

The Economic Feasibility of a New Facility  
For the Health Department, Emergency Medical Services,  
and Emergency Management Office  
of Phillips County, Kansas, 2019



Prepared by  
The Docking Institute

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## Executive Summary

The study shows that occupancy costs are likely to decrease annually by \$19,600 for utilities and \$9,670 for communications with a single energy efficient location for the Health Department, EMS, and Emergency Management offices. The total expected decrease is \$29,270 per year or \$100,000 every 3 years and 5 months.

Additional reductions in occupancy costs are likely through reductions in the duplication of office equipment, such as copiers and printers.

Occupancy costs are also likely to be less through less duplication of specialized items like refrigeration equipment and stand-by generators.

Finally, increases in productivity are likely through improved communications, a more efficient workflow, and increased collaboration among the Health Department, EMS, and Emergency Management offices.

## Introduction

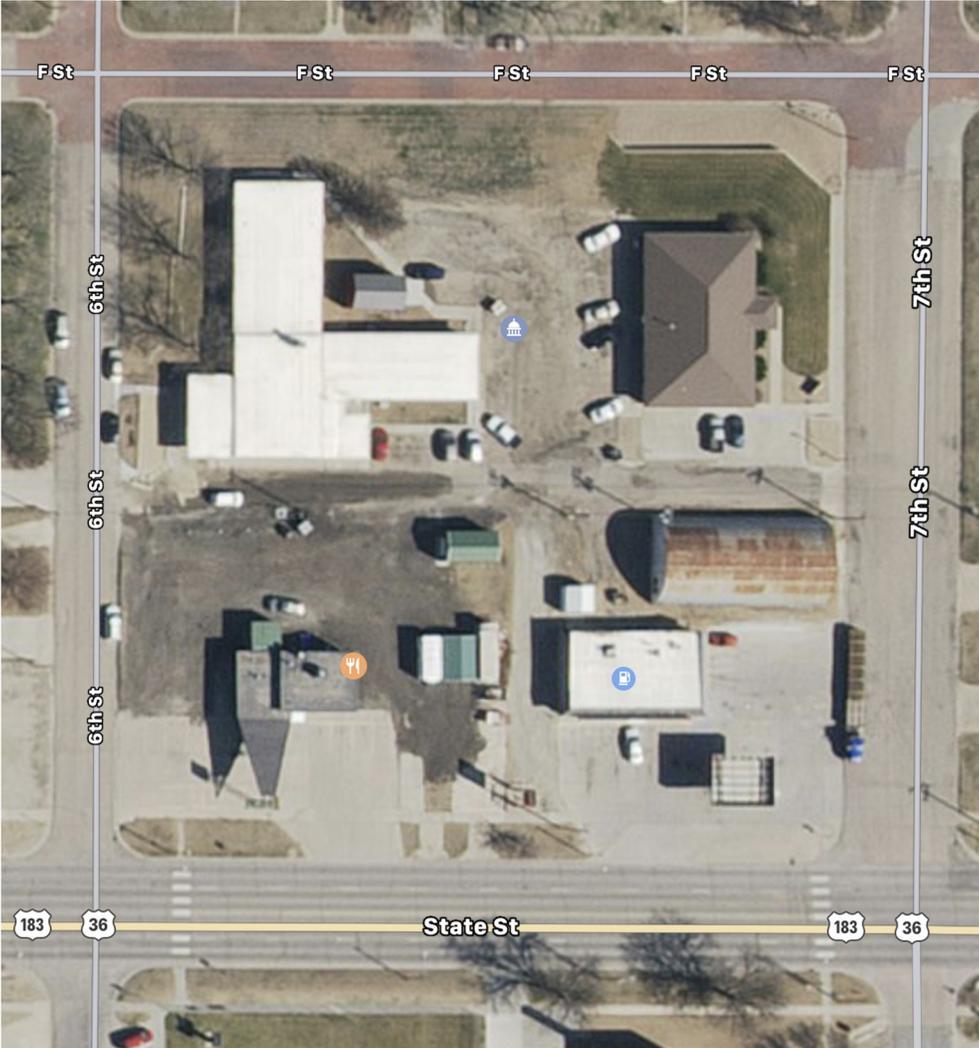
This study examines the question, “Is it financially feasible to operate a new facility in Phillipsburg containing the Phillips County Health Department, Emergency Medical Services (EMS), and Emergency Management Office?” These departments are currently housed in three different locations in Phillipsburg. However, there is considerable cooperation and synergy between and among their functional areas. The proposed new facility which would bring all three under one roof is in the early planning stages. There are interactions and consequences from decisions made during this phase that will have an impact on the operational phase of the facility. For example, the planned activities are a factor in the size of the facility. And, choices in the construction (e.g. insulation and HVAC) affect the operating costs of the facility. Thus, this analysis is only a tentative first step. It is assumed that local leaders will be able to raise the funds needed for the construction phase of this project. It’s important to keep in mind that feasibility studies help answer the question “Can this be done?” They do not answer the question “Will we do this?”

