergency and Imaging Center	1 ⁶	--	--	--
Bon Secours Imaging Center Innsbrook	1	1,265	1,265	17.1%
Bon Secours Short Pump Emergency Imaging Center	1 ⁷	--	--	--
Bon Secours Westchester Imaging Center	1	4,800	4,800	64.9%
Buford Road Imaging	1	2,357	2,357	31.9%
Chesterfield Imaging	1	4,851	4,851	65.6%
Chester Imaging Center	1 ⁸	--	--	--
Hanover Emergency Center	1 ⁹	--	--	--
Independence Park Imaging	1	2,612	2,612	35.3%
Virginia Cardiovascular Specialists	1	3,284	3,284	44.4%
MEDARVA Healthcare	1 ¹⁰	--	--	--
NOW Neuroscience, Orthopaedic and Wellness Center	1	54	54	0.7%
Richmond Ear, Nose & Throat	1 ¹¹	--	--	--
Richmond Radiation Oncology Center	1 ¹²	--	--	--
Swift Creek ER	1 ¹³	--	--	--

¹ VHI data appears to be in error.

² COPN No. VA-04657, issued in May 2019, authorized the addition of a fourth CT scanner.

³ COPN Nos. VA-04464, issued February 2015 and VA-04494, issued November 2019, authorized the additions of an eighth and ninth CT scanner, respectively.

⁴ COPN No. VA-04179, issued November 2008, authorized the establishment of West Creek Medical Center, which will include one CT scanner.

⁵ While not included in the overall calculations for utilization, this number reflects all changes to the PD 15 inventory that are not reflected in 2019 VHI data.

⁶ COPN No. VA-04656, issued May 2019, authorized the establishment of a specialized center for CT services with one CT scanner.

⁷ Information for this facility not found in 2019 VHI data.

⁸ COPN No. VA-04655, issued May 2019, authorized the establishment of Chester imaging Center with one CT scanner.

⁹ Information for this facility not found in 2019 VHI data.

¹⁰ Information for this facility not found in 2019 VHI data.

¹¹ Information for this facility not found in 2019 VHI data.

¹² Information for this facility not found in 2019 VHI data.

¹³ Information for this facility not found in 2019 VHI data.

VCU Health Emergency Center at New Kent	1 ¹⁴	--	--	--
VCU Massey Cancer Center at Hanover Medical Park	1 ¹⁵	--	--	--
VCU Medical Center Adult Outpatient Pavilion	1 ¹⁶	--	--	--
VCU Medical Center at Stony Point Radiology	1	6,423	6,423	86.8%
Virginia Cancer Institute—Harbourside	1	2,727	2,727	36.9%
Virginia Cancer Institute—Reynolds Crossing	1	6,560	6,560	88.6%
Virginia Ear Nose & Throat—Chesterfield	1	533	533	7.2%
Virginia Ear Nose & Throat—Henrico	1	617	617	8.3%
Virginia Urology	2 ¹⁷	7,047	7,047	95.2%
Freestanding TOTAL and Average	25¹⁸	43,130	3,318	44.8%
Fixed CT Unit Grand TOTAL and Average	57¹⁹	344,235	8,396	113.5%

Source: VHI (2019) and DCOPN records.

With respect to the PD 15 VCUHS CT inventory, in 2019, VCUHS' then-authorized CT scanners operated at a collective utilization of 122.6%, far exceeding the SMFP threshold for expansion (Table 2).

Table 2. 2019 Virginia Commonwealth University Health System Authority CT Utilization

Facility	Units	Scans	Scans/Unit	Utilization
VCU Medical Center	9 ²⁰	75,153	10,736	145.1%
NOW Neuroscience, Orthopaedic and Wellness Center	1	54	54	0.7%
VCU Health Emergency Center at New Kent	1 ²¹	--	--	--
VCU Massey Cancer Center at Hanover Medical Park	1 ²²	--	--	--
VCU Medical Center Adult Outpatient Pavilion	1 ²³	--	--	--
VCU Medical Center at Stony Point Radiology	1	6,423	6,423	86.8%
VCUHS CT TOTAL/Average	14²⁴	81,630	9,070	122.6%

Source: VHI (2019) and DCOPN Records

Magnetic Resonance Imaging (MRI) Scanners and Utilization in PD 15

According to DCOPN records, to date, there are 38 fixed-site MRI scanners in PD 15 (Table 3). More specifically, 24 of the authorized fixed-site scanners are located within acute care hospitals,

¹⁴ COPN No. VA-04598, issued April 2018, authorized the establishment of a specialized center for CT services.

¹⁵ COPN No. VA-04546 authorized the introduction of CT services, with one CT scanner, at VCU Massey Cancer Center.

¹⁶ COPN No. VA-04717, issued August 2020, authorized the addition of one CT scanner.

¹⁷ COPN No. VA-04672, issued September 2019, authorized the addition of a second CT scanner.

¹⁸ While not included in the overall calculations for utilization, this number reflects all additions to the PD 15 inventory not otherwise reflected in 2019 VHI data.

¹⁹ While not included in the overall calculations for utilization, this number reflects all additions to the PD 15 inventory not otherwise reflected in 2019 VHI data.

²⁰ COPN Nos. VA-04464, issued February 2015 and VA-04494, issued November 2019, authorized the additions of an eighth and ninth CT scanner, respectively.

²¹ COPN No. VA-04598, issued April 2018, authorized the establishment of a specialized center for CT services.

²² COPN No. VA-04546 authorized the introduction of CT services, with one CT scanner, at VCU Massey Cancer Center.

²³ COPN No. VA-04717, issued August 2020, authorized the addition of one CT scanner.

²⁴ While not used in the overall calculations for utilization, this number reflects all changes to the PD 15 VCUHS inventory not otherwise reflected in 2019 VHI data.

while 14 are located within freestanding facilities. According to 2019 VHI data, all then-existing fixed-site MRI scanners in PD 15 operated at a collective utilization of 69.1% based on the SMFP expansion threshold of 5,000 MRI procedures per MRI scanner per year. DCOPN observes that utilization of hospital-based MRI scanners varies slightly from that of MRI scanners at freestanding facilities. Specifically, hospital-based MRI scanners in PD 15 operated at a collective utilization of 77.5% in 2019, while MRI scanners located at freestanding facilities operated at a collective utilization of 69.1% for the same period. DCOPN notes that MRI scanners located at both hospital-based and freestanding facilities operated well beneath the SMFP expansion threshold in 2019. Since 2019, six additional fixed-site MRI scanners have received COPN authorization in PD 15, of which two have actually been placed into service.

With regard to mobile sites, the two PD 15 mobile MRI sites operated at a collective utilization of 76.6% in 2019, marginally beneath the 2,400 procedures per site SMFP expansion threshold (Table 3).

Table 3. 2019 COPN Authorized MRI Scanners in PD 15

Fixed MRI Units				
Hospital Based Facility	Units	Scans	Scan/Unit	Utilization
Bon Secours Memorial Regional Medical Center	2	9,289	4,645	92.9%
Bon Secours Richmond Community Hospital	1	731	731	14.6%
Bon Secours St. Francis Medical Center	2 ²⁵	7,172	7,172	143.4%
Bon Secours St. Mary's Hospital	2 ²⁶	10,356	3,452	69.0%
Chippenham Hospital	1	6,044	6,044	120.9%
Henrico Doctors' Hospital--Parham	1	2,248	2,248	45.0%
Henrico Doctors' Hospital--Retreat	1	719	719	14.4%
Henrico Doctors' Hospital--Forest	2	5,408	2,704	54.1%
Johnston-Willis Hospital	3 ²⁷	10,932	5,466	109.3%
VCU Health System	8 ²⁸	24,570	4,095	81.9%
West Creek Medical Center	1 ²⁹	--	--	--
Hospital Based TOTAL and Average	24³⁰	77,469	3,873	77.5%
Freestanding Facility				
Bon Secours Imaging Center at Reynolds Crossing	2 ³¹	1,878	1,878	37.6%
Bon Secours Imaging Center at Innsbrook	1	1,667	1,667	33.3%

²⁵ COPN No. VA-04673, issued in September 2019, authorized the expansion of MRI services at St. Francis Medical Center through the relocation and replacement of a MRI unit from Bon Secours Midlothian Imaging Center.

