

# VIRGINIA DEPARTMENT OF HEALTH

## Office of Licensure and Certification

### Division of Certificate of Public Need

#### Staff Analysis

July 19, 2023

**RE: COPN Request No. VA-8698**

Carilion Franklin Memorial Hospital

Rocky Mount, Virginia

Expanding CT Imaging Services through the Addition of 1 CT Scanner

#### Applicant

Carilion Franklin Memorial Hospital (CFMH) is a 501(c)(3) nonprofit hospital and is a wholly owned subsidiary of Carilion Clinic. CFMH has no subsidiaries of its own. CFMH is located at 180 Floyd Avenue, Rocky Mount, Virginia 24151, in Planning District (PD) 12, within Health Planning Region (HPR) III.

#### Background

##### **Population and Demographics**

Both the overall population trends in PD 12 and in HPR III have been declining (**Table 1**). Contrarily, the population trend in the 65+ age cohort for both PD 12 and HPR III has been increasing, although at a rate slower than the statewide average for the 65+ age cohort. CFMH's primary service area (PSA) includes rural Franklin and Henry Counties (bolded and italicized in **Table 1**). Both Henry and Franklin Counties are experiencing a significantly greater increase in the number of 65+ individuals in their populations even though the overall populations of both counties are trending negatively. Population aging is statistically likely to lead to greater use of diagnostic imaging services.<sup>1</sup> Although the population of CFMH's primary service area is declining, the increasing age of the population is indicative of the growing diagnostic imaging needs of the community.

The average poverty rate in PD 12 is 19.1%, compared to the statewide average of 10.7% (**Table 2**). For further comparison, PD 12 residents experience living in poverty at a rate of 1.78 higher than the statewide average. Relational to the inability to purchase healthful foods and engage in healthy activities, those experiencing poverty are more likely to have health ailments.<sup>2</sup>

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<sup>1</sup> Wang L, Nie JX, Tracy CS, Moineddin R, Upshur RE. Utilization patterns of diagnostic imaging across the late life course: a population-based study in Ontario, Canada. *Int J Technol Assess Health Care*. 2008 Fall;24(4):384-90. doi: 10.1017/S0266462308080501. PMID: 18828931.

<sup>2</sup> "Poverty and Health - the Family Medicine Perspective (Position Paper)." AAFP, December 12, 2019. <https://www.aafp.org/about/policies/all/poverty-health.html>.

**Table 1. Population Data for PD 12, HPR III, and Virginia**

Geography Name	2010	2020	% Change 2010-2020	2030	% Change 2020-2030	2020 65+	2030 65+	% Change 2020-2030 65+
Franklin County	56,159	54,477	-3.09%	52,038	-4.69%	14,536	17,313	16.04%
Henry County	54,151	50,948	-6.29%	47,061	-8.26%	12,026	13,248	9.22%
Patrick County	18,490	17,608	-5.01%	16,486	-6.80%	4,738	5,359	11.58%
Pittsylvania County	63,506	60,501	-4.97%	56,672	-6.76%	14,120	16,364	13.71%
Danville city	43,055	42,590	-1.09%	41,521	-2.57%	8,381	8,621	2.78%
Martinsville city	13,821	13,485	-2.49%	12,961	-4.05%	2,608	2,861	8.84%
<b>PD 12 Totals</b>	<b>249,182</b>	<b>239,609</b>	<b>-2.21%</b>	<b>226,739</b>	<b>-5.52%</b>	<b>56,409</b>	<b>63,766</b>	<b>-10.36%</b>
<b>Virginia, Statewide</b>	8,001,024	8,644,727	7.45%	9,129,002	5.30%	1,352,448	1,723,382	21.52%

Source: Weldon-Cooper Data

**Table 2. Poverty Rates by Locality in PD 12**

Danville City	21.9%
Franklin County	15.3%
Henry County	20.0%
Martinsville City	25.5%
Patrick County	15.5%
Pittsylvania County	16.4%
<b>PD 12 Average</b>	<b>19.1%</b>
<b>Statewide Average</b>	<b>10.7%</b>

Source: Index Mundi

### Computed Tomography

A computed tomography (CT) scanner is a diagnostic imaging tool that utilizes X-ray technology to produce imaging of the inside of the body and can show bones, muscles, organs, and blood vessels. CT scans are more detailed than plain film X-rays; rather than the standard straight-line x-ray beam, CT imaging uses an X-ray beam that moves in a circle around the body to show structures in much greater detail.<sup>3</sup> The scans can be used to help diagnose tumors, investigate internal bleeding, or investigate other possible injuries or damage. The scans can be done with or without contrast, a substance taken orally or injected within the body, that causes a particular organ or tissue to be seen more clearly.<sup>4</sup>

<sup>3</sup> <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/computed-tomography-ct-scan#:~:text=Computed%20tomography%20is%20commonly%20referred,fat%2C%20organs%20and%20blood%20vessels.>

<sup>4</sup> Ibid.

### **Carilion Franklin Memorial Hospital**

CFMH is a 37-bed acute care facility in Rocky Mount, Virginia whose primary service area includes residents of the rural Franklin and Henry Counties. CFMH houses one on-site CT scanner and one off-site, outpatient CT scanner located at Carilion Clinic Imaging-Westlake, approximately 27 minutes from CFMH.

### **Proposed Project**

CFMH proposes to expand CT services on its hospital campus through the addition of one CT scanner. Additionally, the project will relocate the existing magnetic resonance imaging (MRI) and CT scanner to a location in conjunction with the proposed second CT scanner; the imaging scanners will be proximal to emergency, cardiology, and surgery services at CFMH.