## Current Status

Each of the three offices is located in a different building and the buildings are several blocks from each other. This means that valuable staff time is used to physically go from one facility to another. It also means that there must be duplication of office equipment and services; for example, copy machines and telecommunications services. Finally, the newest of the three buildings is 50 years old. All of the buildings are energy inefficient. A shared new facility should produce savings in all three of these areas.

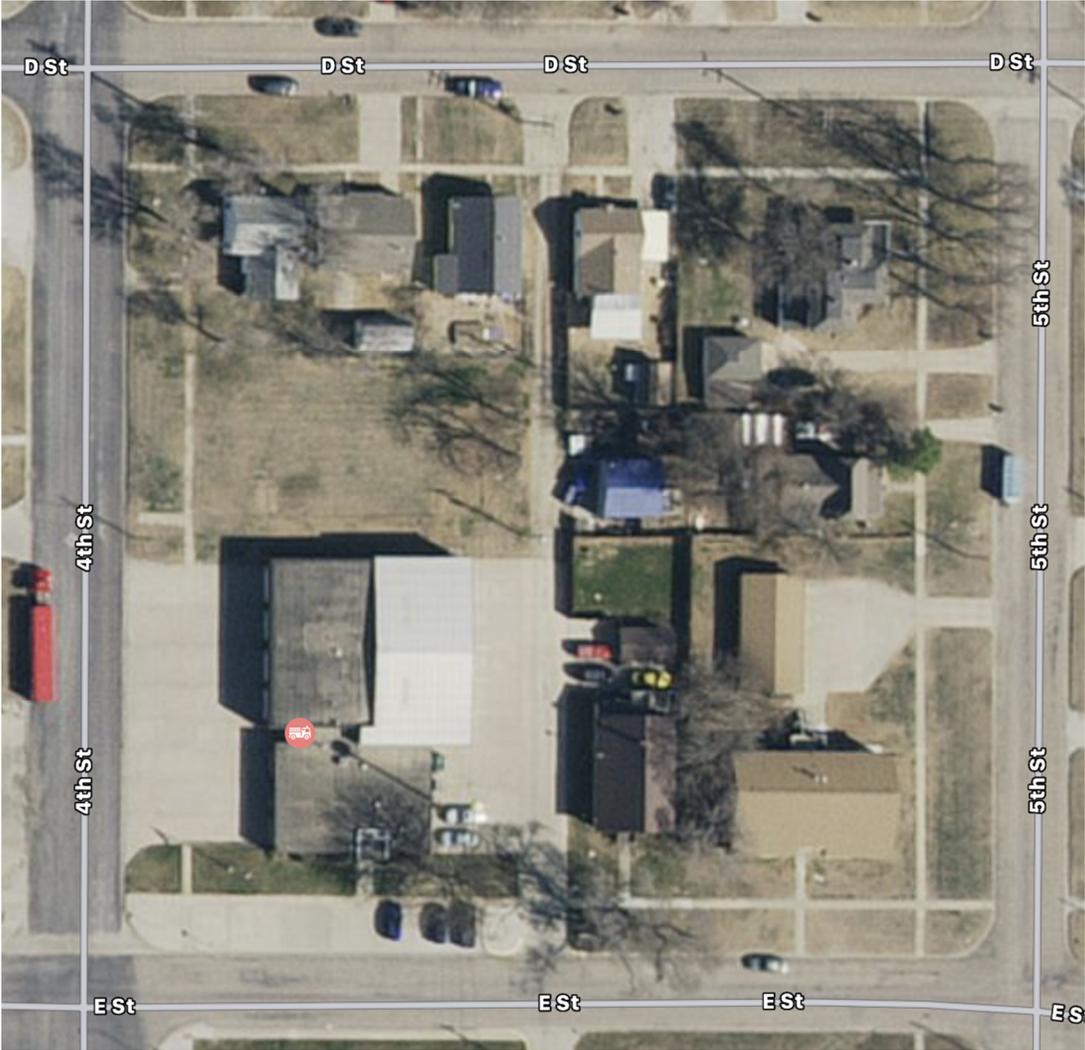
The Health Department is operating with a staff of 5 nurses and 2 staff people in a facility that is approximately 70 years old and was constructed as a nursing home. Thus, the arrangement of rooms was designed to provide exterior views for most rooms. Energy was cheap and insulation was minimal. The exterior surface (which dissipates both heat and coolness) is extensive. Teaching and workshop areas in the building are minimal. There is no standby generator in the event of a power failure. And, parking is somewhat limited.

