

**Technology and Equipment Committee  
Agency Report  
Adjusted Need Petition for  
One Fixed Magnetic Resonance Imaging Scanner in Wake County  
Proposed 2016 State Medical Facilities Plan**

---

***Petitioner:***

Raleigh Radiology  
150 Parkway Office Court  
Suite 100  
Cary, NC 27518

***Contact:***

Dianne Jones  
Operations and Marketing Manager  
[Dianne.jones@raleighrad.com](mailto:Dianne.jones@raleighrad.com)  
919-256-3570

***Request:***

Raleigh Radiology requests an adjusted need determination for one fixed Magnetic Resonance Imaging (MRI) scanner in Wake County in the *North Carolina 2016 State Medical Facilities Plan* (SMFP).

***Background Information:***

The methodology in the *Proposed 2016 SMFP* for MRI scanners uses the total number of adjusted procedures in an MRI service area, equivalent values for fixed and mobile MRI scanners and graduated need determination thresholds based on the number of fixed scanners in a service area. Procedures are weighted according to complexity and then combined to determine a total number of weighted procedures. The fixed equivalent value is 1.00 for approved and existing fixed MRI scanners, including need determinations from previous SMFPs for MRI scanners. For mobile sites, the fixed equivalent is the number of MRI adjusted procedures performed at the site divided by the threshold for the MRI service area. The fixed equivalent for a mobile site can be no greater than 1.00. The sum of the weighted MRI procedures is divided by the number of fixed equivalent scanners to get the average adjusted procedures per scanner for each service area. A need determination for additional MRI scanners occurs when the average adjusted procedures per scanner for the service area exceeds the threshold established for the service area.

Chapter Two of the *2016 SMFP* allows persons to petition for an adjusted need determination in consideration of “unique or special attributes of a particular geographic area or institution...” if they believe their needs are not addressed by the standard methodology. Raleigh Radiology has submitted a petition to adjust the need determination in order to address special attributes in Wake County.

***Analysis/Implications:***

Need is determined based on procedures performed with fixed MRI scanners and procedures performed on mobile MRI scanners at mobile sites in the service areas. Need thresholds are arranged in tiers based on the number of scanners in the service area. For service areas, such as Wake County with more than four fixed scanners, the utilization threshold is 4,805 weighted MRI procedures.

Table 1, indicates Wake County’s average procedures per scanner has consistently been over 4,000 scans every year for at least the last ten years. The average during that time is 4,443 just 362 weighted scans shy of the need determination threshold of 4,805. During the last ten years, the methodology triggered one need determination, in the *2010 SMFP*. However, the number of fixed scanners was increased through Declaratory Rulings by the Division of Health Services Regulation.

The average weighting factor of Adjusted Total to Total MRI scans ranges from 1.14 to 1.19 with a ten year average of 1.17. This factor is calculated by dividing the adjusted (weighted) total by the total number of MRI scans.

**Table 1: Wake County MRI Summary, 2006 - Proposed 2016 SMFPs**

	Number of Fixed Magnet	Fixed Equivalency	Total MRI Scans	Adjusted (Weighted) Total	Weighting Factor	Average Area
2006 SMFP	11	13.15	48,815	57,537	1.18	4,377
2007 SMFP	11	14.68	53,122	62,174	1.17	4,234
2008 SMFP	11	15.91	55,692	65,936	1.18	4,143
2009 SMFP	12*	16.79	65,582	77,172	1.18	4,596
2010 SMFP	11	14.87	65,892	77,428	1.18	5,207**
2011 SMFP	15^	20.57	73,103	86,643	1.19	4,212
2012 SMFP	15	20.10	73,304	87,042	1.19	4,330
2013 SMFP	15	19.12	76,272	89,388	1.17	4,675
2014 SMFP	16^^	20.83	77,902	89,041	1.14	4,275
2015 SMFP	16	20.53	74,803	87,152	1.17	4,245
Proposed 2016	16	21.01	82,017	96,131	1.17	4,575
Ten Year Average					1.17	4,443

Sources: 2006-Proposed 2016 SMFPs

\* Bone and Joint Surgery, a special demonstration project was included in this total in *2009 SMFP* in error.

\*\*Methodology triggered a need determination for one scanner.

^Inventory of fixed magnets increased as a result of 3 Declaratory Rulings, 4/28/10; 3/7/08; 10/5/09.

^^Inventory of fixed magnets increased as a result of 1 Declaratory Ruling, 10/4/11.

The annual number of scans has consistently risen over the last ten years from 48,815 to the current total in the *Proposed 2016 SMFP* of 82,017. The compound annual growth rate in Wake County is 5.33% as shown in Table 2.

**Table 2: Wake County Compound Annual Growth Rate, 2006 - Proposed 2016 SMFPs**

2006 SMFP	2007 SMFP	2008 SMFP	2009 SMFP	2010 SMFP	2011 SMFP	2012 SMFP	2013 SMFP	2014 SMFP	2015 SMFP	Proposed 2016	CAGR
48,815	53,122	55,692	65,582	65,892	73,103	73,304	76,272	77,902	74,803	82,017	5.33%

Sources: 2006-Proposed 2016 SMFPs

A review of the current data for Wake County in the *Proposed 2016 SMFP* can be seen below in Table 3A. Further analysis of the data from Table 3A is shown in a corresponding table, Table 3B, which provides projections for Wake County in 2017.

**Table 3A: Proposed 2016 SMFP Scans for Wake County**

	Total Scans	Weighted Scans	Fixed Equivalency	Average per Scanner
Proposed 2016	82,017	96,131	21.01	4,575

Source: *Proposed 2016 SMFP*

**Table 3B: Projected Wake County Total and Weighted Scans for 2017**

	Projected Total Scans (5.33% growth)	Projected Weighted Scans (1.17 Ratio)	Fixed Equivalency	Average per Scanner
2017	86,385	101,071	21.01	4,811

Table 3B above, is a summary of the projected number of scans in Wake County if the 5.33% growth rate (Table 2) was applied to the *Proposed 2016 SMFP* total scans and then subsequently the weighted scan average ratio of 1.17 (Table 1) was applied to the newly projected total 86,385. This provides a Projected Weighted Scan total of 101,071. For the calculations in this table, the fixed equivalency was kept at 21.01, the same from the *2016 Proposed SMFP*, since this total varies from year to year. The average per scanner calculates to 4,811, six scans over the threshold of 4,805 for a need determination. Based on the above estimates and assumptions, Wake County's growth in MRI scans can be expected to generate a need if not next year, then the following year.

***Agency Recommendation:***

The agency supports the standard MRI methodology, but recognizes that projected growth in MRI scans in Wake County will potentially trigger a need next year as discussed above. Given available information and comments submitted by the August 15, 2014 deadline date for comments on petitions and comments, and in consideration of factors discussed above, the agency recommends that the petition for an adjusted need determination for one unit of fixed MRI equipment in Wake County be approved.