SCHOOLCRAFT
MEMORIAL HOSPITAL

Capacity Expansion Project

Prepared by Altus Architectural Studios
November 2025

SCHOOLCRAFT MEMORIAL HOSPITAL | ALTUS ARCHITECTURAL STUDIOS | linear A

Executive Summary

Schoolcraft Memorial Hospital's Emergency Department (ED), Inpatient Unit, and Swing Bed Program are central to its acute and transitional care services. While care quality remains strong, these departments are operating at or near capacity and are increasingly constrained by space, infrastructure, and workflow limitations.

The Emergency Department currently operates with five treatment rooms, meeting baseline demand based on Emergency Severity Index (ESI) modeling. However, actual utilization trends reveal limited surge capacity. In 2024, 35 days recorded 20 or more ED visits, and 43 days exceeded four-room usage, with 11 days surpassing all five rooms. Seasonal tourism peaks intensify these pressures, occasionally creating shortfalls of up to three rooms. Projections support the addition of 1–2 ED rooms at minimum, with up to three needed to manage peak demand safely.

Planned ED improvements include expansion to six treatment rooms, a Secured Holding Room, SAFE Room, second triage space, expanded waiting capacity, dedicated equipment storage, and covered patient and ambulance canopies. Security upgrades, improved airflow, additional isolation rooms, UV lighting, and enhanced PPE storage remain high priorities.

Inpatient services are similarly constrained. The hospital's 12 beds support all inpatient, observation, and swing-bed patients, with average daily census frequently ranging from 10 to 13 patients. While population projections suggest a need for 11–12 beds by 2035, inclusion of swing-bed growth increases projected demand to 18–21 beds. Near-term needs indicate 5–7 additional inpatient rooms, with long-term flexibility to expand toward the Critical Access Hospital limit of 25 beds if transfers are reduced.

The proposed project includes expanded inpatient capacity and a new eight-bed Swing Bed Unit to improve care transitions, nursing workflow, and patient privacy, along with added family waiting, bereavement, and lactation spaces. Together, these investments will strengthen safety, improve patient flow, support projected growth, and ensure the hospital can meet peak seasonal demand while sustaining high-quality rural healthcare delivery.

Assessment	=	**Existing**
Demographics	=	Existing **+ Needs**
Visioning	=	Existing + Needs **+ Mission**
Projections	=	Existing + Needs + Mission **+ Growth**
Programming	=	Existing + Needs + Mission + Growth **+ Area**
Planning	=	Existing + Needs + Mission + Growth + Area **+ Time**

Assessment = **Existing**

Data/Document Collection occurs simultaneously with project set-up. Formal information requests are initiated which include strategic planning information, existing hospital and hospital owned building drawing files, and any site surveys. At the same time, a department questionnaire is distributed to all department leads. This information becomes the springboard from which visioning, projections, and programming discussions will launch.

Demographics = Existing **+ Needs**

Visioning = Existing + Needs **+ Mission**

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Programming = Existing + Needs + Mission + Growth **+ Area**

Planning = Existing + Needs + Mission + Growth + Area **+ Time**

Administration

The department oversees operations for a 12-bed critical access hospital, two Rural Health Clinics, and an off-site behavioral health clinic, serving a largely Medicare/Medicaid population with outpatient services as the primary driver. It collaborates extensively with local governments, educational institutions, tribal organizations, numerous specialty groups, public health agencies, and regional referral centers.

Key goals for the next five years include expanding women's GYN and general surgery services, implementing broad Lean training, and pursuing a long-term vision for a wellness-focused campus ("UPWell Commons").

Major constraints include significant space shortages across clinical, administrative, storage, inpatient, behavioral health, and emergency areas, as well as a non-certified helipad and layout challenges that hinder wayfinding. While patients find the facilities attractive and welcoming, staff report persistent space limitations.

Future technology could improve navigation, check-in processes, and data sharing, and the department hopes to expand ED capacity, create a fast-track/urgent care area, improve flexibility for outpatient and swing-bed stays, and explore on-campus housing solutions to support staff and community growth.

Med Sug & Emergency

The MedSurg/ER department provides inpatient and emergency care, post-operative care, infusion services, and swing bed care for patients from within and outside the community. It operates 12 inpatient beds with varying occupancy between MedSurg and the ER, serving both inpatients and outpatients. The department interacts regularly with ambulance services, other hospitals and providers, suppliers, local medical care and adult foster care facilities, and tribal organizations.

Key goals over the next five years include expanding bed capacity, ER waiting areas, visitor lounges, and creating a safe room for mental health patients, as well as a patient courtyard for MedSurg.

Major challenges include limited storage space, the need for additional negative pressure rooms, improved nursing hubs, and expanded PT and provider areas. Critical adjacencies involve coordination with EMS, the ER, MedSurg, and support infrastructure like medical air and nurse call systems. Patient and family satisfaction is generally good, though ER wait times remain a concern; proposed improvements include electronic check-in, interactive wall boards, kiosks for patient and visitor information, and SDOH surveys.

Innovations under consideration include virtual nurses, hand hygiene sensors, and enhanced safety measures in the heli-pad area. Staffing needs, particularly additional ER providers, are considered essential to maintain quality care and positive patient perception.

Assessment = **Existing**

Demographics = Existing **+ Needs**

Integrate and Validate Data: Combine key datasets and update existing demographic inputs to ensure accuracy.
Analyze Demographics: Assess population trends by ZIP code to define service areas and forecast demand.
Expand Market Insights: Evaluate adjacent regions to identify growth opportunities beyond current boundaries.

Visioning = Existing + Needs **+ Mission**

Projections = Existing + Needs + Mission **+ Growth**

Programming = Existing + Needs + Mission + Growth **+ Area**

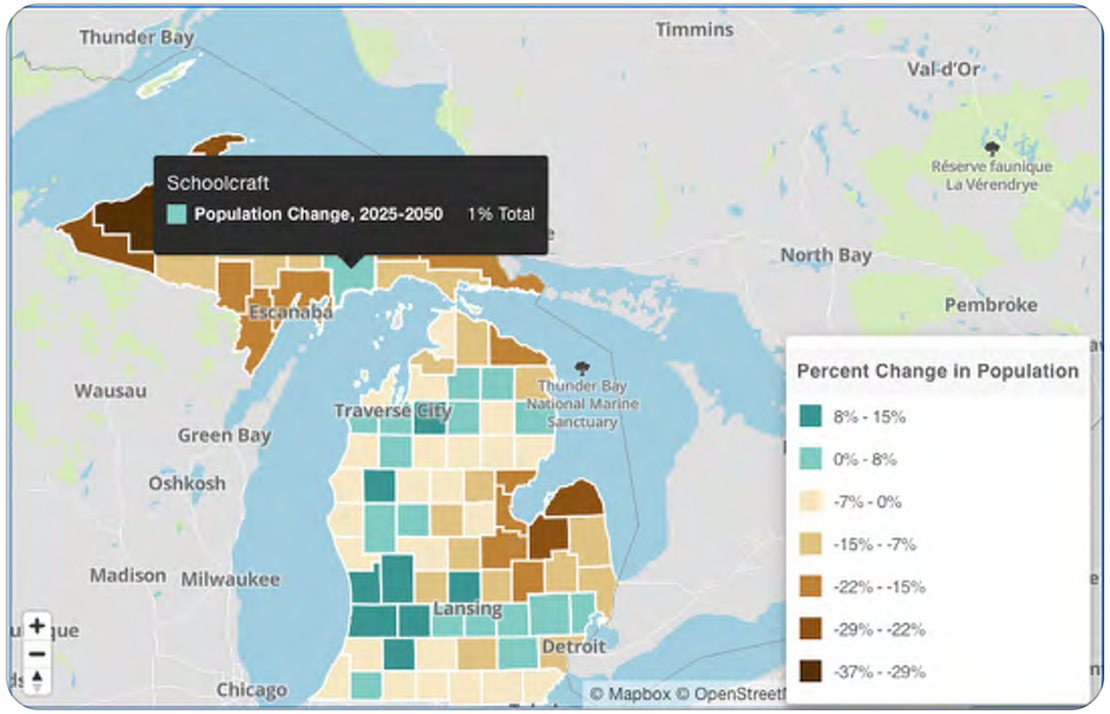
Planning = Existing + Needs + Mission + Growth + Area **+ Time**

About Schoolcraft Memorial Hospital

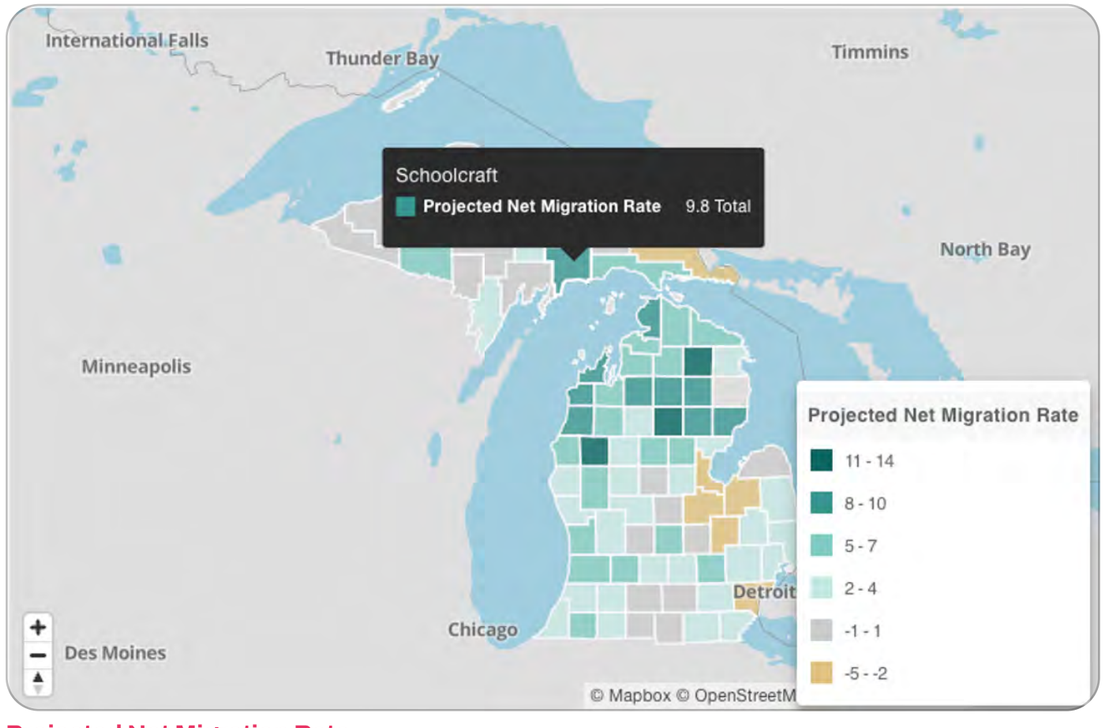
Serving the Upper Peninsula since 1950, Schoolcraft Memorial Hospital (SMH) is a modern, independent 12-bed critical access hospital committed to providing comprehensive, high-quality care to the local community. In 2013, SMH relocated to its current facility on US Highway 2, and in 2022 completed a $12.8 million expansion, adding a state-of-the-art Rehabilitation & Aquatic Therapy Center, updated infusion suites, and a co-located administrative building to better serve patients and support staff.

SMH's dedicated team includes physicians, specialists, certified physician assistants, nurse practitioners, behavioral health therapists, and nursing professionals. Their work is complemented by visiting specialists in Pediatrics, Oncology, Neurology, Audiology, Dermatology, Vascular Interventional Radiology, Rheumatology, Nephrology, and Obstetrics, who regularly provide care in the community. The hospital's Rural Health Clinic is co-located onsite for convenience, with an additional clinic in Naubinway supporting regional access.

SMH offers a broad range of services, including a 24/7 physician-staffed Emergency Room, Cardiology, Otolaryngology, Physical, Occupational, Speech, and Aquatic Therapy, Cardio-Pulmonary Care, Pulmonology, Medical Imaging, Laboratory Services, HomeCare and Hospice, Sleep Laboratory, Outpatient Wound Clinic, Psychiatric Medical Treatment, RediCare, and Rural Health Clinic services. Its surgical program encompasses Orthopedic, Podiatric, ENT, Urology, General, Bariatric, and Ophthalmology procedures, utilizing two of the largest operating rooms in the Upper Peninsula. Many caregivers are cross-trained across disciplines, allowing the hospital to provide flexible, patient-centered care across a variety of clinical needs.