# Map 1: Phillips County Health Department



The Phillips County Health Department is located at 784 6<sup>th</sup> Street. It is the white roofed building at the corner of 6<sup>th</sup> and F Streets.

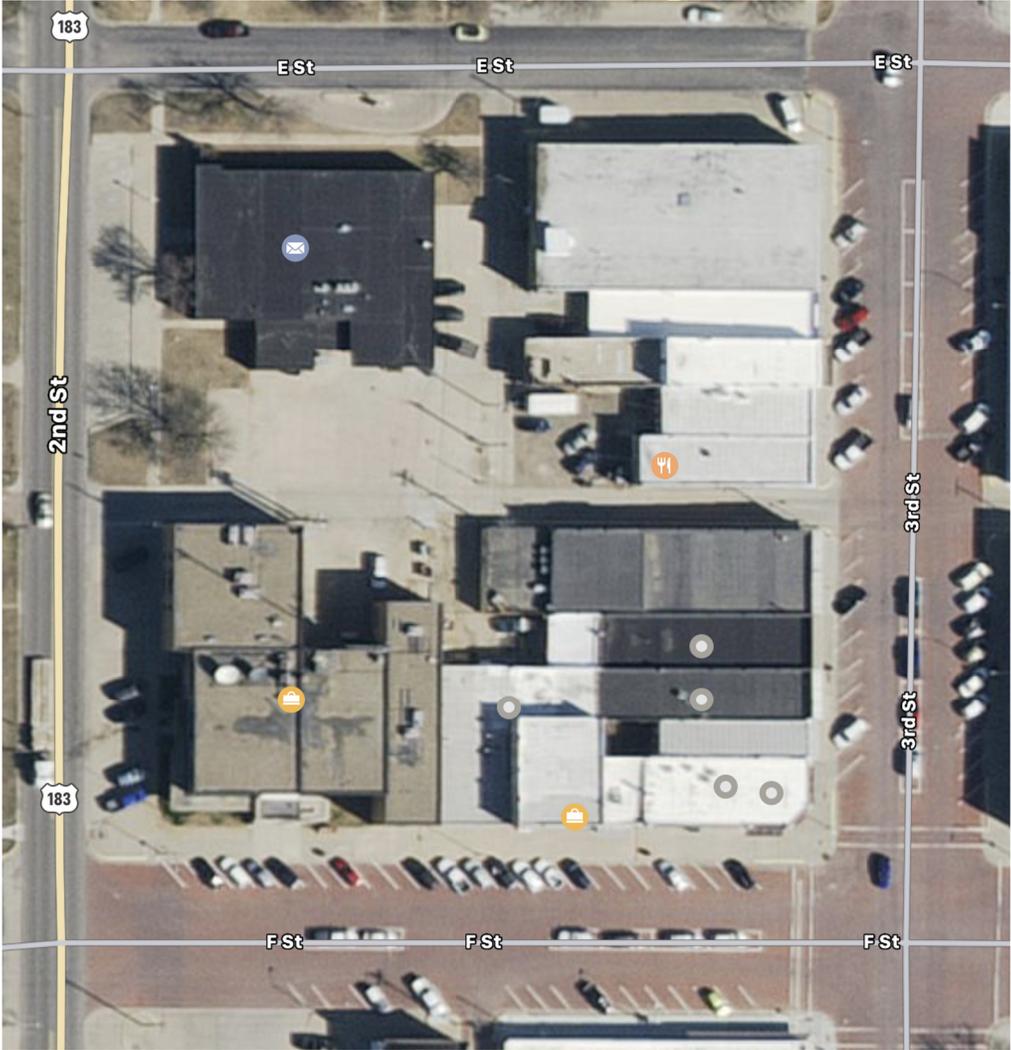
# Map 2: Phillips County EMS



The Phillips County EMS is located at 409 E Street. It is located in the building at the corner of 4th and E Streets. It shares a portion of the facility with the Fire Department. EMS has a staff of 4 people and 86 volunteers to carry out its mission. There is a standby generator available on this site. This facility has a large room used for workshops and teaching, but it has very little storage. Heating and cooling are problematic in the garage portion of the building, which has large doors. The garage is also too small and vehicles must be parked behind each other. It is anticipated that the Fire Department will continue to use this building after EMS has moved.