The total capital cost is estimated to be \$1,907,498, of which 100% will be financed with accumulated reserves. The CT scanner and Cardiac Add-on imaging will account for \$1,164,560, or approximately 61% of the total capital cost of the project. The remaining approximately 39% is allocated for direct construction costs with centralizing the imaging equipment within the hospital. The project is expected to be complete and operational by March 3, 2025.

### **Project Definition**

Section 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, [to include] [a]ny facility licensed as a hospital..., of any new medical equipment for the provision of...computed tomographic (CT) scanning.”

### **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.

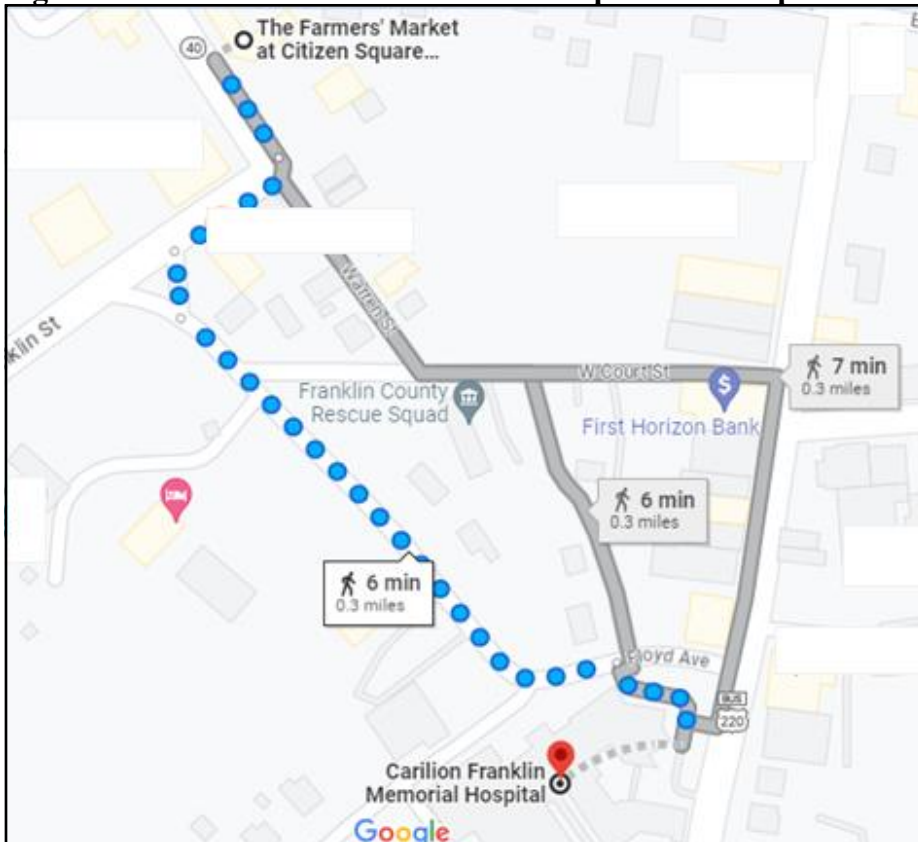
- 1. The extent to which the proposed service or facility will provide or increase access to needed services for residents of the area to be served, and the effects that the proposed service or facility will have on access to needed services in areas having distinct and unique geographic, socioeconomic,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

CFMH is situated 2.5 miles from U.S. Highway 220. Ferrum College operates a bus service for its students that is also open to the public and stops within approximately 0.3 miles from CFMH in Rocky Mount at the Farmer’s Market (**Figure 1**). The Ferrum Express is a free bus service that is open to the public running from 1:00PM Saturday-Wednesday every two hours and from 5:00PM Thursday-Friday, running each hour.

CFMH provides healthcare services to those in a rural area of Virginia where access to services is often limited or takes extensive travel time to reach. The project will not increase geographic access but will increase timeliness of CT scanning services for the individuals

who are currently being serviced at CFMH, which has a relatively heavy concentration of patients facing poverty and/or increasing age.

**Figure 1. Distance from Closest Ferrum Express Bus Stop to CFMH**



Source: Google Maps

The Ferrum Express is a beneficial service for those with transportation and/or financial strains; however, the timeframes may be difficult for patients to utilize for outpatient procedures at CFMH as the Ferrum Express is limited to afternoon and evening times for transport.

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

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

DCOPN received five letters of support for the proposed project from the local medical community and the mayor of Rocky Mount. Collectively, these letters articulate several benefits of the project, including:

- CFMH offers specialized CT procedures, along with other services, that are not available elsewhere in the area.

- Local community medical clinics rely on diagnostic support from CFMH to serve patients with limited incomes.
- Volumes justify the addition of another CT scanner at CFMH.
- Having timely CT scanning availability is critical in emergent situations, and even more critical in emergent situations in rural communities with fewer alternative options for care.
- CFMH has seen an increase in acuity, or complexity, of patients in the last three years. CFMH has experienced an increase of 10% of hospitalizations and has experienced “an increase in CMI<sup>5</sup> from 1.28 to 1.33” which indicates that more complex patients are seeking care at CFMH.

DCOPN received no letters of opposition regarding this project.

Section 32.1-102.6 B of the Code of Virginia directs DCOPN to hold one public hearing on each application in a location in the county or city in which the project is proposed or a contiguous county or city in the case of competing applications, or in response to a written request by an elected local government representative, a member of the General Assembly, the Commissioner, the applicant, or a member of the public. COPN Request No. VA-8698 is not competing with another project in this batch cycle and DCOPN did not receive a request to conduct a public hearing for the proposed project. Thus, no public hearing was held.