Projected Population Change 2025-2050



Projected Net Migration Rate

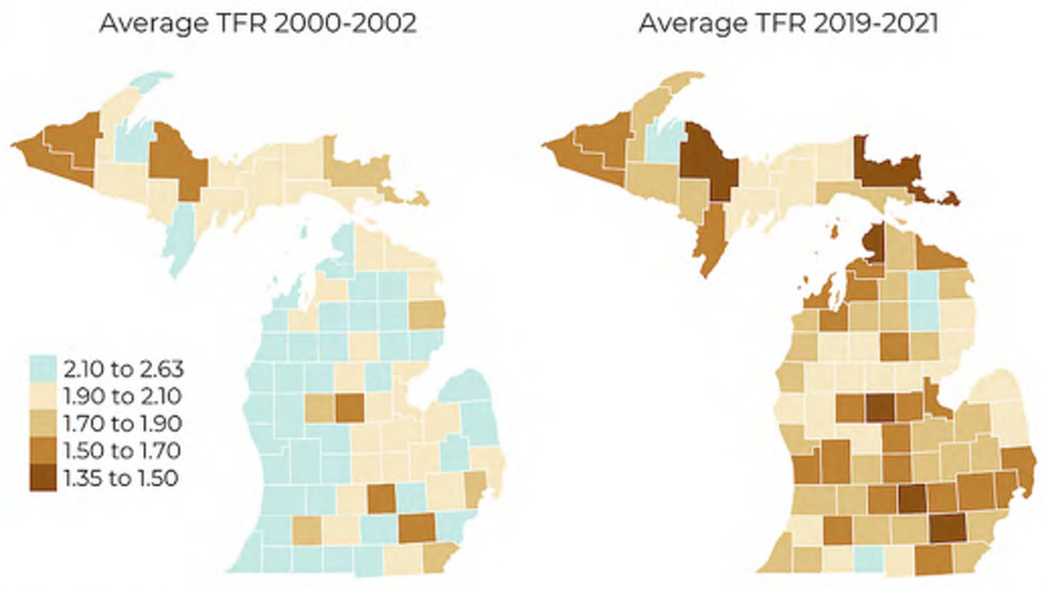
Approach to Demographic, Modeling, and Analysis

The planning process is grounded in a collaborative, data-driven approach that integrates strategic planning, market analytics, and facility analysis into a single, continuous workflow. Data is not treated as an isolated solution but as a connected framework that informs every stage of planning. By linking patient volumes, facility capacity, market demand, workforce needs, and operational assumptions, the process creates a unified data set capable of supporting more accurate forecasting and stronger decision-making.

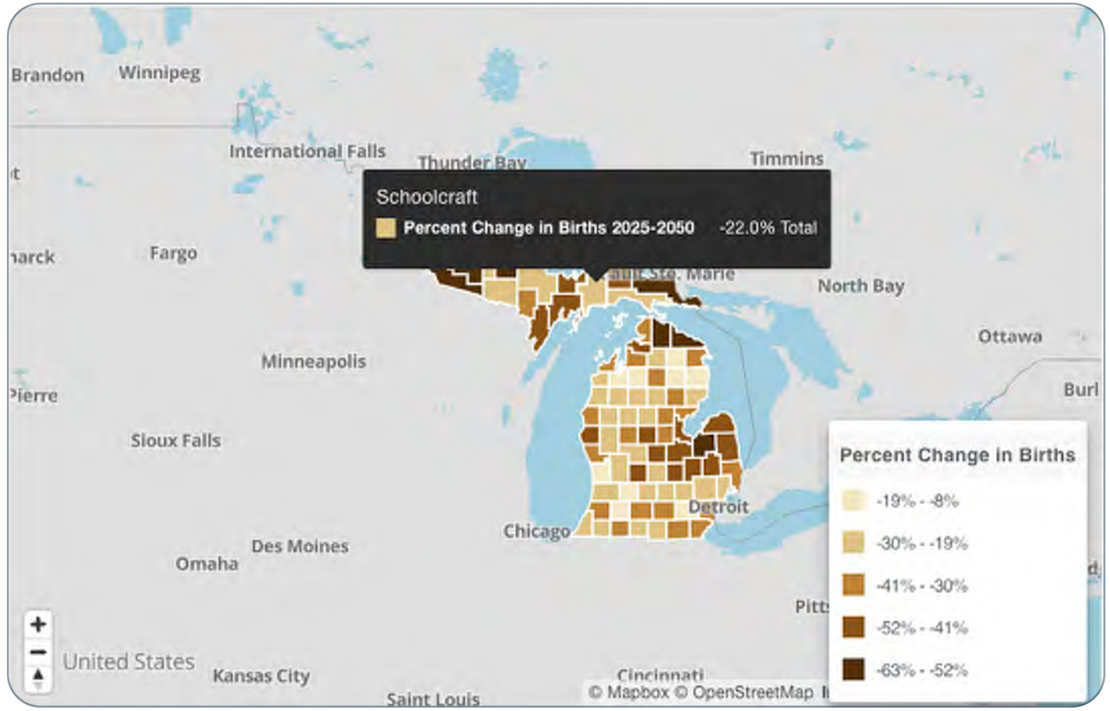
A centralized data repository will be developed by gathering, validating, and engineering relevant information from multiple sources. This integration allows the team to evaluate multiple planning indicators simultaneously and align analytics with real-world perspectives from subject matter experts, stakeholders, and end users. Clear visualization and interpretation further ensure that complex insights can be easily applied to planning and design decisions.

Demographics form the basis for confirming service areas and informing market demand, provider recruitment, and facility capacity planning. Existing demographic assumptions are reviewed and updated, with analysis focused on key cohorts—such as age, gender, and income—at the ZIP-code level. The study will also extend to adjacent regions outside defined service areas to ensure a full understanding of regional dynamics.

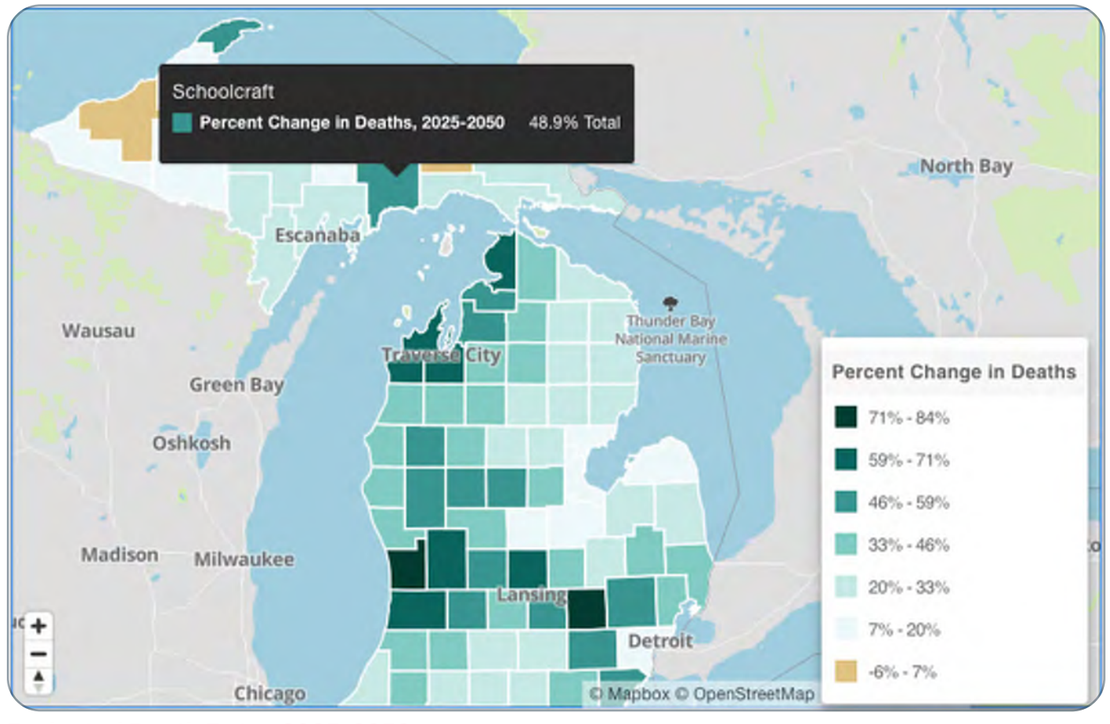
The work includes 5- and 10-year population projections for relevant cohorts and geographies, providing essential insight into future utilization patterns and long-term planning needs.



Total Fertility Rates Above Replacement



Projected Birth Rates 2025-2050

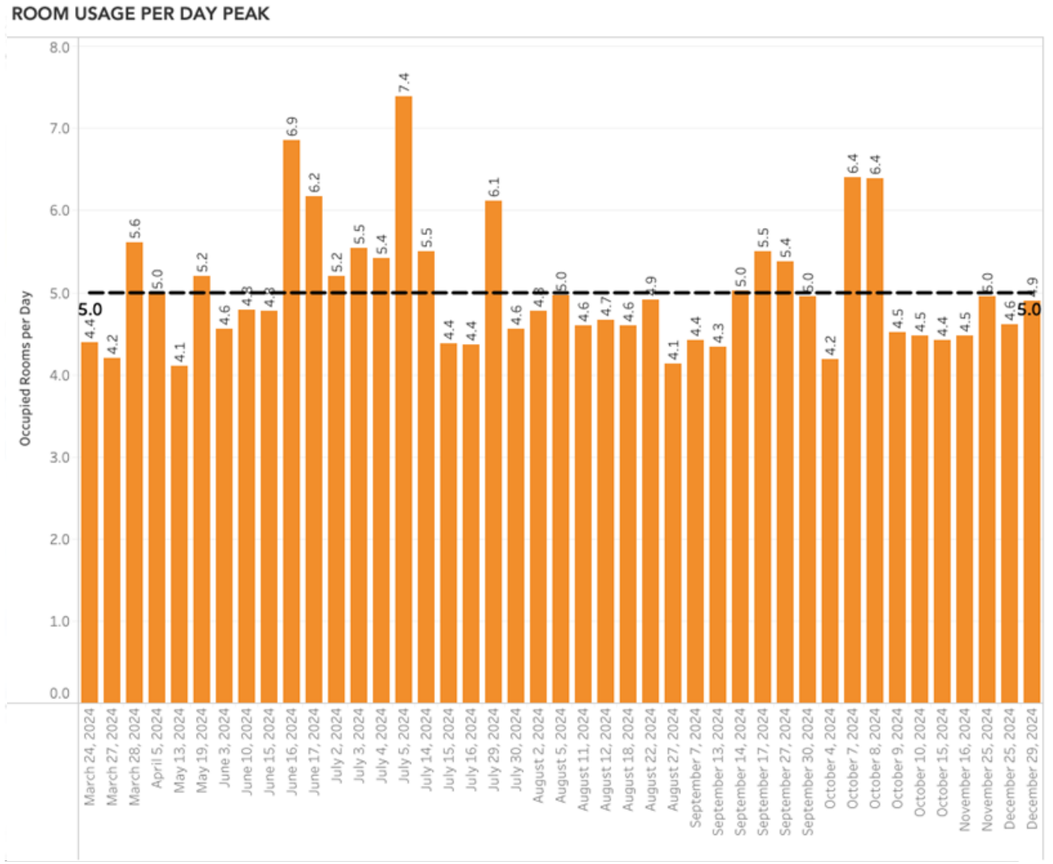


Projected Death Rates 2025-2050

Emergency Room Demographics

The Emergency Department (ED) capacity model at Schoolcraft Memorial Hospital evaluates demand using ESI classifications rather than traditional patient-bed types. Under a baseline 60% utilization rate and accounting for peak periods—16 hours per day with 90% of visits occurring during these busiest hours—the model indicates a current need of approximately 4.8 rooms, effectively matching the hospital's existing five ED rooms. However, patient volumes reveal significant seasonal fluctuations, with 35 days in the year experiencing 20 or more ED patients, predominantly in summer and early fall when tourism increases demand. These seasonal spikes suggest that while the baseline room count appears adequate, the ED experiences intermittent overcrowding.

Assessing room usage by patient encounter minutes provides a clearer picture. In 2024, 43 days (11.8%) exceeded the capacity of four rooms, with 11 of those days surpassing all five existing rooms, highlighting the occasional need for additional space. It is worth noting that when combined with trends in inpatient room usage, the trend shows significant needs exceeding current room availability by as many as three rooms. In simplistic terms, there are often no flex rooms available in instances where ED patients are required to be placed outside of the ED in the adjacent patient care area.