²⁶ 2019 VHI data appears to be in error. Bon Secours St. Mary's Hospital currently operates two COPN authorized MRI scanners.

²⁷ COPN No. VA-04567, issued in May 2019, authorized the addition of one MRI scanner.

²⁸ COPN No. VA-04596, issued in May 2018, authorized the addition of one MRI-equipped linear accelerator with SRS/SRT capabilities. COPN No. VA-04717, issued in August 2020, authorized the addition of one MRI scanner at the VCU Medical Center Adult Outpatient Pavilion.

²⁹ COPN No. VA-04179, issued in November 2008, authorized the establishment of West Creek Medical Center, which will include one MRI scanner.

³⁰ While not included in the overall calculations for utilization, this number reflects all changes made to the PD 15 MRI inventory that are not otherwise included in 2019 VHI data.

³¹ COPN No. VA-04654, issued in April 2019, authorized the relocation of one MRI scanner from Bon Secours West End MRI upon the closing of that facility.

Bon Secours Midlothian Imaging Center	1	2,031	2,031	40.6%
Bon Secours West End MRI	0 ³²	499	499	10.0%
Bon Secours Westchester Imaging Center	1	2,697	2,697	53.9%
Chester Imaging Center	1 ³³	--	--	--
Chesterfield Imaging	1	3,967	3,967	79.3%
Ellen Shaw De Parades Institute for Women's Imaging	1 ³⁴	--	--	--
Independence Park Imaging	1	3,482	3,482	69.6%
MEDARVA West Creek Surgery Center	1 ³⁵	--	--	--
NOW Neuroscience, Orthopaedic and Wellness Center	1	66	66	1.3%
OrthoVirginia MRI	1	5,206	5,206	104.1%
Tuckahoe Orthopaedic MRI Center	1	4,726	4,726	94.5%
VCU Medical Center at Stony Point Radiology	1	3,449	3,449	69.0%
Freestanding TOTAL and Average	14³⁶	29,668	2,697	53.9%
Fixed MRI Unit Grand TOTAL and Average	38³⁷	107,137	3,456	69.1%
Mobile MRI Units				
Bon Secours St. Francis Medical Center	1	1,528	1,528	63.7%
Virginia Urology	1	2,149	2,149	89.5%
Mobile MRI TOTAL and Average	2	3,677	1,839	76.6%

Source: VHI (2019) and DCOPN records.

With respect to the PD 15 VCUHS inventory, in 2019, VCUHS' then-existing eight MRI scanners operated at a collective utilization of 70.2%, falling well short of the SMFP threshold for expansion (Table 4).

Table 4. 2019 Virginia Commonwealth University Health System Authority MRI Utilization

Facility	Units	Scans	Scans/Unit	Utilization
VCU Health System	8 ³⁸	24,570	4,095	81.9%
NOW Neuroscience, Orthopaedic and Wellness Center	1	66	66	1.3%
VCU Medical Center at Stony Point Radiology	1	3,449	3,449	69.0%
VCUHS TOTAL/Average	10³⁹	28,085	3,511	70.2%

Source: VHI (2019) and DCOPN Records

³² Ibid.

³³ COPN No. VA-04655, issued in May 2019, authorized the establishment of Chester Imaging Center with one MRI scanner.

³⁴ Information for this facility not included in 2019 VHI data.

³⁵ COPN No. VA-04612, issued on July 20, 2018, authorized the establishment of MEDARVA West Creek Surgery Center, which will include one MRI scanner.

³⁶ While not included in the overall calculation for utilization, this number reflects all changes made to the PD 15 MRI inventory that are not otherwise included in 2019 VHI data.

³⁷ While not included in the overall calculations for utilization, this number reflects all changes made to the PD 15 MRI inventory that are not otherwise included in 2019 VHI data.

³⁸ COPN No. VA-04596, issued in May 2018, authorized the addition of one MRI-equipped linear accelerator with SRS/SRT capabilities. COPN No. VA-04717, issued in August 2020, authorized the addition of one MRI scanner at the VCU Medical Center Adult Outpatient Pavilion.

³⁹ While not included in the overall calculation for utilization, this number reflects all changes made to the VCUHS inventory that are not otherwise included in 2019 VHI data.

Proposed Project

VCUHS proposes to expand its existing CT and MRI services through the addition of one new CT scanner and one new MRI scanner, both of which will be dedicated to pediatric care. The proposed pediatric CT and MRI units will be located at the Children’s Tower, a new inpatient children-focused building under development on the VCU Medical Center campus in downtown Richmond. The Children’s Tower will operate under the umbrella of the VCUHS Children’s Hospital of Richmond (CHoR).⁴⁰ The CHoR, which opened in 2016, consolidated VCUHS’ outpatient pediatric services previously provided at different locations on the VCU Medical Center campus and replaced the Children’s Pavilion, a 1970s building that had become inadequate for the provision of efficient outpatient services. The scope and integration of ambulatory services at the CHoR Pavilion allowed for unprecedented access and coordination of pediatric outpatient services in a healing and welcoming environment built just for kids.

In June 2019, VCUHS broke ground on a new inpatient building—the Children’s Tower—joined to the CHoR on the same parcel. The Children’s Tower will consolidate in one building the existing pediatric inpatient beds and services and existing pediatric emergency and trauma services currently operated at the VCU Medical Center under the CHoR umbrella. In doing so, it will complete the CHoR’s centralization of integrated, comprehensive, highly specialized inpatient and outpatient services within two co-located and connected buildings that are designed and dedicated exclusively to children.

The applicant states that the proposed project represents a critical component of VCUHS’ long-range plan to serve all of its pediatric patients. The applicant further states that the proposal addresses the critical need of a full-service academic pediatric hospital with a pediatric emergency department and a Level 1 Pediatric Trauma Center to have on-site, dedicated diagnostic imaging services. The applicant states that the project recognizes the special needs of children and that, as a result, pediatric imaging differs substantially from adult imaging. In brief, the applicant states that implementation of CT and MRI services at the Children’s Tower is necessary to ensure that children in need of VCUHS’ inpatient and emergency services have optimal access to CT and MRI studies in a highly specialized, high-quality setting focused on, and dedicated to, the needs of pediatric patients, while maintaining appropriate access to outpatient imaging at the CHoR.

If approved, the requested CT until will be installed on the third floor of the Children’s Tower, co-located with the pediatric emergency department and trauma center located on that level. This will support expeditious access to needed CT services for emergency patients, and particularly trauma patients. The emergency department will be physically connected to the CHoR through a common “sky lobby”, with a shared drop-off area, facilitating patient triage. The proposed MRI, on the other hand, will be located on the second floor of the Children’s Tower, in close proximity to the pediatric anesthesiology department. The MRI suite will also be connected to the radiology department of the CHoR Pavilion, supporting access for both inpatients as well as outpatients. In short, the applicant states that the proposed scanners’ clinically and operationally indicated locations within the Children’s Tower will optimally support the delivery of timely and efficient high-quality care.

⁴⁰ CHoR operates as an unincorporated department of VCUHS.

The projected capital costs of the proposed project total \$4,524,997, the entirety of which will be funded using the accumulated reserves of the applicant (**Table 5**). Accordingly, there are no financing costs associated with this project.

Table 5. VCUHS Projected Capital Costs

Direct Construction	\$1,264,537
Equipment Not Included in Construction Contract	\$3,119,961
Architectural and Engineering Fees	\$114,419
Other Consultant Fees	\$26,080
TOTAL Capital Cost	\$4,524,997

Source: COPN Request No. VA-8571

As previously stated, construction on the Children’s Tower commenced on March 14, 2019. The applicant anticipates it to be completed by November 7, 2022. The applicant projects an April 30, 2023 date of opening indicating that the CT and MRI will be installed and operational upon the opening of the Children’s Tower.