**(ii) The availability of reasonable alternatives to the proposed service or facility that would meet the needs of the population in a less costly, more efficient, or more effective manner.**

It is apparent (and will be illustrated below) that CFMH is in need of additional imaging services. The applicant reports that mobile imaging would not meet the demand and would be more difficult regarding staffing. The applicant also reports that it did not wish to move the severely underutilized fixed CT unit from Westlake due to the rural population it serves. Maintaining the status quo also does not appear viable in the long term due to the continuous increase in CT use at CFMH in addition to the continued projected increases. The projected increase correlates with the aging population in the area.

A reasonable alternative supported by VA Code 12VAC5-230-80 (when institutional expansion is needed) would be to relocate the Westlake CT scanner to CFMH. Further addressed in Required Consideration 3, moving the scanner would allow for reasonable utilization at CFMH (**Table 5**). Moreover, Westlake is approximately 27 minutes driving distance from CFMH; the SMFP requires 95% of the population to be within 30 minutes driving distance from CT services. Relocating the CT services (and replacing the scanner) from Carilion’s Westlake Diagnostic Imaging Center would be more aligned with the SMFP guidelines than adding another fixed scanner for a total complement of 3 fixed CT scanners for CFMH.

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<sup>5</sup> CMI is a case mix index that assigns a weight to hospitalization cases, which is then divided by the number of cases to give a value as to the severity of cases treated at a given facility.

**(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 III designated by the Virginia Department of Health to serve as the Health Planning Agency for PD 12. Therefore, this consideration is not applicable to the review of the proposed project.

**(iv) Any costs and benefits of the project.**

The costs involved with this project include \$1,164,50 for the CT scanner and Cardiac Imaging Add-on package, with added construction to centralize imaging in CFMH, for a total capital cost of \$1,907,498 to be paid through accumulated reserves. The Cardiac Imaging Add-On will allow for specific imaging related to the heart to be taken, aiding their general and non-invasive cardiology program. The capital costs are approximately 28.6% of the Year 1 net revenues after operating expenses. The primary benefit is timelier access for patients. The current wait is 10-14 days for a CT scan. For patients who need diagnostic imaging to reduce severely painful conditions, such as kidney stones, having timelier access to imaging is paramount. The applicant also reports that last year, their one scanner was not operational due to needed repairs being made; their emergency room and the entire hospital were not supported with CT services during this time.

**(v) The financial accessibility of the project to the residents of the area to be served, including indigent residents.**

The applicant has provided assurances that CT services will be accessible to all patients, regardless of financial considerations. In 2020, the most recent year for which data is available, CFMH reported a charity rate of 2.54% of their gross revenues, which is greater than the average for HPR III of 0.7%; the higher reported charity care rate reported in 2020 may be attributable to the higher poverty rate in the area (**Table 3**). Furthermore, the Pro Forma Income Statement provided by the applicant anticipates a charity care contribution equal to 0.7% of gross revenues derived from CT services at CRMH, an amount consistent with the average HPR III contribution. DCOPN recommends charity care consistent with the HPR average to maintain consistency in charity conditions not established in a formal charity agreement for a specific institution or conglomerate of institutions; the applicant has consistently shown they are willing to provide charity care above that of the HPR average. However, recent changes to §32.16-102.4B of the Code of Virginia now require DCOPN to place a charity care condition on all applicants seeking a COPN. For this reason, DCOPN recommends that the proposed project, if approved, be subject to a 0.7% charity care condition, to be derived from total CT gross patient services revenues, consistent with the HPR III average. DCOPN again notes that its recommendation includes a provision allowing for the reassessment of the charity care rate at such time as more reliable data becomes available regarding the full impact of Medicaid expansion in the Commonwealth.

**Table 3. Health Planning Region III 2020 Charity Care Contributions**

Hospital	Gross Patient Revenues	Adjusted Charity Care Contribution	Percent of Gross Patient Revenue:
Carilion Franklin Memorial Hospital	\$146,159,934	\$3,708,842	2.54%
Bedford Memorial Hospital	\$122,377,242	\$2,357,210	1.93%
Dickenson Community Hospital	\$25,321,849	\$465,722	1.84%
Carilion Tazewell Community Hospital	\$57,945,546	\$956,508	1.65%
Carilion Giles Memorial Hospital	\$107,478,905	\$1,438,902	1.34%
Russell County Medical Center	\$121,070,842	\$1,529,332	1.26%
Wellmont Lonesome Pine Mt. View Hospital	\$372,115,538	\$4,558,248	1.22%
Carilion Medical Center	\$3,983,507,417	\$47,514,964	1.19%
Carilion New River Valley Medical Center	\$711,175,865	\$8,034,717	1.13%
Johnston Memorial Hospital	\$855,313,389	\$7,815,178	0.91%
Norton Community Hospital	\$311,397,944	\$2,789,910	0.90%
Smyth County Community Hospital	\$198,825,769	\$1,746,804	0.88%
Centra Health	\$2,649,888,465	\$20,969,883	0.79%
LewisGale Hospital -- Montgomery	\$680,834,380	\$5,052,836	0.74%
Lewis-Gale Medical Center	\$2,312,565,268	\$16,202,296	0.70%
LewisGale Hospital -- Pulaski	\$346,826,376	\$2,140,319	0.62%
LewisGale Hospital -- Alleghany	\$189,090,272	\$708,265	0.37%
Twin County Regional Hospital	\$222,632,986	\$649,064	0.29%
Clinch Valley Medical Center	\$520,600,957	\$946,557	0.18%
Buchanan General Hospital	\$99,508,254	\$105,669	0.11%
Memorial Hospital of Martinsville & Henry County	\$668,028,626	\$582,956	0.09%
Wythe County Community Hospital	\$235,991,599	\$93,569	0.04%
Danville Regional Medical Center	\$910,930,415	-\$19,407,300	-2.13%
Total Facilities Reporting			23
Median			0.9%
<b>Total \$ &amp; Mean %</b>	<b>\$15,849,587,838</b>	<b>\$110,960,451</b>	<b>0.7%</b>