Emergency Room Usage Trend

CAPACITY - POPULATION-BASED GROWTH

Most Recent Medical Ser..	Dischar..	Days	ALOS	ADC	Utilization	Est. Bed Need	10 YR Dischgs	10 YR Days	ADC 10YR	Util - 10 YR	Est. Bed Need 10 YR	20 YR Dischgs	20 YR Days	ADC 20YR	Utilization - 20 YR	Est. Bed Need 20 YR
Medical	197	1,322	6.7	3.6	65.0%	5.6	215	1,445	4.0	65.0%	6.1	210	1,411	3.9	65.0%	5.9
Intermediate	64	225	3.5	0.6	65.0%	0.9	70	245	0.7	65.0%	1.0	70	245	0.7	65.0%	1.0
Surgical	23	52	2.3	0.1	65.0%	0.2	24	54	0.1	65.0%	0.2	23	51	0.1	65.0%	0.2
Isolation	7	19	2.7	0.1	65.0%	0.1	10	28	0.1	65.0%	0.1	8	21	0.1	65.0%	0.1
Grand Total	**291**	**1,618**	**5.6**	**4.4**	**65.0%**	**6.8**	**319**	**1,775**	**4.9**	**65.0%**	**7.5**	**310**	**1,725**	**4.7**	**65.0%**	**7.3**

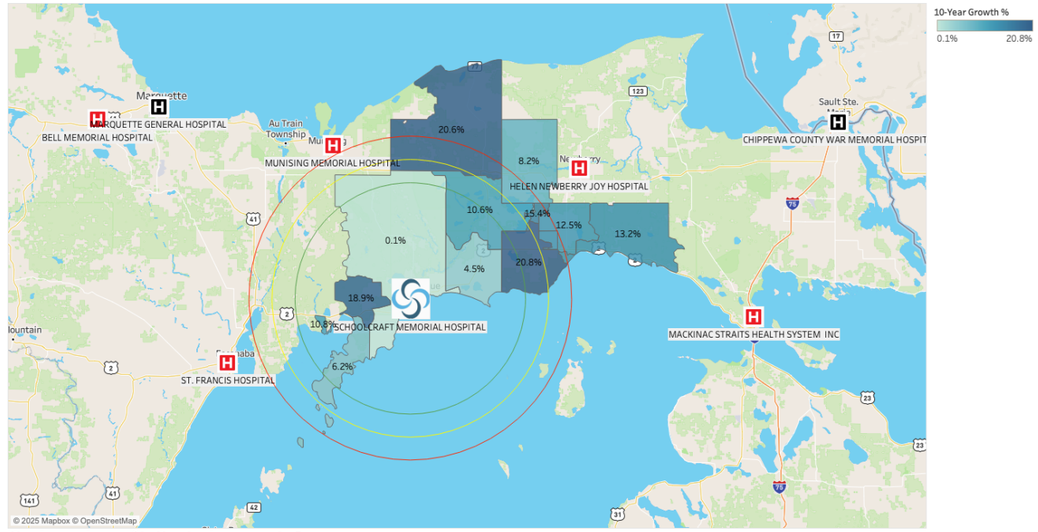
Patient Capacity Model

Specialty Clinic Demographics

A major challenge in compiling data for the Specialty Clinic was defining the Key Planning Units (KPUs) for the 25 providers scheduled to use the clinic. Providers currently share limited resources, often with three sharing a single room, constraining efficiency and limiting patient care. The clinic clearly needs additional exam rooms, treatment spaces, and offices to allow providers to work effectively.

The Projected Rooms per Day was calculated for each specialty, reflecting the number of rooms needed whenever a provider is on-site, rather than annualizing demand across the full RHC schedule. This captures the real-time pressure on clinic resources. The analysis showed that Dermatology, Neurology, and Rheumatology, although present less frequently (Rheumatology only 12 days per year), require more rooms than currently assigned when on-site. ENT, General Surgery, and PM&R match their current room assignments, as do most other specialties.

This highlights the complexity of planning a shared Specialty Clinic and the need to align space with variable provider schedules. Addressing these constraints is essential to optimize patient flow, enhance efficiency, and accommodate future growth.



Schoolcraft Catchment Area

		FTEs																							
Specialty / Service Line	Provider Name	Provider FTEs				Exam Rooms	Proc. Rooms	Offices	Days in Clinic									Days in Surgery								Comments
		MD	PA	MA	NP				M	T	W	T	F	SA	SU	Hrs/Day	Hrs/Wk	M	T	W	T	F	SA	SU	Hrs/Day	Hrs/Wk	
General Surgery	Dr. Bambach	1.0	0.0	0.0	0.0	2	0	1			X					8	8	X	X		X	X			8	32	Retiring soon. Could perform more surgeries (GYN)
Orthopedics	Dr. Randall	2.0	1.0	0.0	0.0	2	0	1		X	1/2	X				10	25	X							10	10	
Orthopedics	Dr. Hance	1.0	1.0	0.0	0.0	2	0	1				1/2	1/2			10	10			1/2					10	5	Could expand services to Naubinway (remote clinic)
Cardiology	Dr. Hoeve	1.0	0.0	0.0	0.0	1	0	1	X	X	X	X				10	40								0	0	Could expand services to Naubinway (remote clinic)
Cardiology	Jen Casey	0.0	0.0	1.0	0.0	1	0	1		X	X	X	X			10	40								0	0	Could expand services to Naubinway (remote clinic)
Podiatry	Dr. Niemela	1.0	0.0	0.0	0.0	3	0	1	X		X	X				10	30		X						10	10	
Urology	Dr. Madjar	1.0	0.0	0.0	0.0	4	1	1	X	X		X				10	30								0	0	Could expand services to Naubinway (remote clinic)
Urology	Andrew Anderson	0.0	0.0	1.0	0.0	0	0	0				1/2				5	5				1/2				5	5	Could expand services to Naubinway (remote clinic)
ENT	Dr. Rayner	1.0	0.0	0.0	0.0	3	0	1	X	X	1/2					10	25			1/2					5	5	
ENT	Sarah Unger	0.0	0.0	1.0	0.0	3	0	1				X	X			10	20								0	0	
Sleep Lab	Dr. Sand	1.0	0.0	0.0	0.0	0	0	1					1/2			5	5								0	0	Every other Friday in clinic
Sleep Lab	Sarah Unger	0.0	0.0	1.0	0.0	2	0	0					X			10	10								0	0	
PM&R	Dr. Vermeulen	1.0	0.0	0.0	0.0	2	0	1		X						10	10								0	0	
Wound Care	Jessica Rocherfort	1.0	0.0	0.0	0.0	1	0	1		X						10	10								0	0	
Pediatrics	Dr. Robertson	1.0	0.0	0.0	0.0	2	0	1				1/4				2.5	2.5								0	0	One Thursday in clinic per month
Green Bay Oncology	Varies	3.0	0.0	0.0	1.0	4	0	2	X		X		X			10	30								0	0	
Audiology		1.0	0.0	0.0	0.0	1	0	1	X	X	X	X				10	40								0	0	
Lilly Dermatology		1.0	0.0	0.0	0.0	4	0	1					X			10	10								0	0	Practice could grow
Nephrology		1.0	0.0	0.0	0.0	2	0	1	X							10	10								0	0	4 days/mo.
Rheumatology		1.0	0.0	0.0	0.0	2	0	1					1/4			2.5	2.5								0	0	1 day/mo.
Obstetrics		1.0	0.0	0.0	0.0	2	0	1				1/2				5	5								0	0	Every other Thursday in clinic
Neurology		1.0	0.0	0.0	0.0	2	0	1	1/4							2.5	2.5								0	0	1 day/mo.
DME		1.0	0.0	0.0	0.0	1	0	0				X				10	10								0	0	
Telehealth (future)						1	0	0	X	X	X	X	X			10	50								0	0	Future consideration
Midwife (future)						1	0	1	X							10	10								0	0	Future consideration
Total		**22.0**	**2.0**	**4.0**	**1.0**																						

Specialty Clinic Providers, FTE Usage, and Days in Clinic/Surgery

Assessment = **Existing**

Demographics = Existing **+ Needs**

Visioning = Existing + Needs **+ Mission**

A collaborative and energizing visioning session with key stakeholders is held to establish the project vision and guiding principles for Master Planning. The programming and planning is built upon the intent to support sustainable operational efficiencies, policies, goals, and vision for the future. With functional intent captured, the process of translating functional needs into key rooms and right-sizing departments in a space program begins.

Projections = Existing + Needs + Mission **+ Growth**

Programming = Existing + Needs + Mission + Growth **+ Area**

Planning = Existing + Needs + Mission + Growth + Area **+ Time**

Visioning Session

A collaborative and energizing visioning session was conducted with key hospital stakeholders to establish the project vision and guiding principles for the Master Plan. The session provided a forum for hospital leadership and department leads to discuss operational goals, standards, and opportunities to enhance functional and operational efficiencies. Participants were encouraged to share openly, with every voice valued, ensuring that all issues, priorities, and potential planning or physical challenges were identified.

Guided by the principles of active engagement and open dialogue, the session translated the hospital's strategic intent into functional requirements, capturing key departmental needs and right-sizing spaces for future growth. This interactive approach ensured that the Master Plan reflects the hospital's policies, goals, and long-term vision while laying the foundation for a comprehensive space program designed to support sustainable, efficient, and patient-centered operations.

Objectives

1. Establish Project Vision and Guidance Principals with Hospital Leadership.
2. Discussion with Hospital Leadership and Department Leads to better understand operational goals and standards.
3. Initial Discussions geared towards finding opportunities to improve functional and operational efficiencies.
4. Identify any known or potential planning or physical challenges.

Rules of Engagement

1. Speak up- Visioning is interactive and engaging. Contribute!
2. Bring an open mind
3. Everyone has a voice in the process.
4. All issues and priorities are up for discussion.
5. This is YOUR plan.
6. Great ideas come from everywhere.

Schoolcraft Mission Statement

To deliver exceptional health and wellness services; catering to the needs of all.

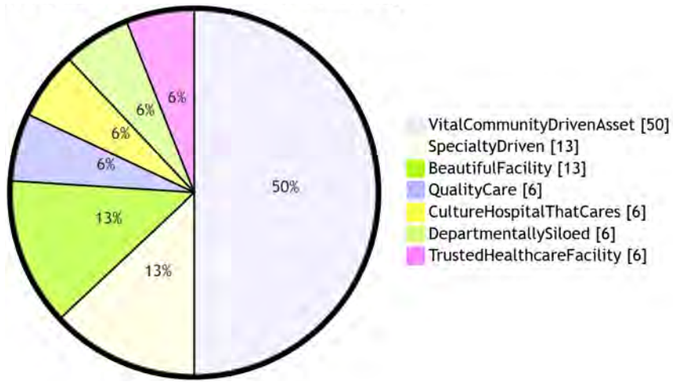
Schoolcraft Vision Statement

Built on a foundation of trust, we will be a cornerstone for a healthy, strong, and thriving region.