Project Definition

§ 32.1-102.1:3 of the Code of Virginia defines a project, in part, as “the addition by an existing medical care facility described in subsection A of any new medical equipment for the provision of...computed tomographic (CT) scanning, magnetic resonance imaging (MRI)...” A medical care facility is further defined as “Any facility licensed as a hospital, as defined in § 32.1-123.”

Required Considerations -- § 32.1-102.3, of the Code of Virginia

In determining whether a public need exists for a proposed project, the following factors shall be taken into account when applicable.

- 1. The extent to which the proposed project will provide or increase access to health care services for people in the area to be served and the effects that the proposed project will have on access to health care services in areas having distinct and unique geographic, socioeconomic, cultural, transportation, and other barriers to access to health care;**

The Children’s Tower will be readily accessible from Interstates 64 and 95 as well as from Broad Street. The site is well-served by public transportation, including the new GRTC Pulse System—a modern, high-quality, high-capacity rapid transit system that serves a 7.6 mile route along Broad and Main Streets. VCUHS is a sponsor of the GRTC Pulse System, and there is a Pulse station on the same block as the Children’s Tower, just steps away from its Broad Street entrance.

Notably, in the development of its long-range plan, VCUHS commissioned a comprehensive traffic study of the VCU Medical Center Campus. According to the applicant, the study concluded that the establishment of the Children’s Tower (and other construction projects occurring or planned for the campus) would have a negligible impact on traffic volumes or intersection wait times on the campus and in the surrounding area. Additionally, the applicant states that the study determined that the location of the Children’s Tower is likely to improve

traffic flow on the narrow streets traversing the interior of the campus by moving parking closer to the perimeter along major arteries (e.g., Broad Street).

Regarding socioeconomic barriers to access to the applicant’s services, according to regional and statewide data regularly collected by VHI, for 2019, the most recent year for which such data is available, the average amount of charity care provided by HPR IV facilities was 2.7% of all reported total gross patient service revenues (**Table 6**). The Pro Forma Income Statement provided by the applicant (**Table 7**) anticipates a charity care contribution equal to 1% of total gross patient revenues derived from CT and MRI services at the Children’s Tower (reflected in the “Deductions from Revenue” line). DCOPN notes that this is well beneath the HPR IV average reported by VHI for 2019, as well as beneath the 5.48% contribution made by VCUHS for the same period. However, DCOPN does note that as the Commissioner and DCOPN have previously recognized, children’s services experience lower indigent and charity care percentages due to broader Medicaid coverage for children. While recent changes to §32.1-102.4B of the Code of Virginia now require DCOPN to place a charity condition on all applicants seeking a COPN, for the preceding reasons, DCOPN recommends that the proposed project, if approved, be subject to a 1% charity care condition to be derived from total gross patient services revenue stemming from CT and MRI services at the Children’s’ Tower. DCOPN further notes that this condition contains a provision allowing for the reassessment of the charity care rate once more reliable information regarding the full impact of Medicaid expansion in the Commonwealth becomes available.

Table 6. 2019 HPR IV Charity Care Contributions

Hospital	Gross Patient Revenues	Adjusted Charity Care Contribution	Percent of Gross Patient Revenue
VCU Health System	\$6,157,295,438	\$337,198,732	5.48%
Bon Secours Richmond Community Hospital	\$821,906,538	\$34,703,353	4.22%
VCU Community Memorial Hospital	\$299,864,540	\$13,214,243	4.41%
Sentara Halifax Regional Hospital	\$296,240,103	\$11,849,658	4.00%
Bon Secours St. Francis Medical Center	\$1,020,058,202	\$36,854,815	3.61%
Bon Secours Memorial Regional Medical Center	\$1,562,406,719	\$43,217,694	2.77%
Bon Secours St. Mary's Hospital	\$2,226,799,125	\$59,804,440	2.69%
Centra Southside Community Hospital	\$335,602,265	\$8,611,288	2.57%
Bon Secours Southside Regional Medical Center	\$2,094,715,568	\$34,597,144	1.65%
CJW Medical Center	\$7,394,600,760	\$107,675,784	1.46%
John Randolph Medical Center	\$980,419,839	\$13,467,848	1.37%
Henrico Doctors' Hospital	\$4,822,100,793	\$53,542,021	1.11%
Bon Secours Southern Virginia Regional Medical Center	\$223,258,497	\$1,196,980	0.54%
Vibra Hospital of Richmond LLC	\$131,865,765	\$0	0.00%
Cumberland Hospital for Children and Adolescents	\$64,413,240	\$0	0.00%
Total Facilities			15
Median			2.6%
Total \$ & Mean %	\$28,431,547,392	\$755,934,000	2.7%

Source: VHI (2019)

Table 7. VCHUS Pro Forma Income Statement

	Year 1	Year 2
Gross Patient Services Revenue	\$44,276,705	\$46,072,849
Deductions from Revenue	(\$33,699,684)	(\$35,045,723)
Net Patient Services Revenue	\$10,577,021	\$11,027,126
Expenses	(\$5,672,661)	(\$6,225,474)
Net Income	\$4,904,360	\$4,801,652

Source: COPN Request No. VA-8571

Also with regard to socioeconomic barriers to access to services, DCOPN notes that, according to the most recent U.S. Census data, Richmond City, where the proposed project will be located, had a poverty rate more than double that of the statewide average (**Table 8**).

Table 8. Statewide and PD 15 Poverty Rates

Locality	Poverty Rate
Virginia	10.7%
Charles City	12.5%
Chesterfield	6.6%
Goochland	6.2%
Hanover	5.1%
Henrico	8.7%
New Kent	5.0%
Powhatan	5.4%
Richmond City	23.2%

Source: U.S. Census Data (census.gov)

The most recent Weldon-Cooper data projects a total PD 15 population of 1,219,936 persons by 2030 (**Table 9**). This represents an approximate 21.7% increase in total population from 2010 to 2030. Comparatively, Weldon-Cooper projects the total population of Virginia to increase by approximately 16.63% for the same period. With regard to the adolescent cohort in PD 15, Weldon-Cooper projects a less rapid increase—14.2% from 2020-2030. (**Table 10**).

Table 9. Statewide and PD 15 Total Population Projections, 2010-2030

Locality	2010	2020	% Change	2030	% Change	2010-2030 % Change
Virginia	8,001,024	8,655,021	8.17%	9,331,666	7.82%	16.63%
Charles City	7,256	6,982	(3.8%)	6,941	(0.6%)	(4.3%)
Chesterfield	316,236	353,841	11.9%	396,647	12.1%	25.4%
Goochland	21,717	23,547	8.4%	26,702	13.4%	23.0%
Hanover	99,863	109,244	9.4%	119,360	9.3%	19.5%
Henrico	306,935	332,103	8.2%	363,259	9.4%	18.4%
New Kent	18,429	23,474	27.4%	28,104	19.7%	52.5%
Powhatan	28,046	29,909	6.6%	33,440	11.8%	19.2%
Richmond City	204,214	232,533	13.9%	245,483	5.6%	20.2%
TOTAL PD 15	1,002,696	1,111,633	10.9%	1,219,936	9.7%	21.7%

Source: U.S. Census, Weldon Cooper Center Projections (August) and DCOPN (interpolations)

Table 10. PD 15 Population Projections for 0-19⁴¹ Age Cohort, 2010-2030

Locality	2010	2020	% Change	2030	% Change	2010-2030 % Change
Virginia	2,083,685	2,158,776	3.6%	2,298,450	6.5%	10.3%
Charles City	1,458	1,160	(20.5%)	1,096	(5.5%)	(24.8%)
Chesterfield	91,769	97,089	5.8%	108,011	11.2%	17.7%
Goochland	4,788	4,707	(1.7%)	51,674	9.8%	7.9%
Hanover	27,747	27,644	(0.4%)	29,491	6.7%	6.3%
Henrico	81,078	83,833	3.4%	90,973	8.5%	12.2%
New Kent	4,495	5,267	17.2%	6,131	16.4%	36.4%
Powhatan	7,270	6,828	(6.1%)	7,226	5.8%	(0.6%)
Richmond City	48,016	52,480	9.3%	56,403	7.5%	17.5%
TOTAL PD 15	266,621	279,007	4.6%	304,499	9.1%	14.2%

Source: U.S. Census, Weldon Cooper Center Projections (August) and DCOPN (interpolations)

DCOPN is not aware of, and the applicant did not identify, any other geographic, socioeconomic, cultural, or transportation barriers to access to care.