Source: 2020 VHI Data

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

DCOPN did not identify any other discretionary factors, not discussed elsewhere in this staff analysis report, to bring to the attention of the Commissioner as may be relevant in determining a public need for the proposed project.

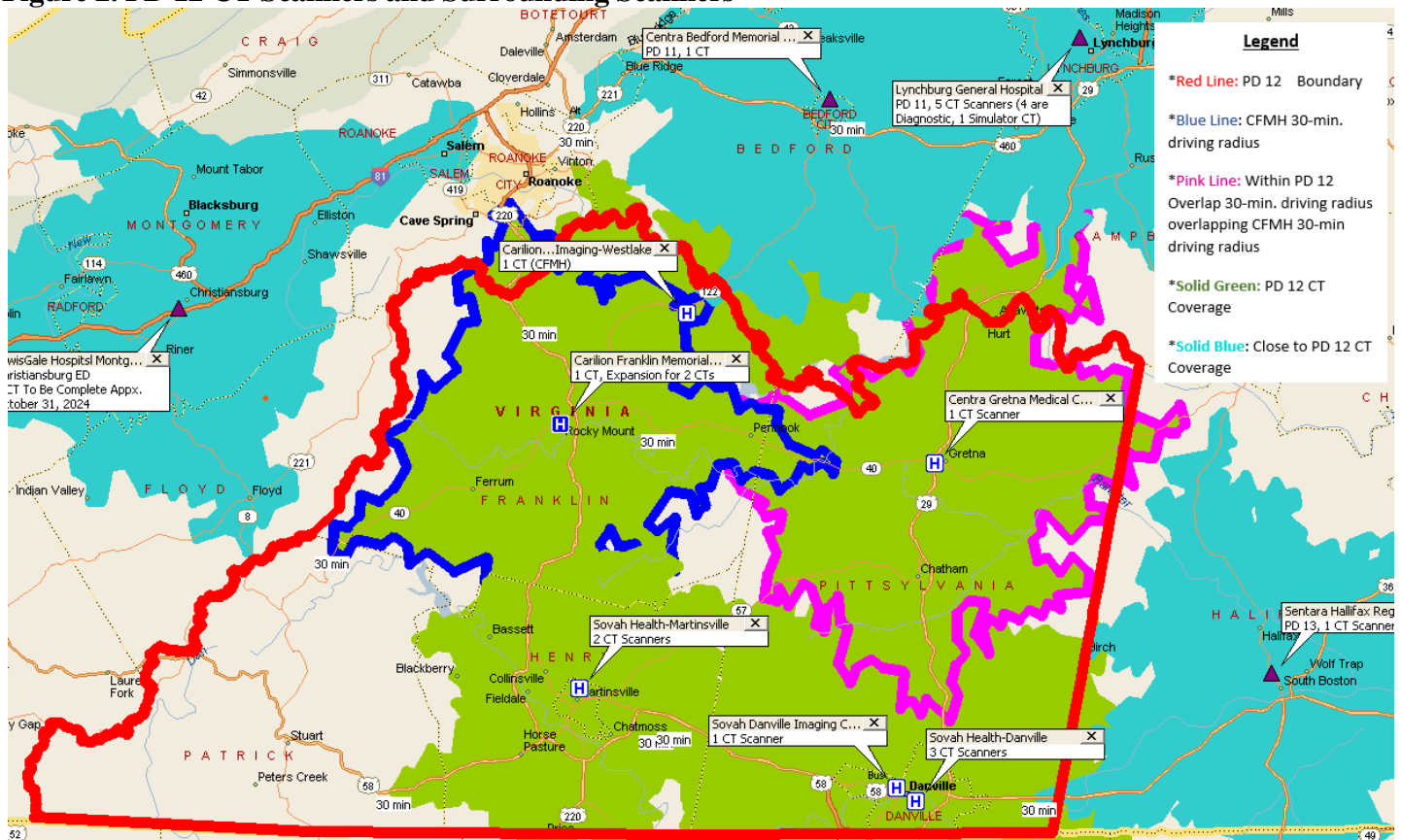
**3. The extent to which the application is consistent with the State Medical Facilities Plan.**

**Chapter 230. State Medical Facilities Plan (SMFP)  
 Part I. Definitions and General Information  
 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.**