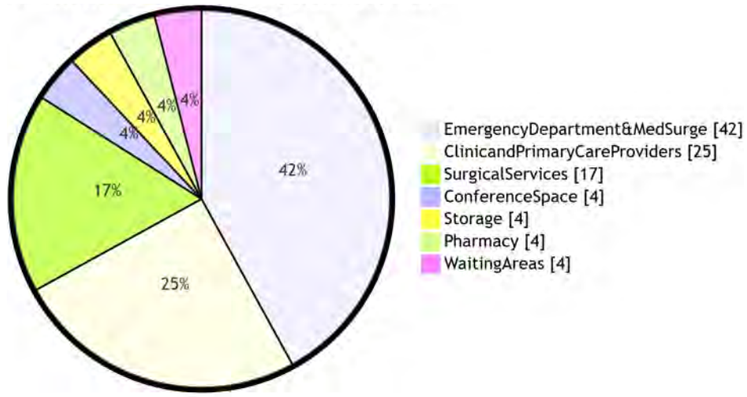
Schoolcraft Shared Values

Community
Dedication & Commitment
Honesty & Integrity
Knowledge & Expertise
Quality & Professionalism
Compassion
Fiscal & Technological Strengths
Respect

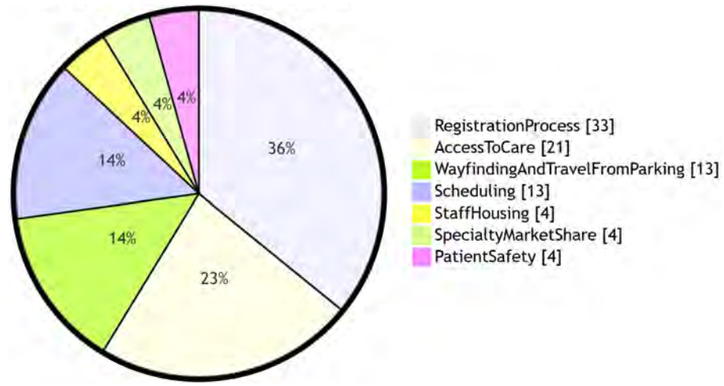
Schoolcraft's Identity



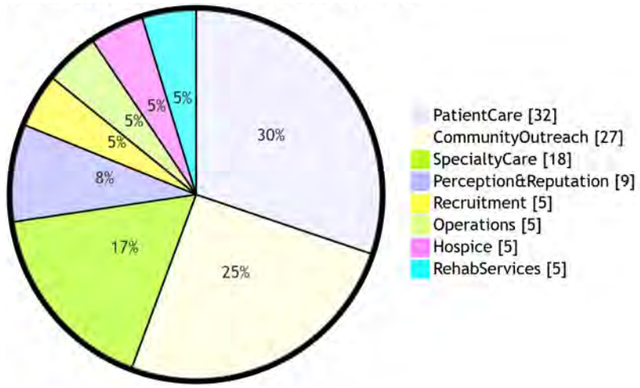
Departments in Need of Physical Growth



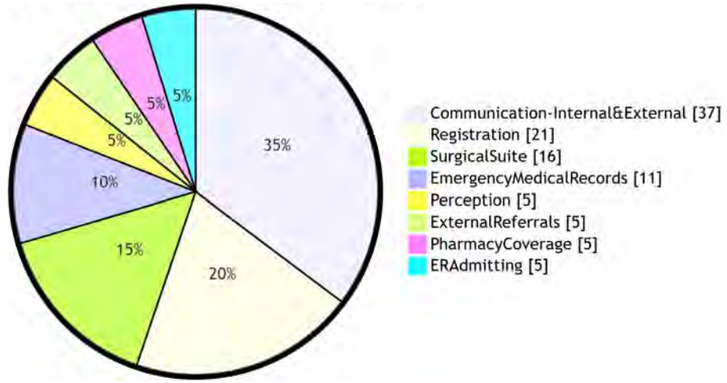
Areas with Room to Improve



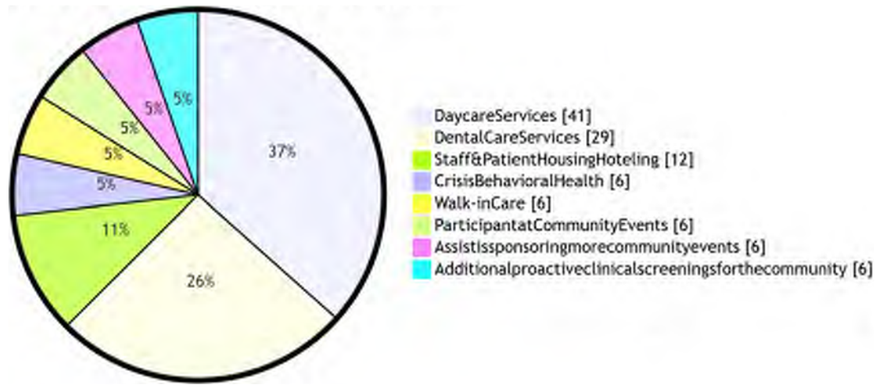
What we do really well



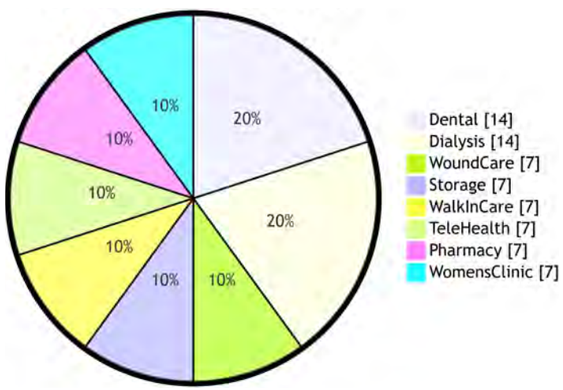
Workflow Improvements



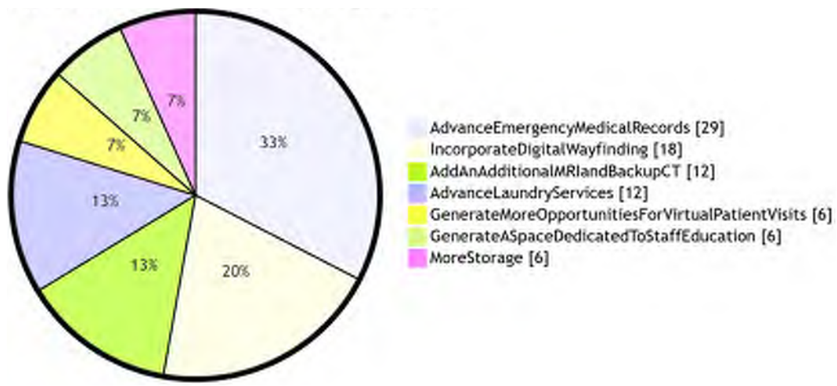
Community Considerations



Additional Services Needed



Technology Improvements



Assessment = **Existing**

Demographics = Existing **+ Needs**

Visioning = Existing + Needs **+ Mission**

Projections = Existing + Needs + Mission **+ Growth**

This phase is about translating foundational demographic and visioning analysis into actionable insights that guide strategic decision-making and facility planning. By integrating population projections with healthcare utilization metrics, we can project service-line demand, model required key planning units (exam rooms, ORs, beds, procedure rooms), and evaluate facility capacity against future scenarios. Interactive dashboards and scenario testing enable data-driven exploration of growth, consolidation, and optimization strategies, providing flexible, future-ready solutions aligned with strategic goals.

Programming = Existing + Needs + Mission + Growth **+ Area**

Planning = Existing + Needs + Mission + Growth + Area **+ Time**

Capacity Model Results

Inpatient Capacity Model

Schoolcraft Memorial Hospital currently operates with twelve inpatient beds. These beds are used for all inpatient, observation and swing-bed activities. Our models indicate that Schoolcraft is functioning at near capacity (10.6 beds) when modeled at a utilization rate of 65%. The bed need increases to 11.5 beds by 2035 when using just population-based growth for the target service area. Their internal data for the most current year shows an average daily census (ADC) of between 4 and 7 patients. However, the actual patient-count by day reveals twenty-one days with 10 or more patients occupying beds, with four days at 12 beds, and two days at 13 beds. These numbers alone indicate a need for additional licensed beds.(See Figure 1)

When the model is expanded to show Swing-Bed activity of 1,825 patient days at their current average length of stay (ALOS) of 14.6 days (125 discharges) the bed need jumps to 18.1 beds by 2035. This patient-days figure of 1,825 was provided to Linear A by Schoolcraft as a model option based on current Michigan statute MCL-333-22210. (See Figure 2).

Lastly, at the request of Schoolcraft, we modeled a scenario where the swing-bed need was 10.0 beds at 65% utilization. This required 163 discharges at the current ALOS of 14.6 days, resulting in 2,380 bed-days. Under these parameters the current bed need becomes 19.6, rising to 21.0 by 2035. (See Figure 3)

Inpatient Summary

The inpatient capacity model suggests the need for an additional 5 -7 rooms currently, and possibly as many as the full CAH limit of 25 (an additional 13 beds beyond the current CON) if swing-bed activity increases due to reducing the current policy of transfers out due to space constraints.

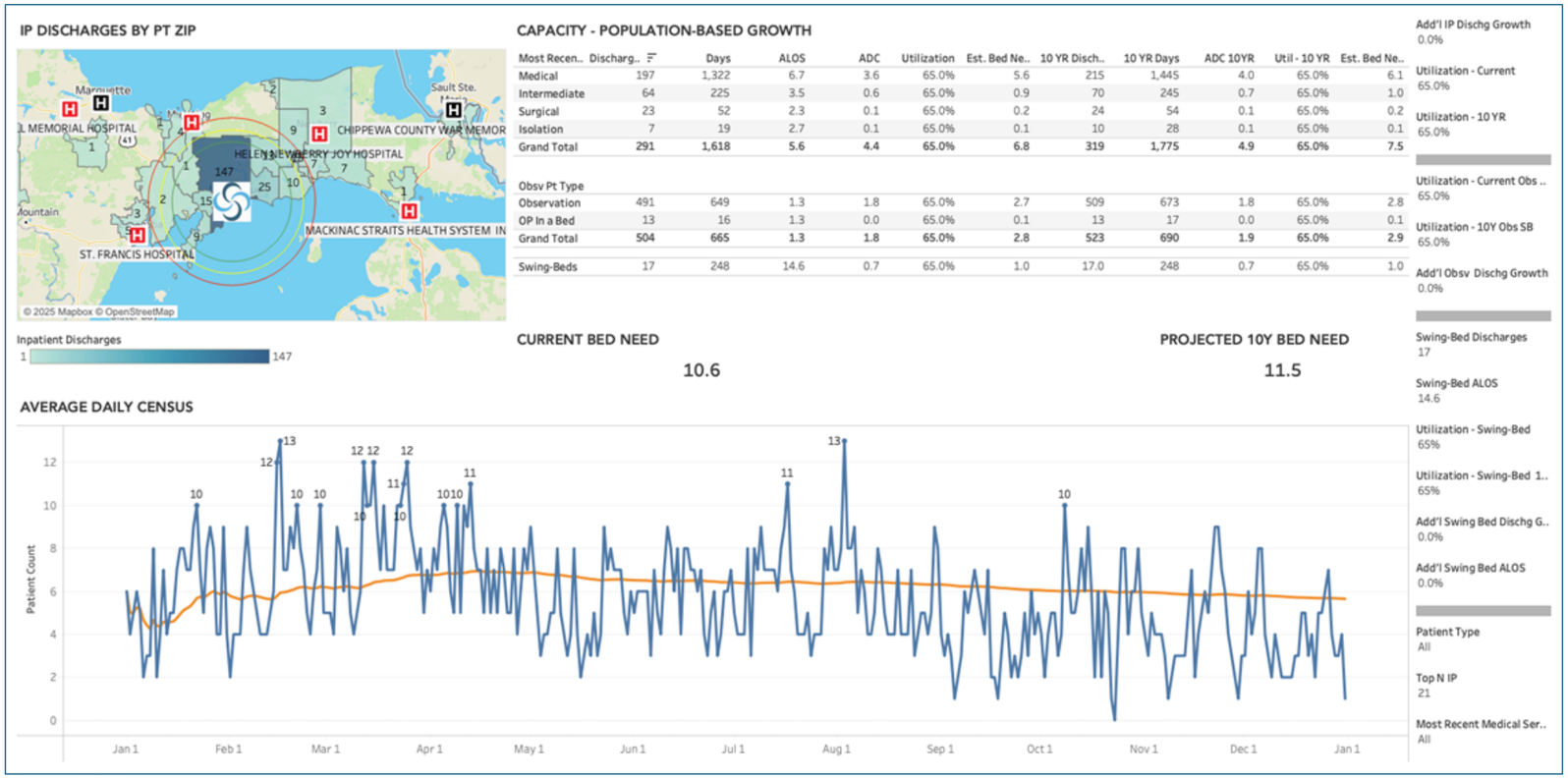


Figure 01

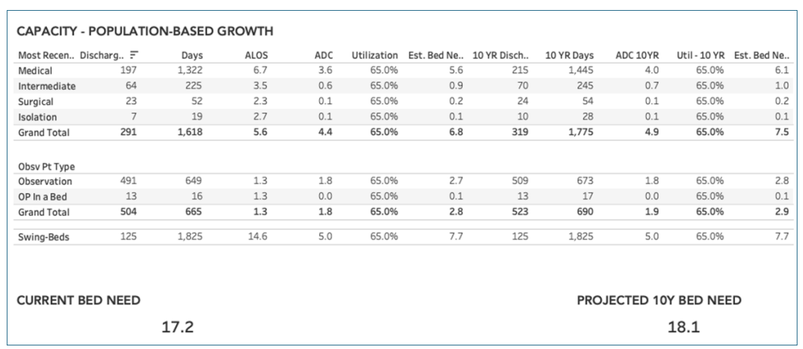


Figure 02

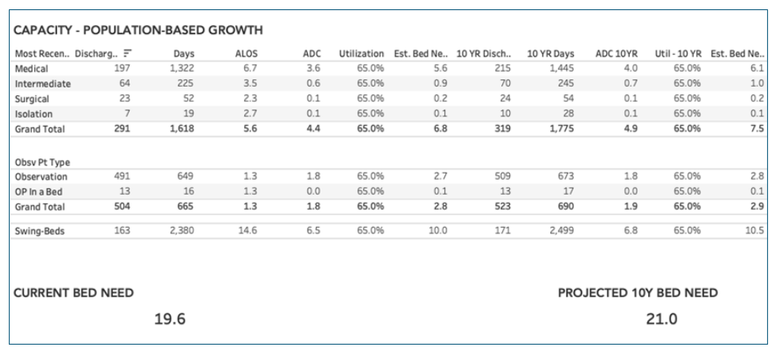


Figure 03

Capacity Model Results

Emergency Department Capacity Model

The Emergency Department capacity model functions similarly to the Inpatient model above. Rather than patient-bed types, the ED model uses the ESI classifications within the Schoolcraft internal data. Calculating capacity at a Utilization of 60.0% and incorporating a Peak Time element that compresses time into the busiest portion of the day (in this case 16 hours per day) with 90% of cases occurring during the Peak hours, the model suggests a current need of 4.8 rooms. This rounds to the exact current number of ED rooms at 5. (see Figure 4).