2. The extent to which the project will meet the needs of people in the area to be served, as demonstrated by each of the following:

- (i) The level of community support for the proposed project demonstrated by people, businesses, and governmental leaders representing the area to be served;**

The applicant provided numerous letters of support for the proposed project from elected officials, healthcare providers, and the families of prior patients of VCUHS. Collectively, these letters addressed the following:

- The proposed project is critical to support the success of the Children’s Tower, the comprehensive continuum of care to be offered there, and timely and appropriate access to diagnostic imaging for acutely ill and injured children in the Richmond region.
- VCUHS encompasses one college and four health sciences schools, an academic medical center, a Level 1 Trauma Center, and the region’s only full-service academic children’s hospital.
- VCUHS is an invaluable resource for all pediatric patients (as well as their families and other providers) in the greater Richmond area. It offers the only emergency and Level 1 Trauma Center exclusively serving children, operates the region’s only pediatric surgery program under the prestigious designation of Level 1 Children’s Surgery Center (one of only ten hospitals on the East Coast), and provides highly-specialized inpatient services and a broad range of pediatric subspecialty programs. For acutely ill or injured pediatric patients in the Central Virginia region, VCUHS is an essential provider of care and the

⁴¹ While the Children’s Tower will treat pediatric patients up to age 18, DCOPN notes that Weldon-Cooper data is broken down into age increments (0-14 years of age and 15-19 years of age). Accordingly, this data also includes data for Virginia and PD 15 residents aged 18 and 19 years.

only provider with the expertise, experience, breadth of services, and focus necessary to optimally care for young patients.

- VCUHS is committed to consolidate all its existing pediatric inpatient and emergency services in a newly constructed Children’s Tower on the campus of VCU Medical Center, next door to its new Children’s Hospital of Richmond, an award-winning pediatric outpatient care center. Along the CHoR Pavilion, the Children’s Tower will complete VCUHS’ consolidation of its highly specialized pediatric services in easily accessible, child-focused facilities, separated from its otherwise adult-centered facilities. This will allow VCUHS’ pediatric facilities to become a destination for children seeking exceptional health care. It will also be instrumental in attracting the nation’s greatest talent to the Richmond area and supporting VCUHS’ ranking among the top pediatric hospitals in the United States.
- VCUHS is the largest safety net hospital in Virginia, relied on by many for high-quality, affordable care.
- VCU’s proposal is necessary to ensure that our regional pediatric academic medical center, essential safety net provider, and tertiary/quaternary referral center has the resources necessary to provide timely and age-appropriate access to care, including diagnostic imaging—an indispensable element in the continuum of pediatric inpatient and trauma care.

DCOPN received no letters in opposition to the proposed project. Additionally, DCOPN did not receive any request by an elected local government representative, a member of the General Assembly, the Commissioner, the applicant, or a member of the public to hold a public hearing on the proposed project and accordingly, one was not held.

(ii) The availability of reasonable alternatives to the proposed project that would meet the needs of the people in the area to be served in a less costly, more efficient, or more effective manner;

With regard to the CT portion of the proposed project, and as will be discussed in more detail later in this staff analysis report, DCOPN concludes that the applicant has adequately demonstrated a unique institutional need and that accordingly, a more reasonable alternative to the proposed project does not exist. As previously discussed, in 2019, VCUHS’ existing CT complement operated at a collective utilization of 122.6%, far exceeding the expansion threshold set forth in the SMFP. Even considering subsequent additions to the VCUHS CT inventory since 2019, DCOPN calculations show that, should VCUHS maintain the same number of scans reported in 2019, the resulting occupancy would still approach 78.8%--a utilization which does not account for rises in population nor give consideration to lengthy pediatric CT studies.

With regard to the MRI portion of the proposed project, DCOPN also concludes that the applicant has demonstrated an institutional need and that accordingly, a reasonable alternative does not exist. DCOPN notes that in 2019, VCUHS’ MRI inventory operated at a collective utilization of only 70.2%, indicating that ample capacity exists within the VCUHS health system to adequately care for

its patient population. Furthermore, when subsequent additions to the VCUHS MRI inventory are considered, DCOPN calculated that the health system inventory would operate at approximately 56.2% occupancy should the same number of scans be maintained. However, DCOPN notes that the low utilization reported by VHI for 2019 is in large part due to the reporting for VCUHS' new NOW Center—a facility which was not operational for the entirety of 2019. According to DCOPN records, this facility became operational on June 18, 2019. When DCOPN recalculated 2019 VCUHS utilization excluding data for the NOW center, the result was a collective 2019 VCUHS MRI inventory utilization of 93.6%. For these reasons, DCOPN maintains that no MRI scanner within the existing inventory is suitable for transfer to the Children's Tower, and that accordingly, a reasonable alternative to the proposed project does not exist. Accordingly, DCOPN maintains that the applicant has satisfied this standard.

(iii) Any recommendation or report of the regional health planning agency regarding an application for a certificate that is required to be submitted to the Commissioner pursuant to subsection B of § 32.1-102.6;

Currently, there is no organization in HPR IV designated by the Virginia Department of Health to serve as the Health Planning Agency for PD 15. Therefore, this consideration is not applicable to the review of the proposed project.

(iv) Any costs and benefits of the proposed project;

As illustrated in **Table 5**, the total projected capital cost of the proposed project is \$4,524,997, the entirety of which will be funded using the accumulated reserves of the applicant. Accordingly, there are no financing costs associated with this project. DCOPN concludes that the costs for the proposed project are reasonable and consistent with previously approved projects in PD 15 similar in clinical scope (COPN No. VA-04717 authorized the addition of one fixed MRI scanner and one fixed CT scanner and had an authorized capital cost of \$6,808,481).

With regard to benefits of the proposed project, the applicant reiterates that the proposed project represents a critical component of VCUHS' long-range plan to optimally serve all its pediatric patients. The applicant states that the proposal addresses the critical need for a full-service academic pediatric hospital with a pediatric emergency department and a Level 1 Pediatric Trauma Center to have on-site, dedicated diagnostic imaging services. In brief, the applicant contends, and DCOPN agrees, that implementation of CT and MRI services at the Children's Tower is necessary to ensure that children in need of VCUHS' inpatient and emergency services have access to CT and MRI studies in a highly specialized, high-quality setting focused on, and dedicated to, the needs of pediatric patients.

(v) The financial accessibility of the proposed project to people in the area to be served, including indigent people; and

As already discussed, the applicant has provided assurances that CT and MRI services at the Children's Tower will be accessible to all patients, regardless of financial considerations. Additionally, the Pro Forma Income Statement provided by the applicant anticipates a charity care contribution equal to 1% of gross patient services revenue derived from CT and MRI

services (**Table 7**). While this amount is beneath the 2.7% 2019 HPR IV average as well as the 5.48% contributed by VCUHS for the same period, DCOPN again notes that the Commissioner and DCOPN have previously recognized that children’s services experience lower indigent and charity care percentages due to broader Medicaid coverage for children. For these reasons, should the Commissioner approve the proposed project, DCOPN recommends a charity care contribution of 1%, to be derived from pediatric CT and MRI services at the Children’s Tower. DCOPN again notes that its recommendation includes a provision allowing for the reassessment of the charity rate at such time as more reliable data becomes available regarding the full impact of Medicaid expansion in the Commonwealth.

(vi) At the discretion of the Commissioner, any other factors as may be relevant to the determination of public need for a proposed project;

Section 32.1-102.2: 1 of the Code of Virginia calls for the State Health Services Plan Task Force to develop, by November 1, 2022, recommendations for a comprehensive State Health Services Plan (SHSP). In the interim, DCOPN will consider the consistency of the proposed project with the predecessor of the SHSP, the State Medical Facilities Plan (SMFP).