Figure 2. PD 12 CT Scanners and Surrounding Scanners



Sources: Google Maps, DCOPN Inventory, and Microsoft Office Streets & Trips

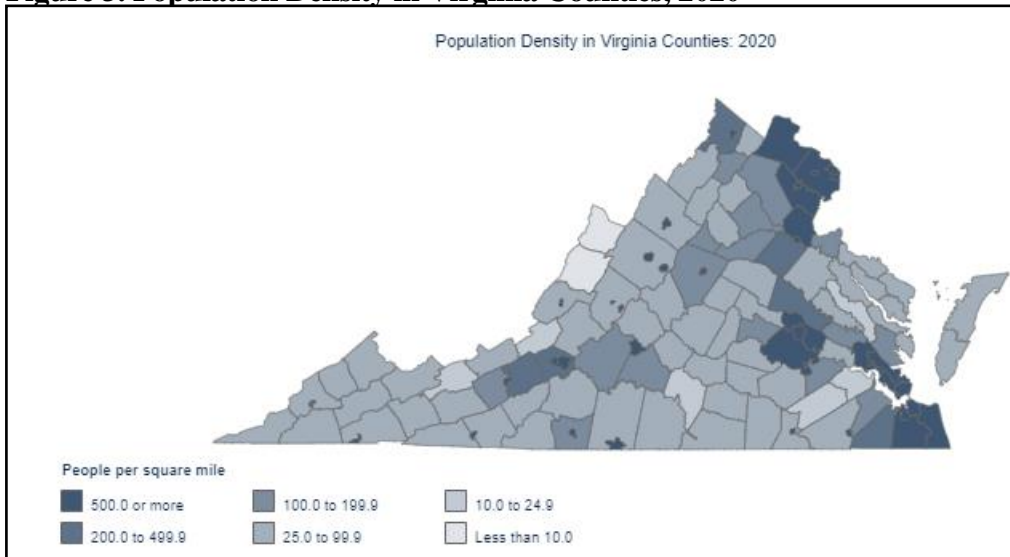
Figure 2 illustrates the CT scanners and their locations within PD 12 and a few from surrounding areas. There are numerous scanners in Roanoke not included in this map as the overlap with CFMH would be significant and distort the representation of the other rural providers in the area. (There was no opposition received by DCOPN from Roanoke providers.) The red line is the PD 12 boundary, the pink lines are the 30-minutes driving radius of two providers whose 30-minutes radii overlap with CFMH, and the dark blue outline is the 30-minutes driving radius from CFMH. The solid green shaded areas are indicative of the providers' 30-minutes driving radii within PD 12, while the shaded blue areas are illustrating the 30-minutes' driving radii from providers outside of the PD, but within relatively close proximity to PD 12.

PD 12 and the surrounding areas are relatively rural compared to central and northern Virginia (with exceptions of areas such as Roanoke, Lynchburg, and Danville being more populated) (Figure 3). Stuart, Virginia had 1,431 residents as of 2020 according to the United States Census Bureau. As seen in Figure 2, Stuart is the largest town not within 30-minutes driving time from CT services. The 2020 PD 12 population was 226,739 (Table 1), indicating that Stuart comprised 0.63% of PD 12's population in 2020. Although additional geographic areas of PD 12 are not within a 30-minutes' driving time of CT services, it is unlikely that the population of these areas would rise to 5.0% of the total PD 12 population given the rural, low-density



residential volume of these areas. Therefore, it is reasonable to estimate that 95% or more of the PD 12 population is within 30-minutes' driving time to CT services.

**Figure 3. Population Density in Virginia Counties, 2020**



Source: census.gov

While Roanoke, located in PD 5, has many CT services that are underutilized based upon 2021 VHI data, all of those locations are approximately 35-50 minutes' away from the Carilion Westlake Imaging Center location.

**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 scanners in such health planning district.**

Not applicable as the applicant is not requesting to establish either a new fixed site or new mobile site. CT utilization, need, and whether the PD has a deficit or surplus of CT services will be addressed appropriately in 12VAC5-230-110, below.

**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.**

Over the past few years, CT volumes at CFMH have increased. Fiscal Year (FY) 2022 volumes were at approximately 143% of the SMFP threshold of 7,400 procedures per unit (**Table 5**). FY 2021 volumes were at approximately 130% of SMFP threshold, while in FY 2019, the services were operating at approximately 112% of the SMFP threshold (**Table 5**). The utilizations shown in **Table 4** for PD 12 is distorting regarding CT scanner located on the CFMH campus versus the outpatient CT located approximately 27 minutes' driving distance from CFMH as they are both included together in Virginia Health Information (VHI) reporting. **Table 5** shows the very limited volume of scans the Westlake imaging center performs.

**Table 4. PD 12 Authorized CT Scanners and Utilization**

Facility	# of Units	2021 Total Procedures	2021 Procedures Per Scanner	2021 Utilization Per Scanner
Carilion Franklin Memorial Hospital	2 <sup>1</sup>	9,672	4,836	65.35%
Centra Gretna Medical Center	1	6,430	6,430	86.89%
Sovah Danville Imaging Center	1	4,436	4,436	59.95%
Sovah Health-Danville	3	22,123	7,375	99.65%
Sovah Health-Martinsville	2	16,122	8,061	108.93%
<b>PD 12 Totals</b>	<b>9</b>	<b>58,783</b>	<b>6,531</b>	<b>88.26%</b>

Sources: DCOPN Inventory, VHI 2021 Data, and COPN Req. No. VA-8698

<sup>1</sup>CFMH has one CT scanner onsite and an additional scanner approximately 27 minutes' driving time away from CFMH at Carilion Imaging Clinic-Westlake. This utilization does not account for the separate scanner accurately.

**2021 Total PD 12 Procedures ÷ SMFP Threshold of 7,400 = Calculated Need**

**58,783 ÷ 7400 = 7.9, or 8 CT Scanners Needed in PD 12**

**9 Existing CT Scanners – 8 Calculated Need of CT Scanners = Surplus of 1 CT Scanner**

Between the two existing scanners, by Year 2, (if the two scanners were equally utilized) would be operating at 106.1% utilization (**Table 5**). Additionally, the CT scanner located at the Carilion Clinic Imaging-Westlake is used for the rural residents of the Smith Mountain Lake area. While some outpatient patients at CFMH could be diverted to Carilion Clinic Imaging-Westlake, the geographic area and rapidly aging population of PD 12, and Franklin and Henry Counties specifically, indicate a need of additional imaging capacity for CFMH.