While this may suggest that the current room count is sufficient, the ADC line chart reveals that seasonality plays a large part in ED activity, with 35 days in the current year with 20 or more ED patients and the majority of those days occurring during the summer and early fall when tourism in the area is highest.

Projecting activity forward using population-based growth percentages and an additional increase factor of 10% for case minutes to reflect current trends in increased wait time in Emergency departments increases the room need numerically to a sixth room.

Looking at the ED activity in terms of room usage rather than patient count is even more revealing of the need for additional ED space. When comparing the total number of patient encounter minutes with the number of actual room minutes available it reveals forty-three days in 2024 (11.8%) that had ED room usage greater that four rooms, i.e. all five rooms in use. Additionally, of those forty-three days, eleven show room usage greater than the five existing rooms. (see Figure 5).

These numbers, both the current state as well as the baseline future state, being right at the current existing number of ED rooms would suggest the actual need for 1-2 additional ED rooms. However, when one incorporates the usage trends that show room-needs exceeding current availability by as many as three rooms, it becomes apparent that even 2 additional ED rooms may not be sufficient under current state parameters.

Emergency Department Summary

The Emergency Department model shows the five current rooms to be at capacity. An additional 2 rooms should be the starting point for any discussion of expansion when considering usage trends as well as demographic projections.

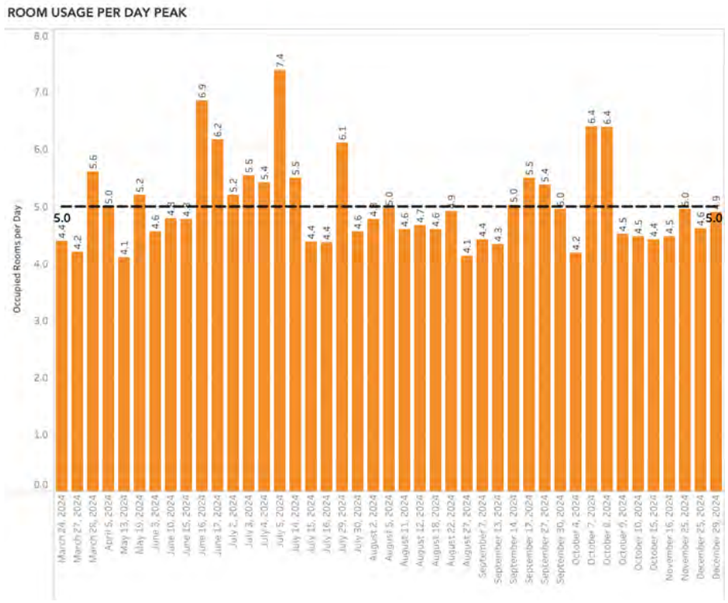
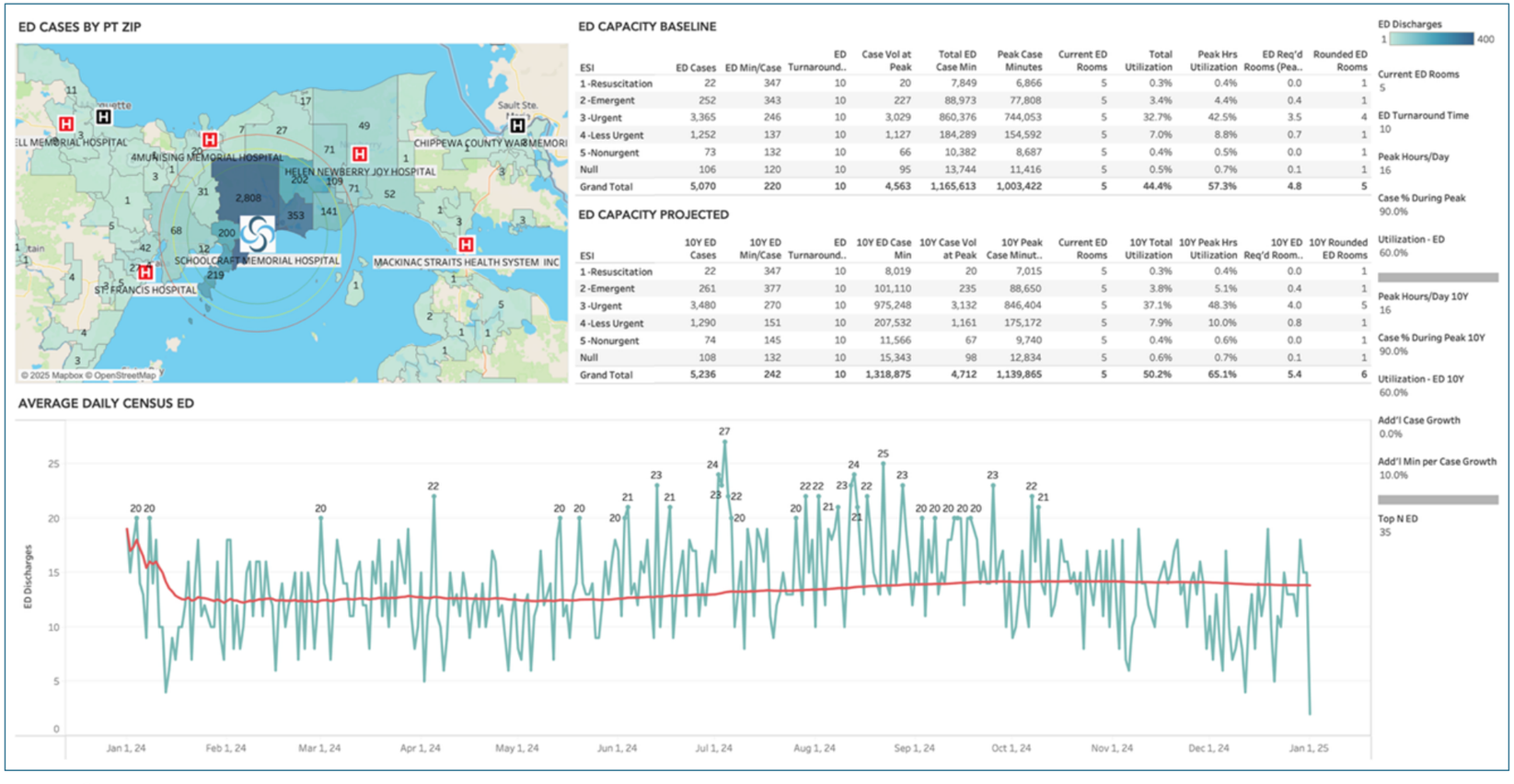


Figure 04



ESI	ED Cases	ED Min/Case	ED Turnaround..	Case Vol at Peak	Total ED Case Min	Peak Case Minutes	Current ED Rooms	Total Utilization	Peak Hrs Utilization	ED Req'd Rooms (Pea..	Rounded ED Rooms
1 -Resuscitation	22	347	10	20	7,849	6,866	5	0.3%	0.4%	0.0	1
2 -Emergent	252	343	10	227	88,973	77,808	5	3.4%	4.4%	0.4	1
3 -Urgent	3,365	246	10	3,029	860,376	744,053	5	32.7%	42.5%	3.5	4
4 -Less Urgent	1,252	137	10	1,127	184,289	154,592	5	7.0%	8.8%	0.7	1
5 -Nonurgent	73	132	10	66	10,382	8,687	5	0.4%	0.5%	0.0	1
Null	106	120	10	95	13,744	11,416	5	0.5%	0.7%	0.1	1
Grand Total	5,070	220	10	4,563	1,165,613	1,003,422	5	44.4%	57.3%	4.8	5

ESI	10Y ED Cases	10Y ED Min/Case	ED Turnaround..	10Y ED Case Min	10Y Case Vol at Peak	10Y Peak Case Minut..	Current ED Rooms	10Y Total Utilization	10Y Peak Hrs Utilization	10Y ED Req'd Room..	10Y Rounded ED Rooms
1 -Resuscitation	22	347	10	8,019	20	7,015	5	0.3%	0.4%	0.0	1
2 -Emergent	261	377	10	101,110	235	88,650	5	3.8%	5.1%	0.4	1
3 -Urgent	3,480	270	10	975,248	3,132	846,404	5	37.1%	48.3%	4.0	5
4 -Less Urgent	1,290	151	10	207,532	1,161	175,172	5	7.9%	10.0%	0.8	1
5 -Nonurgent	74	145	10	11,566	67	9,740	5	0.4%	0.6%	0.0	1
Null	108	132	10	15,343	98	12,834	5	0.6%	0.7%	0.1	1
Grand Total	5,236	242	10	1,318,875	4,712	1,139,865	5	50.2%	65.1%	5.4	6

ED Discharges 1 – 400
Current ED Rooms 5
ED Turnaround Time 10
Peak Hours/Day 16
Case % During Peak 90.0%
Utilization - ED 60.0%
Peak Hours/Day 10Y 16
Case % During Peak 10Y 90.0%
Utilization - ED 10Y 60.0%
Add'l Case Growth 0.0%
Add'l Min per Case Growth 10.0%
Top N ED 35

Figure 05

Capacity Model Results

Clinical Capacity Model

RHC clinic space currently has 21 rooms shared by 9.88 FTEs of Providers in the Specialties of Primary Care, Wound Care, and Behavioral Health. The current annual visit volumes (28,228) suggest that this space is currently adequate, calculating a space-need of just under 18 rooms (17.7) over the period of an entire year. However, this calculated aggregate "available room capacity" of 3.3 rooms shrinks to 1 room when Primary Care, Wound Care and Behavior Health are split apart based on their current room assignments. The rounded room-needs leaves very little space for either new primary care provider additions or for Specialty Clinic provider overflow if/when that occurs. (see Figure 6)

For the Specialty Clinic area, the model results are viewed slightly differently than the RHC. Because the Specialty Providers are partial FTEs that provide services on a visiting basis (once a week, twice a month, etc.), the Projected Rooms per Day becomes the room-need for each time a given Specialty is on-site seeing patients rather than that annualized need of the full time RHC. The model results have been color coded green-yellow-red to reflect the comparison between the calculated need and the assigned number of rooms for each Specialty when on-site. Green indicates that the calculated room need is less than the assigned room number. Yellow shows Specialties where the calculated room-need (when rounded up) is equal to the assigned room count; and Red shows Specialties where the calculated need exceeds the currently assigned room count (see Figure 7).

While Dermatology, Neurology, and Rheumatology are on-site less than most other Specialties (Rheumatology being the least at 12 days per year), when they are seeing patients each of them calculates a room-need in excess of their current assignments. ENT, General Surgery and PM&R all calculate a room-need that matches their current assignments. All the remaining Specialties calculate to a room-need that mathematically matches what their current room allotments are.

Lastly, the Cardiopulmonary specialty has a calculated room-need of 0.7 rooms, which is in line with the currently assigned single room in use by this Specialty. (see Figure 8)

Clinical Summary

The RHC clinical space model also suggests the need for additional space of around 4 rooms with the current roster of providers. Any new provider recruitment (not incorporated into our models) would increase that need. The Specialty Clinic space identified three specialties; dermatology, Neurology, and Rheumatology that mathematically calculate to room-needs greater than their current assigned room quantities. Additional space needs in this area may be handled through scheduling adjustments if possible.