The Phillips County Emergency Management Office with a staff of 1 person is located in the Fischer Building (205 F Street, Suite 110) at the corner of 2<sup>nd</sup> and F Streets. The Fischer Building houses multiple tenants and is quite old. The electrical infrastructure in the building is a limiting factor for this office. There is a standby generator in the event of a power failure, but it is only wired to part of the office. Although there is a room available for workshops and training purposes, there is an additional charge for the use of the room.

Map 3: Phillips County Emergency Management Office



## Population

The population of Phillips County has decreased in every decennial census since 1900 (at which time the population was 14,442). The U.S. Census Bureau estimated the 2018 population at 5,317. The population density since 1900 has decreased from 16.1 people per square mile to about 6.1 people per square mile.

Despite the decline in population the quantity of through-traffic and number of visitors to the Kirwin Reservoir and the Kirwin National Wildlife Refuge add to the demand for EMS and the Emergency Management Office. Additionally, the industries (farming, asphalt shingle manufacturing, ethanol production, and transportation) in Phillips County increase the demand for services from these three entities. As Map 5 shows there are seven smaller communities in Phillips County. Four of these communities are located along Kansas 9 in the southern portion of Phillips County. Two communities are north and west of Phillipsburg and one is to the east.

## Roads and Highways

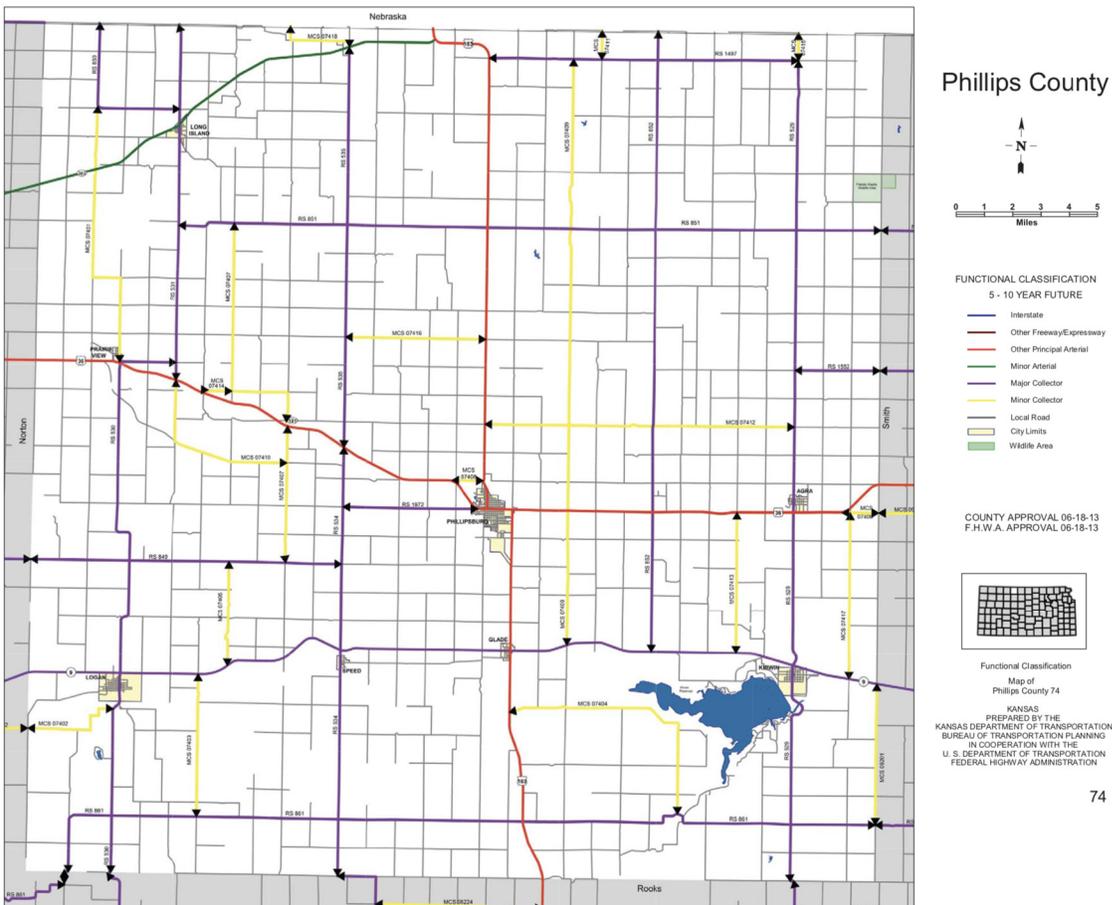
Phillips County is 895 square mile in size, of which 8.7 square miles is currently water, mostly in the Kirwin Reservoir. Table 1 shows the surface type and the kind of road for the roads and highways in Phillips County.