Although the Westlake area is rural, it has not had the volumes anticipated when the authorization for COPN No. VA-04077 was issued in 2007; the anticipation was an annual growth rate of 10% utilization at the Westlake location, which has not occurred as evidenced by volumes ranging from 42-130 procedures per year (0.57% and 1.8% SMFP utilization, respectively) (**Table 5**).

**Table 5. CFMH Specific CT Scanner Utilization**

		Actual			Annualized	Projected	
		2020	2021	2022	2023	Year 1	Year 2
CFMH CT (1 Scanner)	IP	799	905	1,441	1,782	2,204	2,633
	OP	6,767	8,723	9,146	10,239	11,665	13,025
	<b>Total</b>	<b>7,566</b>	<b>9,628</b>	<b>10,587</b>	<b>12,111</b>	<b>13,869</b>	<b>15,658</b>
Westlake CT (1 Scanner)	OP Only	130	124	113	42	42	42
<b>Total (2 Scanners)</b>	<b>IP and OP</b>	<b>7,696</b>	<b>9,752</b>	<b>10,700</b>	<b>12,153</b>	<b>13,911</b>	<b>15,700</b>

Sources: VHI and COPN Req. VA-8698

**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.**

This provision is not applicable as the applicant is not proposing to add or expand mobile CT services.

**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.**

This provision is not applicable as the applicant is not proposing convert mobile CT services to fixed site services.

**12VAC5-230-130. Staffing.**

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

The applicant provides assurances that the CT services will be under the direction or supervision of one or more qualified physicians.

**Part I. Definitions and General Information.**

**12VAC5-230-80. When Institutional Expansion is Needed**

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

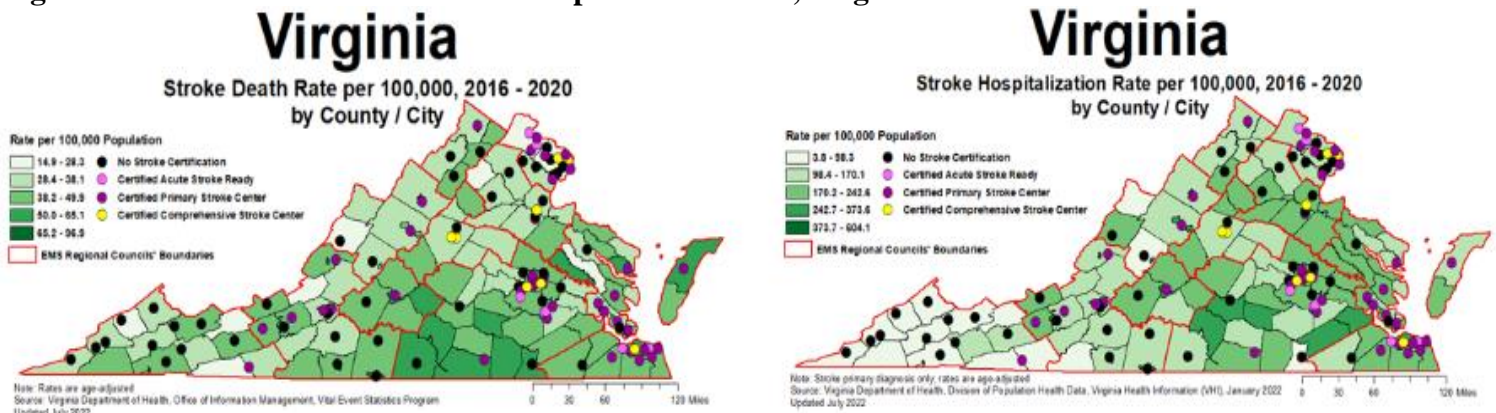
**A. Notwithstanding any other provisions of this chapter, the commissioner may grant approval for the expansion of services at an existing medical care facility in a health planning district with an excess supply of such services when the proposed expansion can be justified on the basis of a facility's need having exceeded its current service capacity to provide such service or on the geographic remoteness of the facility.**

The applicant's current volumes at CFMH exceed the SMFP's utilization threshold of 7,400 procedures per scanner. Additionally, CFMH is serving a rural population. While this project

will not expand to increase geographic access to additional residents in the PD, the project will increase access based on timeliness of care. For some emergent cases, such as stroke, the timeliness of access to a CT scan is colloquially phrased, “Time is Brain”.<sup>6</sup> The current wait time for outpatient CT scans at CFMH is 10-14 days. Moreover, the utilization of CT services at CFMH has increased steadily during the pandemic, which is opposite of the expected decreased utilization of elective and non-emergent healthcare services during this time.

On the right of **Figure 4**, southern and southwestern Virginia (including PD 12) appear to have a relatively low stroke hospitalization rate. Comparing this area to the left of **Figure 4**, the stroke death rate for the same area is significantly higher compared to central, eastern, and northern Virginia (where there are also higher concentrations of stroke centers). While this CT scanner expansion does not mean CFMH is a stroke center, it will increase timeliness of CT scans needed prior to the administration of thrombolytic medications (medications that break clots and blockages causing certain strokes within the brain), which leads to better stroke survival and quality of life outcomes.