Imaging Capacity Model

Space need for Imaging modalities is a known issue for Schoolcraft Memorial Hospital. X-Ray and CT have been described as "running 24/7." The current annual volumes for each modality do indicate the need for additional spaces and devices across the board. Using a baseline utilization of 60%, the model shows that all modalities are near or in some cases, beyond the current device capacity. (see Figure 9)

X-Ray/Fluoroscopy and CT Scan each calculate a current need of one additional device. Mammography appears misleading due to the level of rounding in Figure 2. Its actual calculated need is just over one at 1.02, hence the rounded need of 2 devices. All the other primary modalities are nearing their full capacity as well. The EKGs which are done in the Diagnostic Ultrasound space calculate a need of approximately one-half of a room in addition to the needs of regular Ultrasound usage. The trailer-based MRI is also calculating at near full with a room/device need of 0.8 currently.

Imaging Summary

The Imaging Department model calculated the need for additional equipment/spaces for X-Ray/ Fluoroscopy immediately, as well as additional need for Mammography.

Specialty	Assigned Rooms	Calculated Room-Need	Rounded Room-Need	Variance	Target Room Need
Primary Care/Family Med	18	14.2	15	3	19.9
Wound Care	1	2.2	3	-2	2.7
Behavioral Health	2	1.4	2	0	2.5
Total RHC	**21**	**17.7**	**20**	**1**	**25.1**

Figure 06

Specialty	Assigned Rooms	Calculated Room-Need	Rounded Room-Need	Variance
Audiology	1	0.14	1	0
Cardiology	2	0.79	1	1
ENT	2	1.23	2	0
General Surgery	2	1.24	2	0
Green Bay Oncology	4	1.84	2	2
Lilly Dermatology	4	4.09	5	-1
Nephrology	2	0.44	1	1
Neurology	2	4.55	5	-3
Obstetrics	2	1.09	2	0
Orthopedics	4	1.58	2	2
Pediatrics	2	0.63	1	1
PM&R	2	1.18	2	0
Podiatry	3	1.40	2	1
Rheumatology	2	3.64	4	-2
Sleep Lab	2	0.34	1	1
Urology	4	1.02	2	2

Figure 07

Specialty	Assigned Rooms	Calculated Room-Need	Rounded Room-Need	Variance
Cardiopulmonary	1	0.7	1	0

Figure 08

Modality	Current Rooms / Devices	Calculated Rooms / Devices	Rounded Room / Device Need	Variance
X-Ray & Fluoroscopy	2	2.9	3.0	-1
CT Scan	1	1.6	2.0	-1
Diagnostic Ultrasound	2	1.8	2.0	0
EKGs (done in US)	1	0.5	1.0	0
Nuclear Medicine	1	0.6	1.0	0
MRI (trailer)	1	0.8	1.0	0
Mammography	1	1.0	2.0	-1

Figure 09

Assessment = **Existing**

Demographics = Existing **+ Needs**

Visioning = Existing + Needs **+ Mission**

Projections = Existing + Needs + Mission **+ Growth**

Programming = Existing + Needs + Mission + Growth **+ Area**

With Key Planning Units (KPUs) established, the architectural programming process can begin to define all project size, quantity, and code requirements, integrating both quantitative needs—such as room counts and dimensions—and qualitative factors like adjacencies and support spaces. These insights are compiled into a comprehensive program document that outlines required spaces, square footage, spatial relationships, and projected new construction, serving as a clear blueprint for the design team.

Planning = Existing + Needs + Mission + Growth + Area **+ Time**

Emergency Department

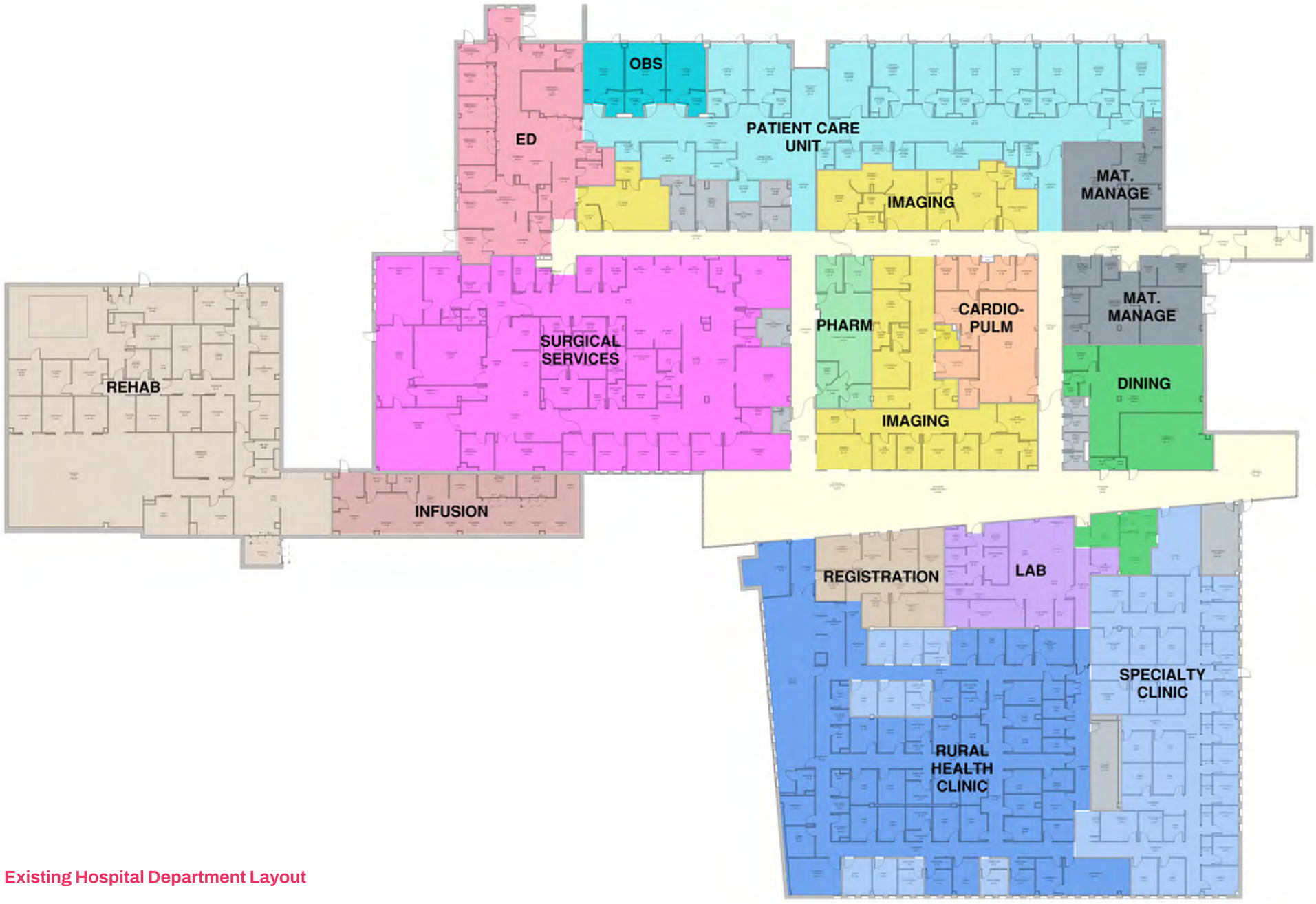
Area Description	EXISTING # of Areas	EXISTING SF per Area	EXISTING Total NSF	PROPOSED # of Areas	PROPOSED SF per Area	PROPOSED Total NSF	Remarks
Public Support							
Entry Vestibule	1	130	130	1	100	100	8' wide by 12' long
Reception	1	110	110	1	50	50	40-60 sf per station/person
Clerical Work Area	-	-	-	1	80	80	Copier, supplies, etc.
Waiting	1	157	157	20	15	300	2-3 seats per treatment space; 12-15 sf/seat
Registration	-	-	-	1	75	75	6' wide, 3' deep for staff, 3' desk, 6' deep for guest
Public Toilet (Private)	1	45	45	2	60	120	ADA; 1 per gender up to 50 occ.
Visitor Nourish	-	-	-	1	60	60	Coffee station, water, snacks, mini-fridge
Wheelchair Alcove	-	-	-	1	20	20	20 sf per workstation; min. 80 sf if enclosed
Subtotal Net SF (NSF)			442			805	
Net to Gross Load Factor			1.56			1.20	
Dept. Gross SF (DGSF)			**691**			**966**	
Patient Care Area							
Ambulance Entry Vestibule	1	137	137	1	137	137	10' wide by 16' long; stretcher storage within.
Decontamination	1	83	83	1	100	100	Includes clinical sink, 2 shower heads, neg. air
EMS Workroom	1	101	101	1	100	100	
Triage	1	109	109	2	80	160	Bays doubling as fast-track/triage swing
Exam/Treatment	3	140	421	3	140	421	120 sf min. clear. Enclosed Room. New to be Neg.
Secured Hold / Behavioral Health	-	-	-	1	80	80	60 sf min. clear. Enclosed Room. Neg. Room
Sexual Assault Forensic Exam	-	-	-	1	130	130	120 sf min. clear. Enclosed Room. Neg. Room
Toilet w/ Shower	-	-	-	1	70	70	
Trauma	1	301	301	1	301	301	Existing. 250 sf min; 1.5x for 2 in one room.
Patient Toilet	1	42	42	1	42	42	Existing. One for every 6 rooms.
Subtotal Net SF (NSF)			1,194			1,541	
Net to Gross Load Factor			1.56			1.40	
Dept. Gross SF (DGSF)			**1,868**			**2,157**	
Clinical Support							
Clean Supply	1	124	124	1	160	160	80 sf min.; 10 sf per exam/treatment
Soiled Workroom	1	77	77	1	80	80	80 sf min.; 5 sf per exam/treatment
Meds Room	-	-	^	1	80	80	Dedicated Room
Linen Storage Alcove	-	-	-	1	20	20	
Equipment Storage	1	7	7	1	120	120	120 sf min; 10 sf per exam/treatment
Nourishment Alcove	-	-	-	1	40	40	Ice machine, cabinets, sink, mini-fridge
EVS	-	-	-	1	40	40	Cart, supplies, service sink
Sprinkler Closet	1	4	4	1	4	4	
Subtotal Net SF (NSF)			212			544	
Net to Gross Load Factor			1.56			1.40	
Dept. Gross SF (DGSF)			**332**			**762**	
Staff Support							
Nurse Station	1	164	164	4	30	120	80 sf min.; 15 sf/treatment or 30 sf per nurse. (4 FT
Dictation	1	36	36	1	40	40	40 sf per Physician
Office- Private	-	-	-	1	100	100	Trauma Coord.
Subtotal Net SF (NSF)			200			260	
Net to Gross Load Factor			1.56			1.35	
Dept. Gross SF (DGSF)			**313**			**351**	
Canopies							
Ambulance Garage/Drive-thru	-	-	-	1	850	850	25' x 40'. Parking, enclosed, heated
ED Drop-off Canopy	-	-	-	1	1,000	1,000	20' x 50'. Enclosed over part of drive
Subtotal Net SF (NSF)			-			**1,850**	
Total Net SF (NSF)			**2,048**			**3,150**	**net square feet**
Net to Gross Load Factor			1.56			1.34	
Total Dept. Gross SF (DGSF)			**3,204**			**4,236**	**departmental gross square feet**