3. The extent to which the proposed project is consistent with the State Health Services Plan;

The SMFP contains criteria and standards for the expansion of CT and MRI services at an existing medical facility. They are as follows:

**Part II.
Diagnostic Imaging Services
Article 1.
Criteria and Standards for Computed Tomography**

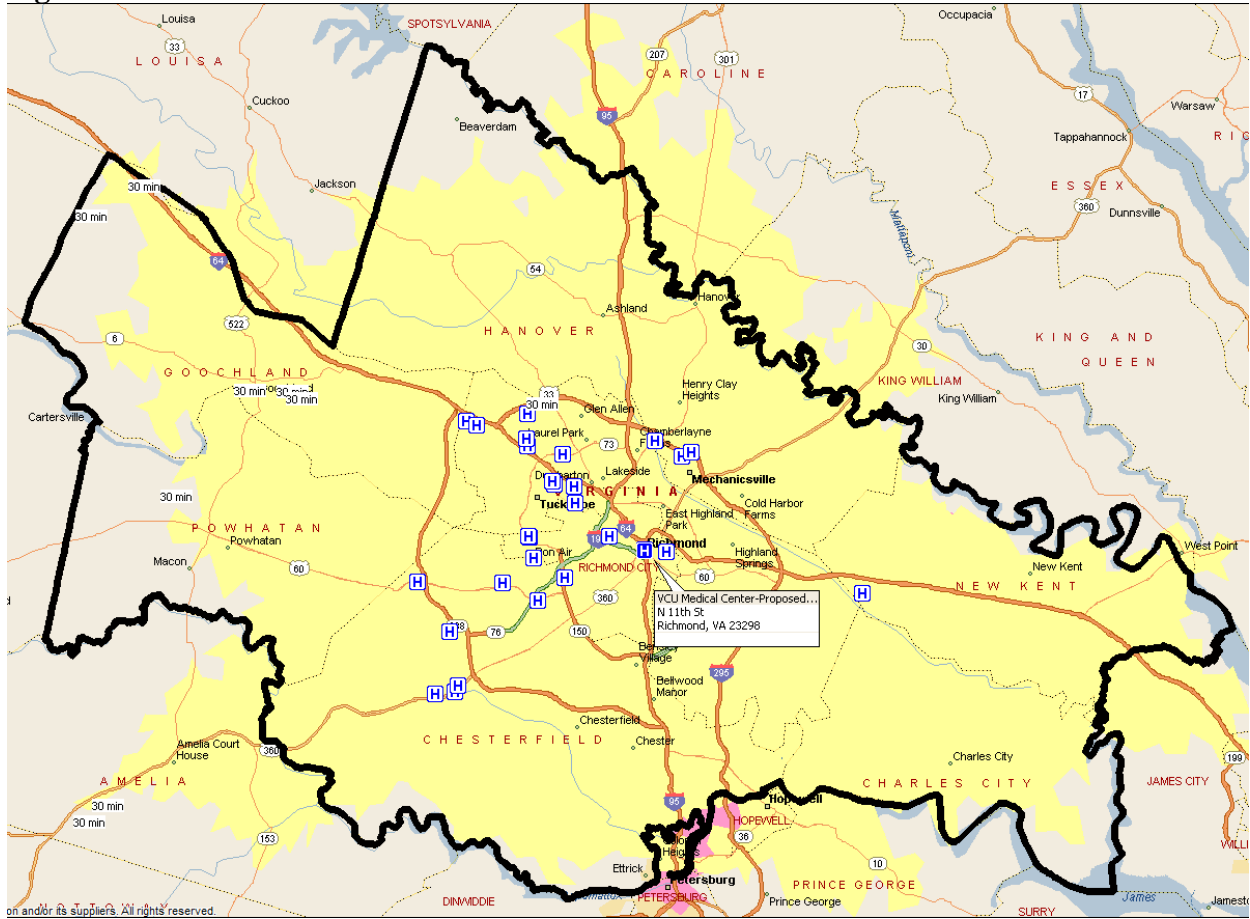
12VAC5-230-90. Travel time.

CT services should be within 30 minutes driving time one way under normal conditions of 95% of the population of the health planning district using a mapping software as determined by the commissioner.

The heavy black line in **Figure 1** identifies the boundary of PD 15. The blue “H” sign marks the location of the proposed project. The white “H” signs mark the locations of all other existing CT services located in PD 15. The yellow shaded area illustrates the area of PD 15 and the surrounding area that is currently within a 30-minute drive of existing CT services. The amount and location of this shading illustrates that there is currently no area within 30 minutes of VCUHS that is not also within a 30 minutes’ drive time of another existing provider. Furthermore, given the amount and location of shaded area, it is evident that CT services currently exist within a 30-minute drive for at least 95% of the population of PD 15. DCOPN also notes that the applicant is a current provider of CT services, and accordingly, approval of the proposed project would not improve geographic access to this service for residents of PD 15 in any meaningful way. However, DCOPN notes that the requested CT scanner would serve a very particular patient population—pediatric patients—and that the applicant has cited an institutional need for the proposed scanner as a reason for this

proposal. Accordingly, DCOPN contends that geographic access is not the factor that prevents this patient population from receiving timely access to care.

Figure 1.



12VAC5-230-100. Need for new fixed site or mobile service.

- A. No new fixed site or mobile CT service should be approved unless fixed site CT services in the health planning district performed an average of 7,400 procedures per existing and approved CT scanner during the relevant reporting period and the proposed new service would not significantly reduce the utilization of existing providers in the health planning district. The utilization of existing scanners operated by a hospital and serving an area distinct from the proposed new service site may be disregarded in computing the average utilization of CT scanners in such health planning district.**
- B. Existing CT scanners used solely for simulation with radiation therapy treatment shall be exempt from the utilization criteria of this article when applying for a COPN. In addition, existing CT scanners used solely for simulation with radiation therapy treatment may be disregarded in computing the average utilization of CT scanner sin such health planning district.**

The applicant is not proposing to establish a new fixed site CT service, but rather to expand an existing service. Accordingly, this standard is not applicable to the review at hand. However, in the interest of completeness, DCOPN will address this standard.

VHI data reports that the then-authorized PD 15 CT inventory performed a collective CT volume of 344,235 CT procedures (8,396 procedures per scanner) in 2019 (**Table 1**). Based on this data, and considering subsequent additions to the PD 15 CT inventory, DCOPN has calculated a current surplus of 10 CT scanners in PD 15 as follows:

COPN authorized fixed CT units in 2019 = 41
Needed CT units = $344,235 \div 7,400 = 46.5$ (47)
Utilization Percentage in 2019: 113.5%
CT units authorized subsequent to 2019: 16
Current number of PD 15 authorized CT units: 57
CT unit surplus = 10

However, DCOPN contends that the CT portion of the proposed project warrants approval despite this calculated surplus. First, as **Table 2** demonstrates, then-authorized CT scanners within the VCUHS inventory operated at a collective utilization of 122.6% in 2019. As will be discussed in more detail later in this staff analysis report, DCOPN contends that this data indicates a unique intuitional need to increase CT capacity within VCUHS. Furthermore, DCOPN again notes that the requested CT scanner is intended to serve a very specific patient population—pediatric patients—and is a necessary component in providing this patient population with the full continuum of care needed to operate a children’s hospital containing both a pediatric emergency room as well as pediatric Level 1 Trauma Center.

12VAC5-230-110. Expansion of fixed site service.

Proposals to expand an existing medical care facility's CT service through the addition of a CT scanner should be approved when the existing services performed an average of 7,400 procedures per scanner for the relevant reporting period. The commissioner may authorize placement of a new unit at the applicant's existing medical care facility or at a separate location within the applicant's primary service area for CT services, provided the proposed expansion is not likely to significantly reduce the utilization of existing providers in the health planning district.