Table 1: Miles of road

Road Surface	County	State/Federal	Total
Paved	74	110	184
Rock	400		400
Gravel	219		219
Dirt	541		541
All Types	1,234	110	1,344

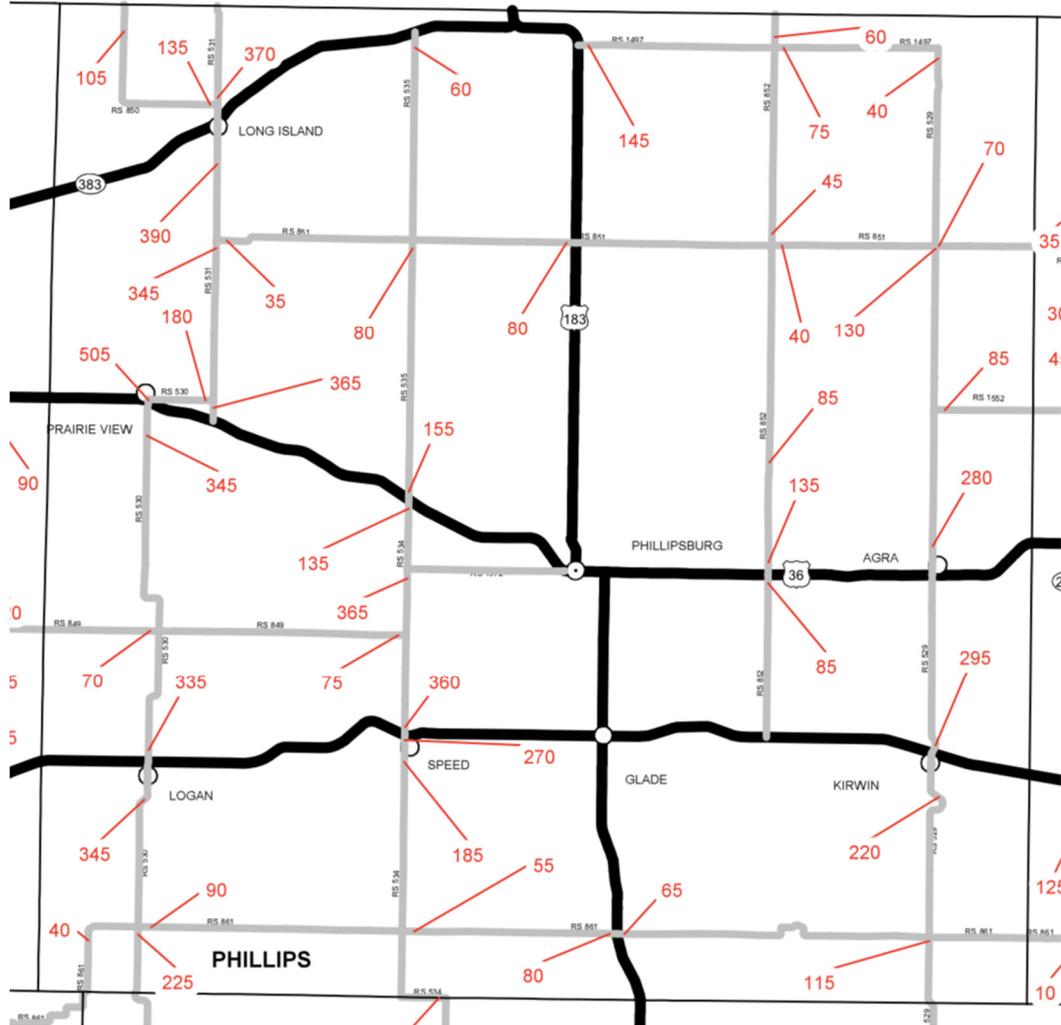
The following maps provide a picture of the extent of the roads and highways in Phillips County and the volume of vehicles using these roads and highways.