Patient Care Unit

Area Description	EXISTING # of Areas	EXISTING SF per Area	EXISTING Total NSF	PROPOSED # of Areas	PROPOSED SF per Area	PROPOSED Total NSF	Remarks
Public Support							
Family Waiting	-	-	-	29	10	285	1.5/room. 10-15 sf/person.
Public Toilet	1	52	52	1	52	52	
Wheel Chair Alcove	1	20	20	1	20	20	
Consult/Bereavement	-	80	-	1	80	80	
Lactation	-	60	-	1	60	60	
Chapel	1	99	99	1	80	80	
Subtotal Net SF (NSF)			171			577	
Net to Gross Load Factor			1.38			1.38	
Dept. Gross SF (DGSF)			**235**			**794**	
Patient Care Area							
Inpatient Room	8	273	2,181	7	273	1,908	
Patient Toilet / Shower	8	51	408	7	51	357	
Isolation Room	1	258	258	1	258	258	
Ante Room	1	119	119	1	119	119	
Patient Toilet / Shower	1	59	59	1	59	59	
Observation	3	273	818	3	273	818	
Patient Toilet / Shower	3	51	153	3	51	153	
Subtotal Net SF (NSF)			3,996			3,672	
Net to Gross Load Factor			1.38			1.38	
Dept. Gross SF (DGSF)			**5,497**			**5,052**	
Swing Bed							
Patient Room	-	-	-	8	270	2,160	8-11 Rooms
Patient Toilet / Shower	-	-	-	8	50	400	
Rehab	1	339	339	1	340	340	1 room min; Min. 80 sf
Day/Activities/Dining Room	-	-	-	1	440	440	Min. 55 sf/bed
Storage	-	-	-	1	400	400	Min. 50 sf/bed
Clean Supply Alcove	-	-	-	1	100	100	20 sf min; 5 sf per exam/treatment
Med Room	-	-	-	1	80	80	
Soiled Holding Alcove	-	-	-	1	80	80	20 sf min; 3 sf per exam/treatment
Subtotal Net SF (NSF)			339			4,000	
Net to Gross Load Factor			1.38			1.25	
Dept. Gross SF (DGSF)			**466**			**5,000**	
Clinical Support							
Soiled Workroom	1	63	63	1	63	63	
Meds Room	1	127	127	1	80	80	
Equipment Storage	1	233	233	1	233	233	
Nourishment Alcove	1	74	74	1	40	40	
Code Cart Alcove	1	21	21	1	21	21	
EVS	1	38	38	1	38	38	
Subtotal Net SF (NSF)			556			475	
Net to Gross Load Factor			1.38			1.38	
Dept. Gross SF (DGSF)			**765**			**653**	
Staff Support							
Nurse Station	1	230	230	1	400	400	
Workroom	1	202	202	1	202	202	
Office- Private	3	64	192	3	64	192	
Staff Toilet	2	50	100	2	50	100	
Subtotal Net SF (NSF)			724			894	
Net to Gross Load Factor			1.38			1.38	
Dept. Gross SF (DGSF)			**996**			**1,230**	
Total Net SF (NSF)			**5,786**			**9,618**	**net square feet**
Net to Gross Load Factor			1.38			1.32	
Total Dept. Gross SF (DGSF)			**7,960**			**12,729**	**departmental gross square feet**
						14,002	

Assessment	=	**Existing**
Demographics	=	Existing **+ Needs**
Visioning	=	Existing + Needs **+ Mission**
Projections	=	Existing + Needs + Mission **+ Growth**
Programming	=	Existing + Needs + Mission + Growth **+ Area**
Planning	=	Existing + Needs + Mission + Growth + Area **+ Time**

This phase is the culmination of data, studies, and metrics translated into preliminary floor plans and departmental layouts that balance current needs with future growth. Conceptual diagrams and narratives illustrate department adjacencies, circulation, and service zones while supporting operational efficiency, flexibility, and strategic facility planning. Public-facing graphics can also be developed to communicate the planning vision, ensuring alignment with leadership goals and community needs.



Existing Hospital Department Layout

Emergency Department Expansion

The Emergency Department (ED) Expansion Project is driven by sustained patient growth, prolonged peak-hour demand, and evolving clinical and regulatory requirements. Current analysis shows that 90% of ED cases occur within a concentrated 16-hour daily peak period. Capacity modeling indicates a present need for 4.8 treatment rooms, placing the ED near the limit of its five-room configuration. This pressure is most evident during high-tourism months, with 35 days this year seeing 20 or more concurrent ED patients.

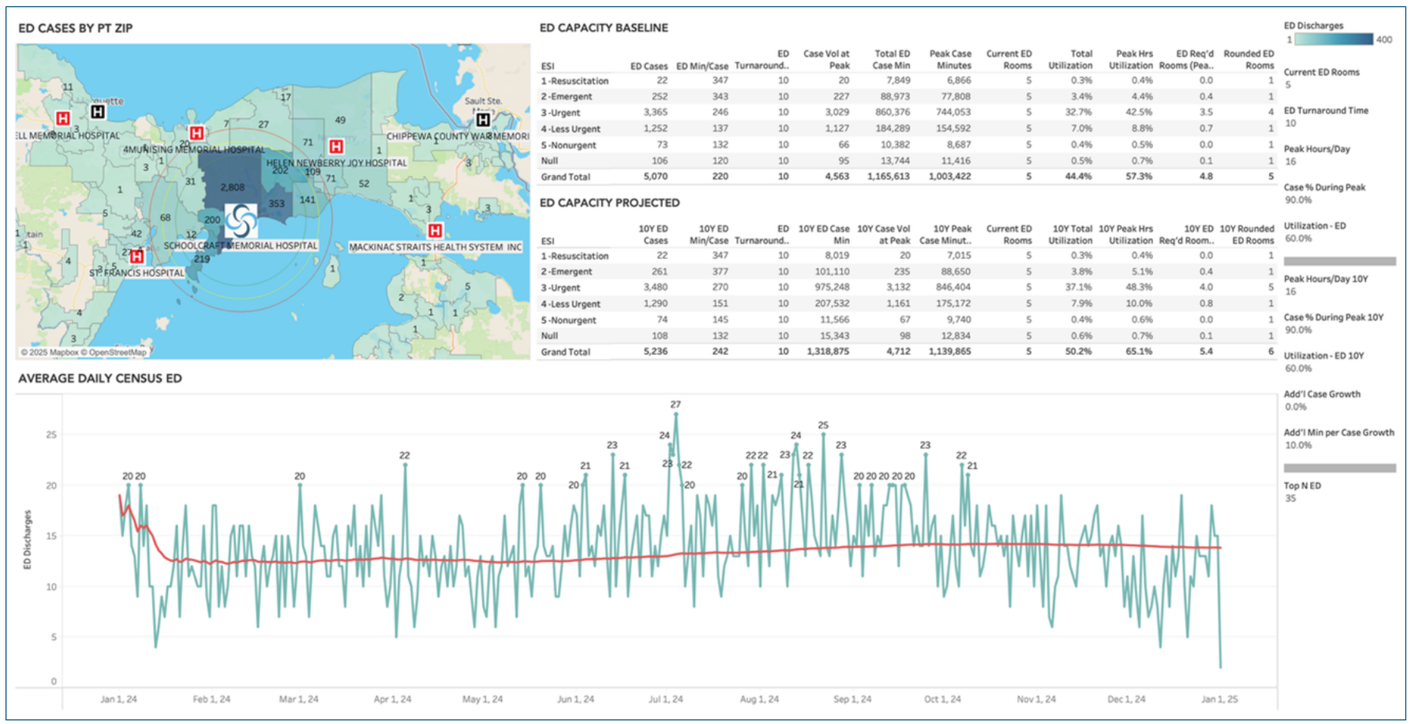
Further review of patient encounter minutes compared with room availability highlights significant capacity strain. In 2024, forty-three days (11.8%) required more than four rooms, fully occupying all five; eleven of those days exceeded even this full capacity, indicating that demand is outpacing current infrastructure.

Forward projections—using population-based growth and a 10% increase in case minutes reflecting statewide increases in ED wait times—show the need rising to six treatment rooms. Both current conditions and future forecasts consistently point to a requirement for 1–2 additional ED rooms.

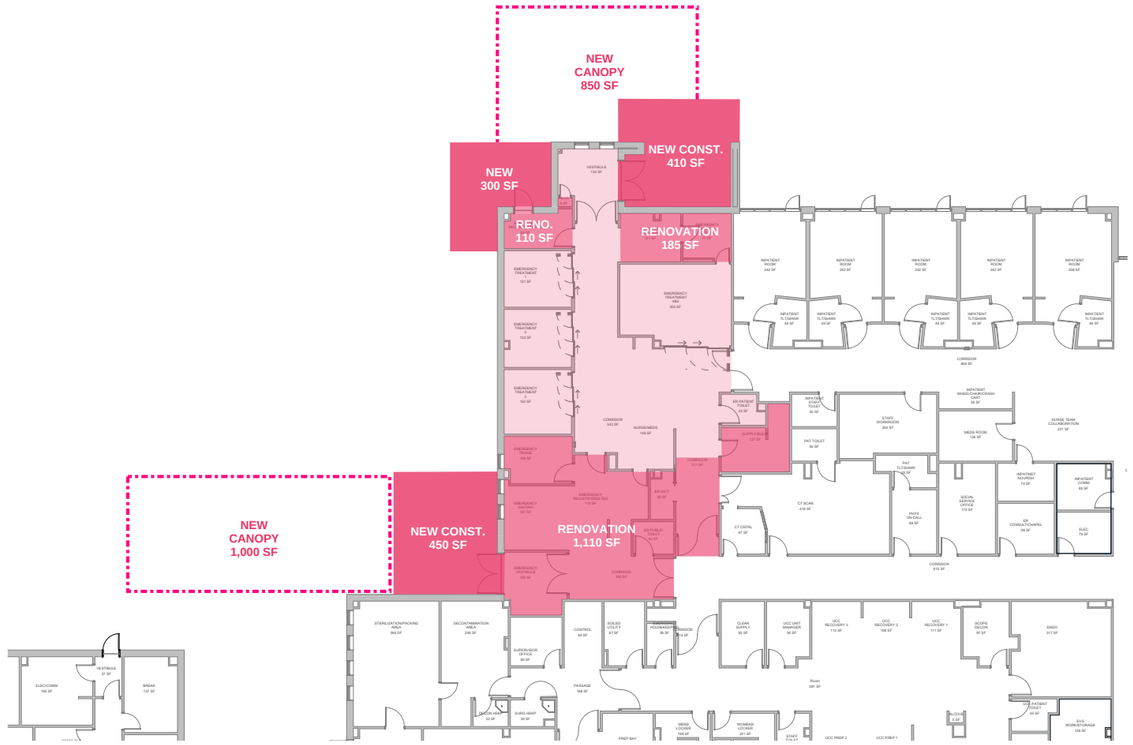
The proposed project expands Exam/Treatment Rooms from four to six, with the two added rooms designed to meet code-compliant Behavioral Health and Sexual Assault Forensic Exam (SAFE) standards. The plan also doubles the Waiting Room and key support spaces, adds one Triage Bay, and increases storage and supply capacity to meet operational and regulatory needs.

A major enhancement of the project is the addition of two covered exterior areas: a dedicated Patient Drop-off and a covered, drive-through Ambulance Drop-off. These improvements enhance safety, privacy, weather protection, and arrival efficiency for both walk-in and EMS patients.

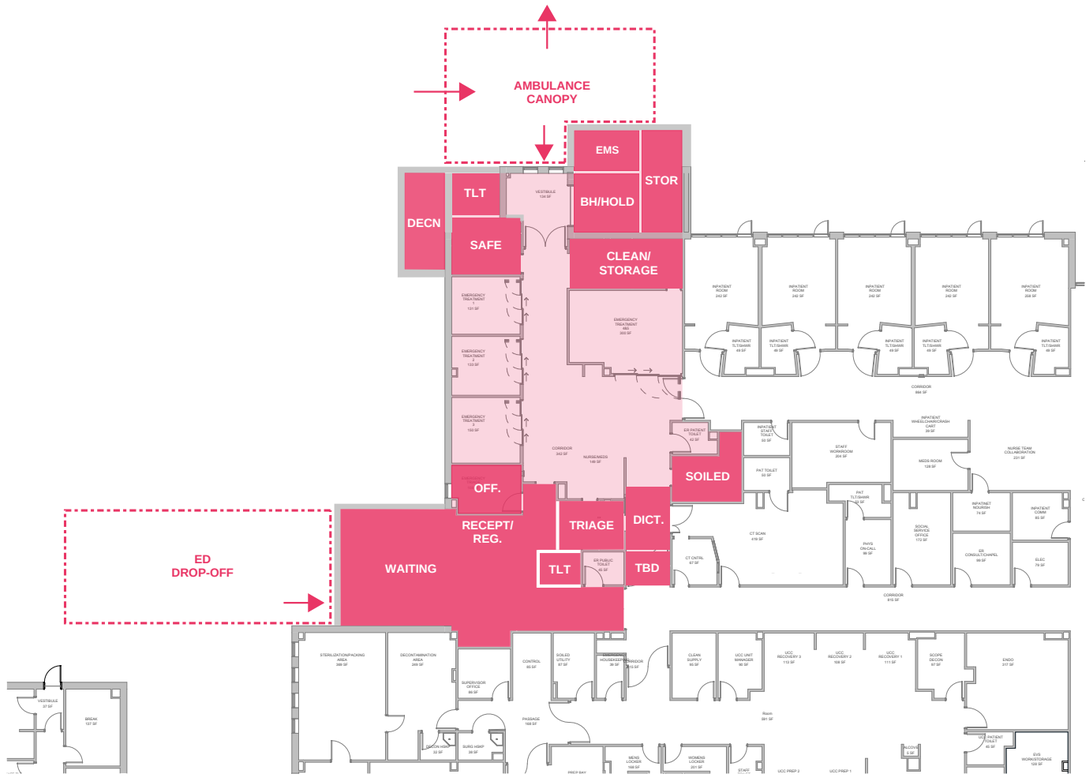
Overall, the ED Expansion Project is a data-informed response to rising demand and regulatory expectations, ensuring the department can continue to meet the community's growing emergency care needs.