As briefly discussed above, DCOPN contends that the CT portion of the applicant's proposal warrants approval despite a calculated surplus in PD 15. Overall, VCUHS' nine operational scanners operated at 122.6% of the SMFP's threshold for expansion in 2019. The applicant states, and DCOPN agrees, that because the SMFP's adult-focused utilization threshold does not accurately capture the prolonged scan times associated with pediatric imaging, pediatric utilization expressed as a percentage of the 7,400-procedure threshold does not accurately gauge VCUHS' pediatric patients' true CT utilization. As DCOPN recently reiterated, "the Commissioner and DCOPN have historically recognized that...CT scans often take longer for pediatric patients than for adults. Thus, it is difficult for pediatric facilities...to meet the SMFP's utilization thresholds for expansion."⁴²

Additionally, as a full-service academic pediatric hospital and Level 1 Pediatric Trauma Center, VCUHS is the only provider in Central Virginia offering specialized pediatric imaging services, complemented by pediatric anesthesia services and a comprehensive spectrum of other specialty and subspecialty pediatric services. To maintain its national trauma center designation, VCUHS must ensure immediate 24/7 access to CT imaging. The proposal will allow VCUHS to do so, with backup from the CHoR Tower's unit during the trauma center's downtimes. The Commissioner has recognized the impact of trauma designation on the need for redundancy of CT units to ensure "timely access for trauma patients."⁴³

12VAC5-230-120. Adding or expanding mobile CT services.

- A. Proposals for mobile CT scanners shall demonstrate that, for the relevant reporting period, at least 4,800 procedures were performed and that the proposed mobile unit will not significantly reduce the utilization of existing CT providers in the health planning district.**
- B. Proposals to convert authorized mobile CT scanners to fixed site scanners shall demonstrate that, for the relevant reporting period, at least 6,000 procedures were performed by the mobile scanner and that the proposed conversion will not significantly reduce the utilization of existing CT providers in the health planning district.**

The applicant is not proposing to add or expand a mobile CT service. Accordingly, this standard is not applicable to the proposed project.

⁴² DCOPN Staff Report re COPN Request No. VA-8410, at 15.

⁴³ Letter from Commissioner Oliver to Ms. Jamie Martin dated February 19, 2019, re COPN No. VA-04647.

12VAC5-230-130. Staffing.

CT services should be under the direction or supervision of one or more qualified physicians.

The applicant has provided assurances that the proposed project would be under the direction or supervision of one or more qualified physicians.

Article 2.

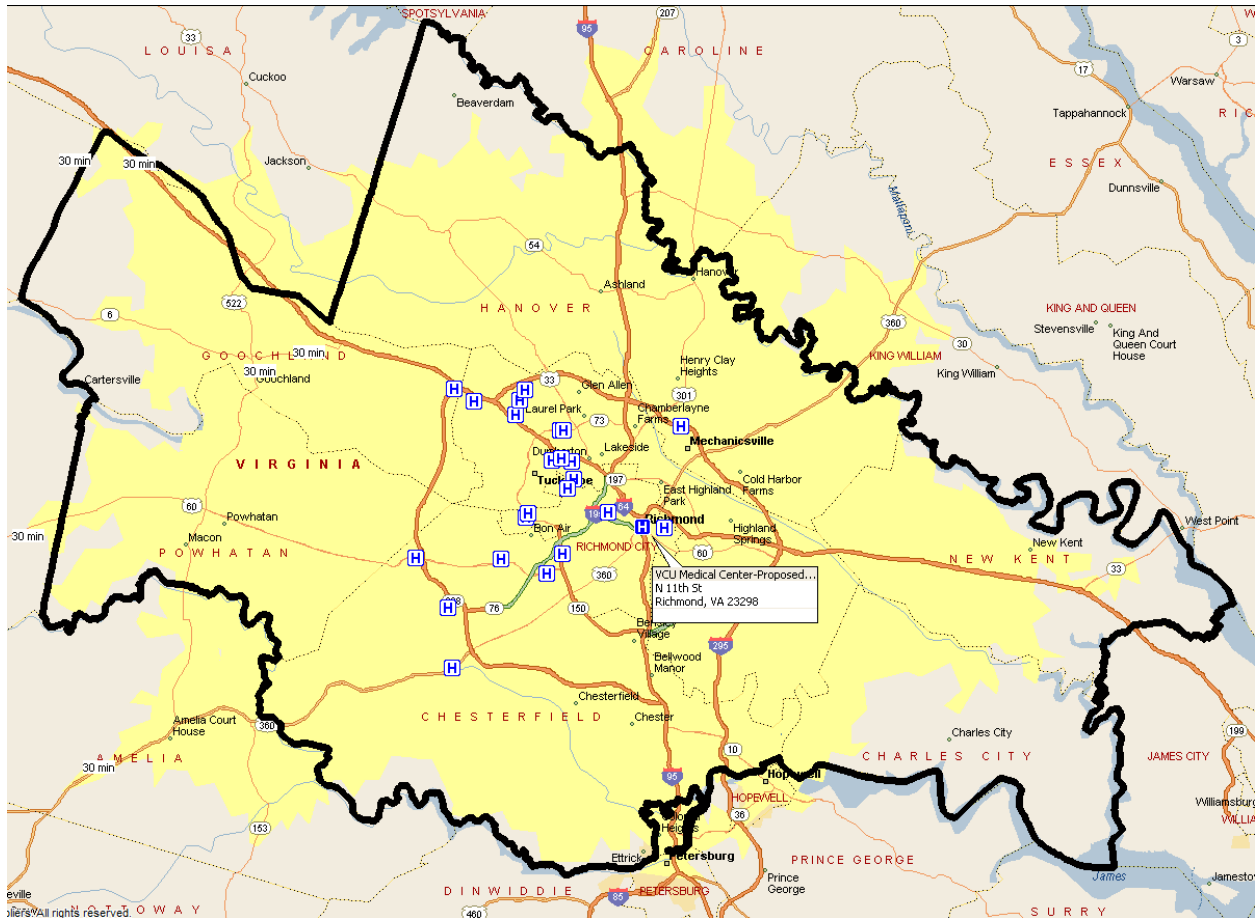
Criteria and Standards for Magnetic Resonance Imaging

12VAC5-230-140. Travel time.

MRI services should be within 30 minutes driving time one way under normal conditions of 95% of the population of the health planning district using a mapping software as determined by the commissioner.

The heavy black line in **Figure 2** identifies the boundary of PD 15. The blue “H” sign marks the location of the proposed project. The white “H” signs mark the locations of all other existing MRI services located in PD 15. The yellow shaded area illustrates the area of PD 15 and the surrounding area that is currently within a 30-minute drive of existing MRI services. The amount and location of this shading illustrates that there is currently no area within 30 minutes of VCUHS that is not also within a 30 minutes’ drive time of another existing provider. Furthermore, given the amount and location of shaded area, it is evident that MRI services currently exist within a 30-minute drive for at least 95% of the population of PD 15. DCOPN also notes that the applicant is a current provider of MRI services, and accordingly, approval of the proposed project would not improve geographic access to this service for residents of PD 15 in any meaningful way. However, DCOPN notes that the requested MRI scanner would serve a very particular patient population—pediatric patients—and that accordingly, it is not geographic access that prevents this patient population from receiving timely access to care.

Figure 2.



12VAC5-230-150. Need for new fixed site service.

No new fixed site MRI service should be approved unless fixed site MRI services in the health planning district performed an average of 5,000 procedures per existing and approved fixed site MRI scanner during the relevant reporting period and the proposed new service would not significantly reduce the utilization of existing fixed site MRI providers in the health planning district. The utilization of existing scanners operated by a hospital and serving an area distinct from the proposed new service site may be disregarded in computing the average utilization of MRI scanners in such health planning district.

The applicant is not proposing to establish a new fixed site MRI service, but rather to expand an existing service. Accordingly, this standard is not applicable to the review at hand. However, in the interest of completeness, DCOPN will address this standard.

