

# Memorandum

**Date:** November 14, 2006 (Revision from Nov. 9, 2006)

**Subject:** Service Process Layout

**To:** Matt Ford

**From:** Jennifer Pille

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## Introduction

As requested, a prospective layout for a new wing at Good Samaritan Hospital. The focus of the layout was to minimize the total distance traveled by patients at a medical clinic. Findings are based on projected departmental visits by patients and distance between locations.

## Findings

Layout 3 is the best layout to choose because the total CVD equals 101,600 square feet.

## Discussion

**Method.** In order to minimize the total distance traveled by patients, three different layouts were proposed. Data was based on the total distance traveled and projected departmental visits by patients, which is shown in Figure 1.

**Figure 1. Distance Between Locations and Trips Between Departments (Each Day)**

		Distance Between Locations					
From/To	A	B	C	D	E	F	
A	-	40	80	100	120	160	
B		-	40	60	80	120	
C			-	20	40	80	
D				-	20	40	
E					-	40	
F						-	

**Trips Between Departments (Per Day)**

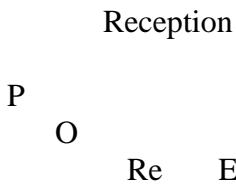
	To	Reception	1	2	3	4	5	6
Reception		-	20	50	210	20	10	130
1		10	-	0	40	110	80	50
2				-	0	50	40	120
3					0	-	10	250
4							40	90
5								-
6								

Source: Good Samaritan Hospital Manager

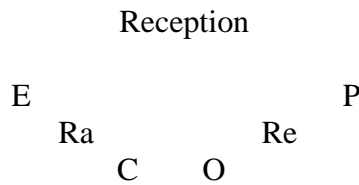
Figure 2 shows the three proposed layout designs. The designs were dependent upon the ease of location in order to aid different patient needs. The following are the department names: **E**mergency Room, **P**athology, **C**ardiology, **O**perating Room, **R**adiology, and **R**ecovery.

**Figure 2. Proposed Layout Designs**

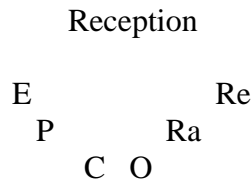
Proposed Layout 3



Proposed Layout 1



Proposed Layout 2



In Figure 3 and 4, the third proposed layout was the layout that had the least total distance traveled by patients. Therefore, this is the layout in which is recommended for Good Samaritan Hospital's new wing.

**Figure 3. Proposed Layouts**

	Layout 1	Layout 2	Layout 3
<i>Room to room CVD (sq. ft.)*</i>			
Emergency Room to others	27,600	31,800	11,600
Pathology to others	8,200	20,600	18,000**
Cardiology to others	14,400	14,200	12,000
Operating Room to others	21,400	18,600	17,800
Radiology to others	21,200	24,400	26,000
Recovery to others	19,600	27,600	16,200
<i>Total CVD (sq. ft.)</i>	112,400	137,200	101,600***

\*CVD=cost\*volume\*distance

\*\*CVD (Pathology to others)=1\*50\*40 + 1\*120\*80 + 1\*0\*120 + 1\*40\*160

\*\*\*Total CVD=26,000 + 12,000 + 11,600 + 16,200 + 17,800 + 18,000

=101,600 sq. ft.

**Figure 4. Findings of Layouts**

	<u>Layout 1</u>	<u>Layout 2</u>	<u>Layout 3</u>
Total CVD (sq. ft.)*	112,400	137,200	101,600
Rating	Better	Good	Best

\*CVD=cost\*volume\*distance

**Limitations.** Only three sample proposals were given. Therefore, many other sample proposals may be fewer square feet than Layout 3. The rooms that each department goes in may also not be feasible for the doctors and nurses. The amount of square feet may be correct, but the set up of the departments may not coincide with the doctors and nurses capability to assist to each situation. Not taking this into consideration could be a negative effect to the hospital.