Area Description	EXISTING # of Areas	EXISTING SF per Area	EXISTING Total NSF	PROPOSED # of Areas	PROPOSED SF per Area	PROPOSED Total NSF
Public Support						
Entry Vestibule	1	130	130	1	100	100
Reception	1	110	110	1	50	50
Clerical Work Area	-	-	-	1	80	80
Waiting	1	157	157	20	15	300
Registration	-	-	-	1	75	75
Public Toilet (Private)	1	45	45	2	60	120
Visitor Nourish	-	-	-	1	60	60
Wheelchair Alcove	-	-	-	1	20	20
Subtotal Net SF (NSF)			442			805
Net to Gross Load Factor			1.56			1.20
Dept. Gross SF (DGSF)			**691**			**966**
Patient Care Area						
Ambulance Entry Vestibule	1	137	137	1	137	137
Decontamination	1	83	83	1	100	100
EMS Workroom	1	101	101	1	100	100
Triage	1	109	109	2	80	160
Exam/Treatment	3	140	421	3	140	421
Secured Hold / Behavioral Health	-	-	-	1	80	80
Sexual Assault Forensic Exam	-	-	-	1	130	130
Toilet w/ Shower	-	-	-	1	70	70
Trauma	1	301	301	1	301	301
Patient Toilet	1	42	42	1	42	42
Subtotal Net SF (NSF)			1,194			1,541
Net to Gross Load Factor			1.56			1.40
Dept. Gross SF (DGSF)			**1,868**			**2,157**
Clinical Support						
Clean Supply	1	124	124	1	160	160
Soiled Workroom	1	77	77	1	80	80
Meds Room	-	-	^	1	80	80
Linen Storage Alcove	-	-	-	1	20	20
Equipment Storage	1	7	7	1	120	120
Nourishment Alcove	-	-	-	1	40	40
EVS	-	-	-	1	40	40
Sprinkler Closet	1	4	4	1	4	4
Subtotal Net SF (NSF)			212			544
Net to Gross Load Factor			1.56			1.40
Dept. Gross SF (DGSF)			**332**			**762**
Staff Support						
Nurse Station	1	164	164	4	30	120
Dictation	1	36	36	1	40	40
Office- Private	-	-	-	1	100	100
Subtotal Net SF (NSF)			200			260
Net to Gross Load Factor			1.56			1.35
Dept. Gross SF (DGSF)			**313**			**351**
Canopies						
Ambulance Garage/Drive-thru	-	-	-	1	850	850
ED Drop-off Canopy	-	-	-	1	1,000	1,000
Subtotal Net SF (NSF)			-			**1,850**
Total Net SF (NSF)			**2,048**			**3,150**
Net to Gross Load Factor			1.56			1.34
Total Dept. Gross SF (DGSF)			**3,204**			**4,236**



Proposed Construction Footprint



Proposed Project Layout

Existing	**3,204 sf**
Renovation	**1,405 sf**
New Construction	**1,160 sf**
Canopies	**1,850 sf**

Inpatient & Swing-bed Expansion

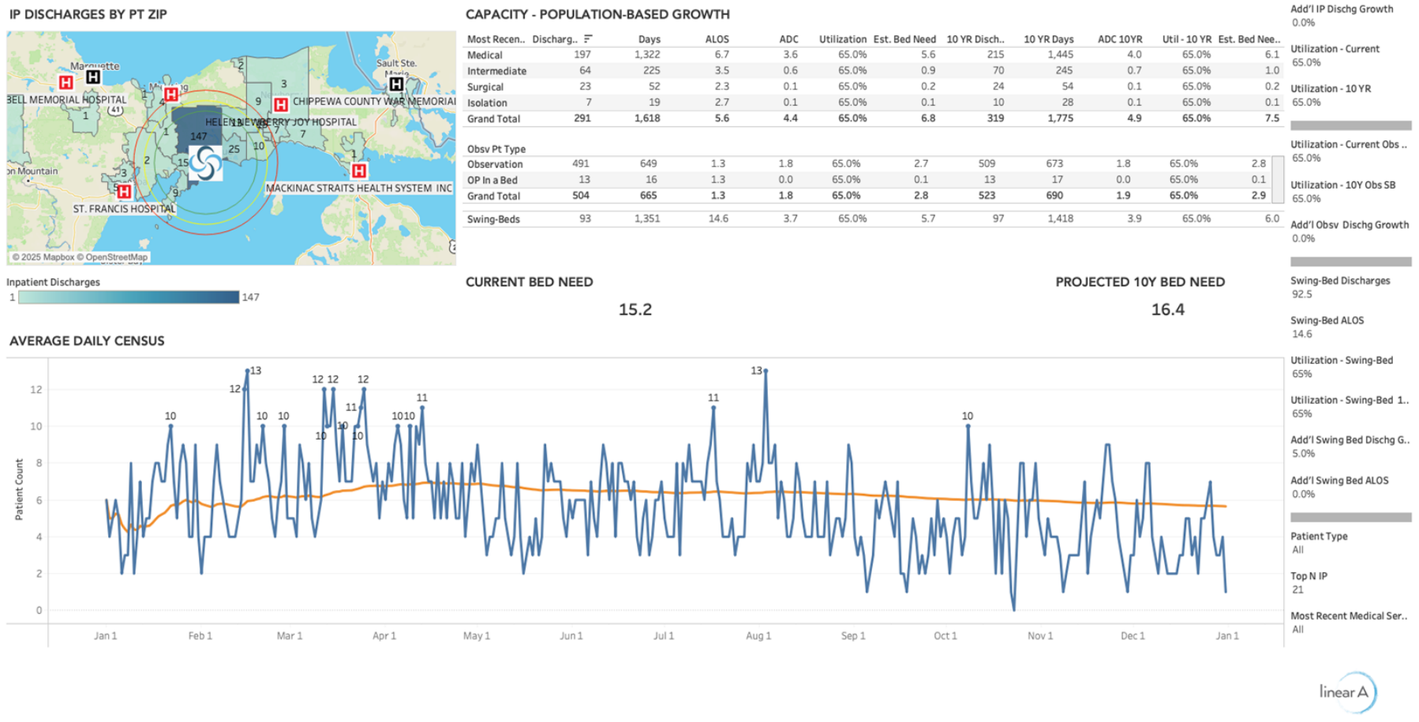
Schoolcraft Memorial Hospital currently operates twelve inpatient beds that serve all inpatient, observation, and swing-bed functions. Capacity modeling shows the hospital is already operating near its functional limit at 10.6 beds, and even modest, population-based projections indicate the need will rise to 11.5 beds by 2035. Although the hospital's average daily census (ADC) ranges between 4 and 7 patients, a closer look at daily patient counts reveals significant surges: 21 days with 10 or more patients, including four days at full capacity (12 beds) and two days exceeding it with 13 beds occupied. These occurrences demonstrate a clear need for additional licensed beds.

When swing-bed utilization is incorporated into the long-term forecast—totaling 1,825 swing-bed patient days annually with an average length of stay of 14.6 days (approximately 125 discharges)—the projected bed need increases substantially to 18.1 beds by 2035. This expanded demand highlights the necessity of creating a dedicated swing-bed unit to support both current operations and future growth.

To meet these needs, the proposed project includes the construction of a new patient wing housing eight dedicated swing beds, designed with the capacity for future northward expansion should swing-bed demand continue to grow. The new layout also enhances clinical workflow by relocating the Nurse Station to a more centralized and efficient position, reducing staff travel distance and improving visibility to patient rooms.

With the relocation of the primary Nurse Station, the existing area will be repurposed into a sub-waiting room and additional support spaces, helping to address broader operational needs within the inpatient environment.

Overall, the inpatient renovation and swing-bed expansion project strengthens the hospital's ability to meet rising patient demand, improves staff efficiency, and creates a scalable foundation for future growth in post-acute and transitional care services.



Most Recen..	Discharg..	Days	ALOS	ADC	Utilization	Est. Bed Need	10 YR Disch..	10 YR Days	ADC 10YR	Util - 10 YR	Est. Bed Nee..
Medical	197	1,322	6.7	3.6	65.0%	5.6	215	1,445	4.0	65.0%	6.1
Intermediate	64	225	3.5	0.6	65.0%	0.9	70	245	0.7	65.0%	1.0
Surgical	23	52	2.3	0.1	65.0%	0.2	24	54	0.1	65.0%	0.2
Isolation	7	19	2.7	0.1	65.0%	0.1	10	28	0.1	65.0%	0.1
Grand Total	291	1,618	5.6	4.4	65.0%	6.8	319	1,775	4.9	65.0%	7.5
Obsv Pt Type											
Observation	491	649	1.3	1.8	65.0%	2.7	509	673	1.8	65.0%	2.8
OP In a Bed	13	16	1.3	0.0	65.0%	0.1	13	17	0.0	65.0%	0.1
Grand Total	504	665	1.3	1.8	65.0%	2.8	523	690	1.9	65.0%	2.9
Swing-Beds	93	1,351	14.6	3.7	65.0%	5.7	97	1,418	3.9	65.0%	6.0

Area Description	EXISTING # of Areas	EXISTING SF per Area	EXISTING Total NSF	PROPOSED # of Areas	PROPOSED SF per Area	PROPOSED Total NSF
Public Support						
Family Waiting	-	-	-	29	10	285
Public Toilet	1	52	52	1	52	52
Wheel Chair Alcove	1	20	20	1	20	20
Consult/Bereavement	-	80	-	1	80	80
Lactation	-	60	-	1	60	60
Chapel	1	99	99	1	80	80
Subtotal Net SF (NSF)			171			577
Net to Gross Load Factor			1.38			1.38
Dept. Gross SF (DGSF)			**235**			**794**
Patient Care Area						
Inpatient Room	8	273	2,181	7	273	1,908
Patient Toilet / Shower	8	51	408	7	51	357
Isolation Room	1	258	258	1	258	258
Ante Room	1	119	119	1	119	119
Patient Toilet / Shower	1	59	59	1	59	59
Observation	3	273	818	3	273	818
Patient Toilet / Shower	3	51	153	3	51	153
Subtotal Net SF (NSF)			3,996			3,672
Net to Gross Load Factor			1.38			1.38
Dept. Gross SF (DGSF)			**5,497**			**5,052**
Swing Bed						
Patient Room	-	-	-	8	270	2,160
Patient Toilet / Shower	-	-	-	8	50	400
Rehab	1	339	339	1	340	340
Day/Activities/Dining Room	-	-	-	1	440	440
Storage	-	-	-	1	400	400
Clean Supply Alcove	-	-	-	1	100	100
Med Room	-	-	-	1	80	80
Soiled Holding Alcove	-	-	-	1	80	80
Subtotal Net SF (NSF)			339			4,000
Net to Gross Load Factor			1.38			1.25
Dept. Gross SF (DGSF)			**466**			**5,000**
Clinical Support						
Soiled Workroom	1	63	63	1	63	63
Meds Room	1	127	127	1	80	80
Equipment Storage	1	233	233	1	233	233
Nourishment Alcove	1	74	74	1	40	40
Code Cart Alcove	1	21	21	1	21	21
EVS	1	38	38	1	38	38
Subtotal Net SF (NSF)			556			475
Net to Gross Load Factor			1.38			1.38
Dept. Gross SF (DGSF)			**765**			**653**
Staff Support						
Nurse Station	1	230	230	1	400	400
Workroom	1	202	202	1	202	202
Office- Private	3	64	192	3	64	192
Staff Toilet	2	50	100	2	50	100
Subtotal Net SF (NSF)			724			894
Net to Gross Load Factor			1.38			1.38
Dept. Gross SF (DGSF)			**996**			**1,230**
Total Net SF (NSF)			**5,786**			**9,618**
Net to Gross Load Factor			1.38			1.32
Total Dept. Gross SF (DGSF)			**7,960**			**12,729**

Proposed Construction Footprint

Proposed Project Layout

Existing	7,960 sf
Renovation	1,655 sf
New Construction	5,150 sf

ALTUS

Erik Austin
euastin@altusstudios.com
(970) 216 - 1416

Nebraska
14606 Branch St., Ste. 220
Omaha, NE 68154
+1 (402) 334-2422

Colorado
112 N. Rubey Dr, Ste. 101
Golden, CO 80403
+1 (303) 945-4479

@altusarchitects
info@altusstudios.com
www.altusstudios.com