**Figure 4. Stroke Death Rate vs. Stroke Hospitalization Rate, Virginia**



Source: [vdh.virginia.gov/stroke/data/](http://vdh.virginia.gov/stroke/data/)

**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.**

The other available CT scanner for relocation is at a remote outpatient imaging center located approximately 27 minutes driving distance away from CFMH. Due to the geographic remoteness of this facility, the applicant provides that it is reasonable to exclude this CT scanner and its volumes from the analysis; however, with projected volumes of 42 scans per year and the Westlake location being under 30 minutes driving distance from CFMH, it does not appear as though the Westlake CT scanner is being utilized in the most effective manner and has thus been considered in this analysis.

<sup>6</sup> <https://axisimagingnews.com/radiology-products/imaging-equipment/ct/ct-and-stroke-when-time-is-brain>

**C. This section is not applicable to nursing facilities pursuant to § 32.1-102.3:2 of the Code of Virginia.**

Not Applicable, the applicant is not a nursing home or requesting nursing home services.

**D. Applicants shall not use this section to justify a need to establish new services.**

The applicant is not proposing to establish new services, but rather an expansion of existing CT services already being provided and overutilized with regard to SMFP standards at CFMH.

*Required Considerations Continued*

- 4. The extent to which the proposed service or facility fosters institutional competition that benefits the area to be served while improving access to essential health care services for all persons in the area to be served.**

The proposed expansion of CT services is not likely to foster institutional competition positively or negatively as PD 12 is quite rural with limited areas of overlapping 30-minute driving radii among the providers. The scanner being purchased will have additional study capabilities compared to the other scanner at CFMH, increasing access to essential healthcare services of persons in the area to be served. Some of the additional study capabilities include better detection of subtle liver metastases for cancer patients, chemical characterization of renal stones, and better detection of subtle fractures by measuring bone marrow edema. The scanner will also have software that can perform studies for early stroke detection and studies of the heart, supporting the stroke and cardiovascular programs, respectively.

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

CFMH is one of seven acute care hospitals that are part of Carilion Clinic, which also operates additional primary care and specialty practices, urgent care centers, retail pharmacies, and other ambulatory sites from Galax and Tazewell counties. The CT scanner operated at Carilion Clinic Imaging-Westlake is being utilized to serve a small population approximately 27 minutes driving distance from CFMH and would be considered to be better utilized at CFMH due to the severity of underutilization of this scanner. The Westlake location is also approximately 35-50 minutes driving distance from a multitude of CT services in Roanoke, some of which are operated by Carilion.

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

The total capital cost of the project is estimated to be \$1,907,498 (**Table 6**). Approximately 61% of the total capital cost is allocated to the CT scanner and an additional Cardiac Imaging Add-on, while approximately 39% of the total capital cost is dedicated to the construction of the space for the CT scanner (and existing CT and MRI scanners) to be located.

**Table 6. Total Capital Cost**

<b>Direct Construction Costs</b>		<b>\$742,938</b>
Cost of Materials	\$255,570	
Cost of Labor	\$354,772	
Equipment Included in Construction Contract	\$18,574	
Builder's Overhead	\$39,375	
Builder's Profit	\$37,147	
Allocation for Contingencies	\$37,500	
<b>Equipment Not Included in Construction Contract</b>		<b>\$1,164,560</b>
CT Scanner	\$1,085,000	
Cardiac Imaging Add-On	\$79,560	
<b>Total</b>		<b>\$1,907,498</b>

Source: COPN Req. VA-8698

The project's total capital costs appear reasonable compared to the following approved projects:

- COPN No. VA-04838, issued April 11, 2023, authorizing Centra Southside Community Hospital, Inc. to add one fixed site CT scanner, for a total complement of 2 CT scanners, with associated costs of \$1,545,882. While this cost is slightly less than the project cost, the project is also relocating existing imaging equipment, increasing construction costs.
  - The Equipment Not Included in Construction Contract cost totaled \$786,776.
  - The Direct Construction Cost totaled \$679,921.
- COPN No. VA-04830, issued February 9, 2023, authorizing Inova Health Care System d/b/a Inova Loudoun Hospital to add one fixed site CT scanner and construction of an associated control room with an associated cost of \$3,031,207. While the project being reviewed is less, the Inova project reflects the additional expense that occurs with construction costs beyond fitting of the CT scanner.

The expansion of CT services at CFMH will require the addition of four full time equivalent (FTE) staff, three of which are CT Technicians and one of which is a CT Technician Assistant. Currently, CFMH's CT services has 13 FTE CT Technicians, all of which have dual responsibilities among other imaging modalities, allowing for scheduling flexibility.

**Table 7. Pro Forma Summary**

	<b>Year 1</b>	<b>Year 2</b>
<b>Patient Service Revenue</b> (Current + New CT Projections)	<b>\$33,169,000</b>	<b>\$34,795,000</b>
Contractual Allowances and Provision for Bad Debts	(\$25,184,000)	(\$26,642,000)
Charity Allowances (0.7%)	(\$232,000)	(\$244,000)
<b>Net Patient Service Revenue</b>	<b>\$7,753,000</b>	<b>\$7,910,000</b>
<b>Total Operating Expenses</b> (Salaries and outside labor, Benefits, Supplies and other expenses, Depreciation)	<b>(\$949,000)</b>	<b>(\$1,088,000)</b>
<b>Operating Income</b>	<b>\$6,803,000</b>	<b>\$6,821,000</b>

Source: COPN Req. VA-8698 Pro Forma Statement

For both Year 1 and Year 2 CFMH projects a positive revenue after expenses of more than \$6.8 million (**Table 7**). The Capital Cost for the project is just 28.6% of the operating income for Year 1 and 28.5% of Year 2. The project appears to be financially viable in both the short and long term.