VHI data reports that the then-authorized fixed-site MRI inventory in PD 15 performed a collective MRI volume of 107,137 MRI procedures (3,456 procedures per scanner) in 2019 (Table 3). Based on this data, and considering subsequent additions to the PD 15 fixed MRI inventory, DCOPN has calculated a current surplus of 16 MRI scanners in PD 15 as follows:

COPN authorized fixed MRI units in 2019 = 32
Needed MRI units = $107,137 \div 5,000 = 21.4$ (22)
Utilization Percentage in 2019: 69.1%
MRI units authorized subsequent to 2019: 6
Current number of PD 15 authorized MRI units: 38
Fixed MRI unit surplus = 16

However, DCOPN contends that the MRI portion of the proposed project warrants approval despite this calculated surplus. As **Table 4** demonstrates, existing MRI scanners within the collective VCUHS inventory operated at a collective utilization of 70.2% in 2019, indicating that capacity exists within the health system to continue to provide adequate and timely access to MRI services for the VCUHS patient population. However, as is the case with CT imaging, the SMFP's adult-focused utilization threshold does not necessarily capture the prolonged scan times associated with pediatric imaging. Thus, as with CT imaging, DCOPN contends that pediatric utilization expressed as a percentage of the 5,000-procedure threshold does not accurately gauge VCUHS' pediatric patients' true MRI utilization. For example, in the DCOPN staff analysis report recommending approval of the establishment of MRI services at the CHoR Pavilion, DCOPN noted:

“The applicant notes that scheduling pediatric MRI patients is complex and requires coordination with anesthesia and the radiology care team as well as competing for available time [in the] radiology suite. Pediatric MRI studies requiring sedation reportedly take three and one-half hours and at times four and one-hours to perform...DCOPN agrees with the applicant that the proposed dedicated pediatric MRI unit would significantly improve patient access, avoid the necessity of families making additional trips to [the hospital] for pediatric MRI studies, and would facilitate timely clinical assessment, treatment planning, and the initiation of necessary treatment.”⁴⁴

Moreover, as a full-service academic pediatric hospital and a Level 1 Pediatric Trauma Center, VCUHS is the only provider in Central Virginia offering specialized pediatric imaging services, complemented by pediatric anesthesia services and a comprehensive spectrum of other specialty and subspecialty pediatric services. To maintain its national trauma designation, VCUHS must ensure immediate 24/7 access to MRI imaging. The proposed project, if approved, would allow the applicant to do just that.

⁴⁴ DCOPN Staff Report re COPN Request No. VA-8410, at 15.

12VAC5-230-160. Expansion of fixed site service.

Proposals to expand an existing medical care facility's MRI services through the addition of an MRI scanner may be approved when the existing service performed an average of 5,000 MRI procedures per scanner during the relevant reporting period. The commissioner may authorize placement of the new unit at the applicant's existing medical care facility, or at a separate location within the applicant's primary service area for MRI services, provided the proposed expansion is not likely to significantly reduce the utilization of existing providers in the health planning district.

For reasons discussed under the heading for the previous standard (12VAC5-230-160), DCOPN contends that the MRI portion of the proposed project warrants approval despite the applicant not fully satisfying this standard. To reiterate, DCOPN contends that as with CT imaging, the SMFP's adult-focused utilization threshold does not necessarily capture the prolonged scan times associated with pediatric imaging. Thus, as with CT imaging, DCOPN contends that pediatric utilization expressed as a percentage of the 5,000-procedure threshold does not accurately gauge VCUHS' pediatric patients' true MRI utilization.

Moreover, as a full-service academic pediatric hospital and a Level 1 Pediatric Trauma Center, VCUHS is the only provider in Central Virginia offering specialized pediatric imaging services, complemented by pediatric anesthesia services and a comprehensive spectrum of other specialty and subspecialty pediatric services. To maintain its national trauma designation, VCUHS must ensure immediate 24/7 access to MRI imaging. The proposed project, if approved, would allow the applicant to do just that.

12VAC-230-170. Adding or expanding mobile MRI services.

- A. Proposals for mobile MRI scanners shall demonstrate that, for the relevant reporting period, at least 2,400 procedures were performed and that the proposed mobile unit will not significantly reduce the utilization of existing MRI providers in the health planning district.**
- B. Proposals to convert authorized mobile MRI scanners to fixed site scanners shall demonstrate that, for the relevant reporting period, 3,000 procedures were performed by the mobile scanner and that the proposed conversion will not significantly reduce the utilization of existing MRI providers in the health planning district.**

The applicant is not proposing to add or expand a mobile MRI service. Accordingly, this standard is not applicable.

12VAC5-230-180. Staffing.

MRI services should be under the direct supervision of one or more qualified physicians.

The applicant provided assurances that the proposed project would be under the direction or supervision of one or more qualified positions.

12VAC5-230-80. When institutional expansion needed.

- A. Notwithstanding any other provisions of this chapter, the commissioner may grant approval for the expansion of services at an existing medical care facility in a health planning district with an excess supply of such services when the proposed expansion can be justified on the basis of a facility's need having exceeded its current service capacity to provide such service or on the geographic remoteness of the facility.**
- B. If a facility with an institutional need to expand is part of a health system, the underutilized services at other facilities within the health system should be reallocated, when appropriate, to the facility with the institutional need to expand before additional services are approved for the applicant. However, underutilized services located at a health system's geographically remote facility may be disregarded when determining institutional need for the proposed project.**
- C. This section is not applicable to nursing facilities pursuant to § 32.1-102.3:2 of the Code of Virginia.**
- D. Applicants shall not use this section to justify a need to establish new services.**

With regard to the CT portion of the proposed project, DCOPN concludes that the applicant has adequately demonstrated a unique institutional need for the requested additional CT scanner. As previously discussed, in 2019, VCUHS' existing CT complement operated at a collective utilization of 122.6%, far exceeding the expansion threshold set forth in the SMFP. Even considering subsequent additions to the VCUHS CT inventory since 2019, DCOPN calculations show that, should VCUHS maintain the same number of scans reported in 2019, the resulting occupancy would still approach 78.8%--a utilization which does not account for rises in population nor give consideration to lengthy pediatric CT studies.

With regard to the MRI portion of the proposed project, DCOPN concludes that the applicant's proposal warrants approval despite the calculated surplus. In 2019, the then-existing VCUHS MRI inventory operated at a collective utilization of 70.2%, indicating that ample capacity exists within the VCUHS health system to adequately care for its patient population. Furthermore, when subsequent additions to the VCUHS MRI inventory are considered, DCOPN calculated that the health system inventory would operate at approximately 56.2% occupancy should the same number of scans be maintained. However, DCOPN notes that the low utilization reported by VHI for 2019 is in large part due to the reporting for VCUHS' new NOW Center—a facility which was not operational for the entirety of 2019. According to DCOPN records, this facility became operational on June 18, 2019. When DCOPN recalculated 2019 VCUHS utilization excluding data for the NOW center, the result was a collective 2019 VCUHS MRI inventory utilization of 93.6%. For these reasons, DCOPN maintains that no MRI scanner within the existing inventory is suitable for transfer to the Children's Tower.

4. The extent to which the proposed project fosters institutional competition that benefits the area to be served while improving access to essential health care services for all people in the area to be served;

Recognizing that the proposed project is intended to meet a unique institutional need, DCOPN does not find that the proposal is intended to foster institutional completion, but rather is intended to ensure VCUHS' pediatric patient population timely access to needed CT and MRI services.

Furthermore, as the applicant is an established provider of CT and MRI services, DCOPN concludes that the project will not improve geographic access to underserved members of PD 15.

5. The relationship of the proposed project to the existing health care system of the area to be served, including the utilization and efficiency of existing services or facilities;

With regard to the CT portion of the proposed project, as already discussed, existing CT scanners in PD 15 operated at a collective utilization of 113.5% in 2019. DCOPN notes that when considering all subsequent additions to the PD 15 inventory, should PD 15 volume remain unchanged, approval of the proposed project would result in a collective PD 15 CT utilization of approximately 80.2%. However, DCOPN again notes that the applicant bases the CT portion of this project on a unique institutional need for expansion that, as previously discussed, DCOPN concludes has been adequately demonstrated. Accordingly, DCOPN maintains that no reasonable alternative to the requested additional CT scanner exists and that approval of the proposed project is not likely to have a significant negative impact upon existing providers of CT services in PD 15.