7. **The extent to which the project provides improvements or innovations in the financing and delivery of health 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 services on an outpatient basis. (iii) Any cooperative efforts to meet regional health care needs. (iv) At the discretion of the Commissioner, any other factors as may be appropriate.**

The expansion of CT services does not aim to produce improvements or innovations in financing but does aim to improve delivery of healthcare services through expanding services with the addition of a CT scanner capable of providing additional studies to the CT existing scanner and through the reduction of waiting periods for patients to receive scans. Furthermore, the applicant reasonably anticipates being able to reduce other access points, such as that of nearby Carilion Roanoke Memorial Hospital, a Level 1 Trauma Center. DCOPN did not identify any other discretionary factors, not discussed elsewhere in this staff analysis report, to bring to the attention of the Commissioner as may be relevant in determining the extent to which the project provides improvements or innovations in the financing and delivery of health services.

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. (ii) Any contribution the teaching hospital or medical school may provide in the delivery, innovation, and improvement of health care for citizens of the Commonwealth, including indigent or underserved populations.**

Carilion Clinic is the primary teaching hospital aligned with Virginia Tech Carilion School of Medicine. Radiologists practicing and interpreting studies for clinical patients at Carilion Clinic are also teaching faculty for medical students rotating through Carilion Clinic's Department of Radiology, including rotation through CFMH. The experience with CT imaging is imperative for medical students to facilitate clinical application and appropriateness of ordering. Medical students gaining experience with appropriate ordering and application of diagnostic imaging aids in the reduction of unnecessary imaging and increase effective and efficient use of healthcare spending long-term.

### **DCOPN Summary and Findings**

Although the population of PD 12 has been declining and is projected to continue declining, the aged 65+ cohort is continuing to climb at a rate much higher than the overall population decline. PD 12 also experiences poverty at 178% of the statewide average. CFMH has one CT scanner at the hospital and another CT scanner located approximately 27 minutes' driving distance from

CFMH, which serves a very small population around Smith Mountain Lake. Relocation of the CT scanner from the outpatient imaging center at Westlake to the hospital would assist in alleviating the high utilization at the hospital and correlate with guidance in the SMFP (12VAC5-230-80, Subsection B). DCOPN finds the utilization of 42 scans per year does not supersede either the cost of adding another CT scanner to the PD (already a surplus of 1 CT scanner) or the appropriate redistribution of services (supported by demand be excessively low at the Westlake location and increasingly growing at CFMH) (**Table 5**).

The primary service area for CFMH is quite rural and there are nearly negligible areas of overlap of the 30-minutes' driving distance radii of providers in PD 12, indicating that it is unlikely that additional CT scanning capacity at CFMH would negatively impact other providers in PD 12. Furthermore, DCOPN received no opposition from area providers regarding this application.

The projected total procedure by Year 2, with or without additional scanning capacity, for both CFMH and the outpatient imaging center at Westlake is 15,700 procedures. 15,700 procedures divided by the SMFP threshold of 7,400 is 2.12 scanners. It might be beneficial for the applicant to consider mobile services to supplement in the future.

The total capital cost of \$1,907,498 appears reasonable in relation to two other recently approved projects of similar size and scope. Both Year 1 and Year 2 projected operating revenues are significant compared to the cost of the project and indicate short- and long-term financial viability. The staffing requirements also appear reasonable and the anticipated 4 FTE staff needed will, like other staff currently operating the existing equipment, have dual roles and will be able to assist in other imaging areas within CFMH.

DCOPN recommends partial approval of the project, specifically the relocation and replacement of the CT scanner from the Westlake imaging center to CFMH. The cost would remain the same, the same benefits would be present, and this alternative would alleviate the maldistribution of services. The Westlake location projecting 42 scans per year does not support the continued provision of fixed CT services at that location.

### **DCOPN Staff Recommendations**

#### **COPN Request No. VA-8698 – Carilion Franklin Memorial Hospital**

The Division of Certificate of Public Need recommends the **conditional, partial approval** of Carilion Franklin Memorial Hospital's COPN Request no. VA-8698 to add a CT scanner at the hospital by approving the relocation, and replacement if desired, of the existing CT scanner from the Carilion Clinic Imaging-Westlake location for the following reasons:

1. The proposal to expand computed tomography (CT) services at Carilion Franklin Memorial Hospital by relocating one CT scanner from the Carilion Westlake Diagnostic Imaging Center is consistent with the applicable standards and criteria of the State Medical Facilities Plan and the 8 Required Considerations of the Code of Virginia.
2. The applicant has demonstrated an institutional specific need for the expansion of CT services at CFMH.



3. The capital costs of the proposed project are reasonable.
4. The proposed project is unlikely to have a significant negative impact upon the utilization, costs, or charges of other providers of CT services in PD 12.
5. The proposed project appears to be financially viable in the immediate and long-term.
6. There is no known opposition to the project.

### **Charity Conditions**

DCOPN's recommendation is contingent upon Carilion Franklin Memorial Hospital's agreement to the following charity care condition:

Carilion Franklin Memorial Hospital will provide computed tomography (CT) 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 0.70% of Carilion Franklin Memorial Hospital's total patient services revenue derived from CT services 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. Carilion Franklin Memorial Hospital 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.

Carilion Franklin Memorial Hospital will provide CT 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, Carilion Franklin Memorial Hospital will facilitate the development and operation of primary and specialty medical care services in designated medically underserved areas of the applicant's service area.