With regard to the MRI portion of the proposed project, as already discussed, existing fixed-MRI scanners in PD 15 operated at a collective utilization of 69.1% in 2015. As has been discussed, utilization data for VCUHS' NOW Center, which reported for only part of 2019, likely skewed data downward slightly for that time period. However, as already discussed, DCOPN contends that the MRI portion of the proposed project warrants approval despite the low PD 15 utilization and calculated surplus. DCOPN again notes that the applicant bases the MRI portion of this project on a unique institutional need for expansion that, as previously discussed, DCOPN concludes has been adequately demonstrated. Accordingly, DCOPN maintains that no reasonable alternative to the requested additional MRI scanner exists and that approval of the proposed project is not likely to have a significant negative impact upon existing providers of MRI services in PD 15.

6. The feasibility of the proposed project, including the financial benefits of the proposed project to the applicant, the cost of construction, the availability of financial and human resources, and the cost of capital;

The Pro Forma Income Statement (**Table 7**) provided by the applicant anticipates a net profit of \$4,904,360 by the end of the first year of operation and \$4,801,652 in year two, illustrating that the proposed project is financially feasible both in the immediate and the long-term. As already discussed, DCOPN contends that the projected capital costs for the proposed project and reasonable and consistent with previously authorized projects similar in clinical scope. The applicant will fund the project entirely using accumulated reserves and accordingly, there are no financing costs associated with this project.

With regard to staffing, the applicant anticipates the need to hire an additional 37.6 full-time employees (FTEs) to staff the proposed project. DCOPN notes that the number of needed FTEs includes staffing for the CHoR pediatric radiology department, including the CHoR Pavilion and the proposed Children's Tower. DCOPN notes that the applicant is an established provider of CT and MRI services with a robust employee recruitment and retention plan and additionally, the

applicant has a robust Radiologic Sciences program within the VCU College of Health Professions. Accordingly, DCOPN does not anticipate that the applicant will have difficulty staffing the proposed project or that doing so will have a significant negative impact on existing providers of CT or MRI services.

- 7. The extent to which the proposed project provides improvements or innovations in the financing and delivery of health care services, as demonstrated by (i) the introduction of new technology that promotes quality, cost effectiveness, or both in the delivery of health care services; (ii) the potential for provision of health care services on an outpatient basis; (iii) any cooperative efforts to meet regional health care needs; and (iv) at the discretion of the Commissioner, any other factors as may be appropriate; and**

The proposed project does not offer the introduction of new technology that promotes quality, cost effectiveness, or both in the delivery of health care services, nor does it provide for the potential for provision of health care services on an outpatient basis. DCOPN notes again that the applicant bases its application on a unique intuitional need for expansion and that accordingly, the patient population to be served by the proposed project is those patients already receiving care at VCUHS. For these reasons, DCOPN concludes that approval of the proposed project would result in timelier patient treatment for VCUHS' pediatric patients.

- 8. In the case of a project proposed by or affecting a teaching hospital associated with a public institution of higher education or a medical school in the area to be served, (i) the unique research, training, and clinical mission of the teaching hospital or medical school and (ii) any contribution the teaching hospital or medical school may provide in the delivery, innovation, and improvement of health care services for citizens of the Commonwealth, including indigent or underserved populations.**

VCUHS is a public research university and academic health center dedicated to preserving and restoring health for all people through innovation in services, research and education, along with Virginia Commonwealth University. VCUHS' clinical trials give patients access to advanced diagnostics and medical treatments and technologies before they are widely available. Additionally, VCUHS is the clinical affiliate for the VCU School of Radiation Sciences. The applicant states that historically, graduating students from this program have filled 50% of all VCUHS vacancies for radiologic technologists. For specialty vacancies such as MRI and CT, interested graduating students have the opportunity to spend the last four to six months of their program in the subspecialty area. VCUHS has also created part-time positions titled "student workers" which allow students to work after hours and on weekends as radiologic technology assistants.

DCOPN Staff Findings and Conclusions

VCUHS proposes to expand its existing CT and MRI services through the addition of one new CT scanner and one new MRI scanner, both of which will be dedicated to pediatric care. The proposed pediatric CT and MRI units will be located at the Children's Tower, a new inpatient children-focused building under development on the VCU Medical Center campus in downtown Richmond.

The projected capital costs of the proposed project total \$4,524,997, the entirety of which will be funded using the accumulated reserves of the applicant. Accordingly, there are no financing costs associated with the proposed project. DCOPN concludes that these costs are reasonable and consistent with previously approved PD 15 projects similar in clinical scope. The applicant has provided a projected opening date of April 30, 2023.

DCOPN has calculated a surplus of both CT and MRI units in PD 15. The applicant's proposal would increase each surplus by one, however, DCOPN concludes that the applicant has adequately demonstrated a unique intuitional need for both the CT and the MRI scanner and accordingly, contends that each portion of the proposed project warrants approval despite the calculated surpluses. DCOPN additionally finds that no reasonable, less costly, or more favorable alternative to either portion of the proposed project exists. DCOPN finds that the proposed project will prove financially feasible both in the immediate and the long-term. Should the Commissioner approve the proposed project, DCOPN recommends a charity care condition equal to the 1% contribution anticipated by the applicant, to be derived from CT and MRI gross patient services revenue at the Children's Tower.

DCOPN Staff Recommendations

The Division of Certificate of Public Need recommends **conditional approval** of the proposed project to add one fixed MRI scanner and one fixed CT scanner at VCU Medical Center for the following reasons:

1. The proposed project is generally consistent with the applicable criteria and standards of the State Medical Facilities Plan and the Eight Required Considerations of the Code of Virginia.
2. The capital costs are reasonable.
3. The proposed project appears economically viable both in the immediate and in the long-term.
4. No reasonable alternatives to the proposed project exist.
5. The applicant has adequately demonstrated a unique institutional need for the addition of the requested MRI and CT scanner.
6. There is no known opposition to the proposed project.
7. Approval of the proposed project is not likely to have a significant negative impact on existing providers of CT or MRI services

DCOPN's recommendation is contingent upon Virginia Commonwealth University Health System Authority's agreement to the following charity care condition:

Virginia Commonwealth University Health System Authority will provide CT and MRI services to all persons in need of this service, regardless of their ability to pay, and will provide as charity care to all indigent persons free services or rate reductions in services and facilitate the development and operation of primary care services to medically underserved persons in an aggregate amount equal to at least 1.0% of Virginia Commonwealth University Health System Authority's total patient services revenue derived from CT and MRI services provided at The Children's Tower as valued under the provider reimbursement methodology utilized by the Centers for Medicare and Medicaid Services for reimbursement under Title XVIII of the Social Security Act, 42 U.S.C. § 1395 et seq. Compliance with this condition will be documented to the Division of Certificate of Public Need annually by providing audited or otherwise appropriately certified financial statements documenting compliance with the preceding requirement. Virginia Commonwealth University Health System Authority will accept a revised percentage based on the regional average after such time regional charity care data valued under the provider reimbursement methodology utilized by the Centers for Medicare and Medicaid Services for reimbursement under Title XVIII of the Social Security Act, 42 U.S.C. § 1395 et seq. is available from Virginia Health Information. The value of charity care provided to individuals pursuant to this condition shall be based on the provider reimbursement methodology utilized by the Centers for Medicare and Medicaid Services for reimbursement under Title XVIII of the Social Security Act, 42 U.S.C. § 1395 et seq.

Virginia Commonwealth University Health System Authority will provide CT and MRI services to individuals who are eligible for benefits under Title XVIII of the Social Security Act (42 U.S.C. § 1395 et seq.), Title XIX of the Social Security Act (42 U.S.C. § 1396 et seq.), and 10 U.S.C. § 1071 et seq. Additionally, Virginia Commonwealth University Health System Authority will facilitate the development and operation of primary and specialty medical care services in designated medically underserved areas of the applicant's service area.