Map 4: Phillips County Roads



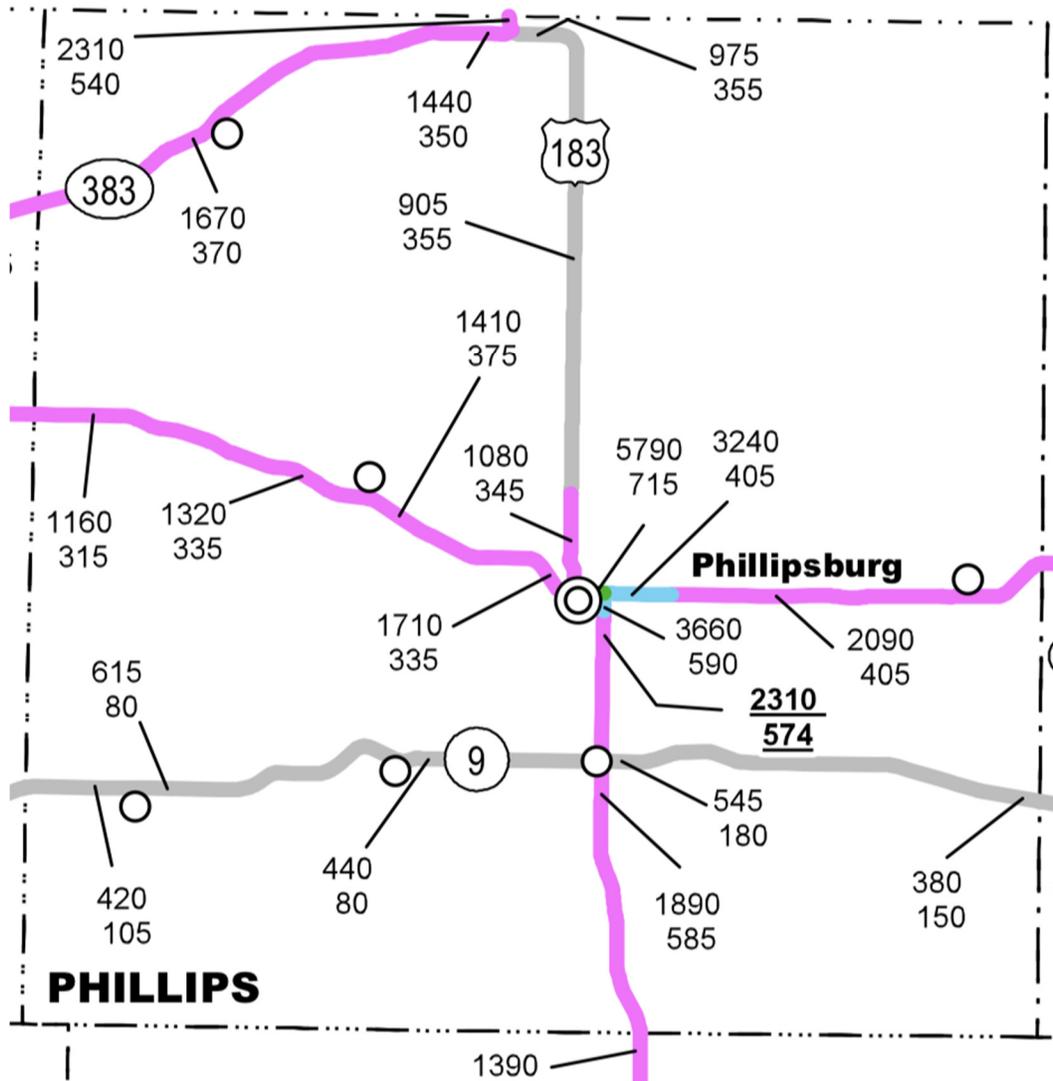
Map 4 shows the county, state, and federal roads and highways in Phillips County. They are color-coded by functional type of road.

## Map 5: Phillips County Collector Roads, Traffic Counts



Map 5 shows the Annual Average Daily Traffic (AADT) for Phillips County “collector” roads. This provides an objective measure of how busy the various “collector” roads are in Phillips County.

Map 6: Phillips County State and Federal Highways, Annual Average Daily Traffic



Map 6 shows the AADT counts for the state and federal highways in Phillips County. In each pair of numbers the top number is the total vehicle count and the bottom number is for heavy commercial vehicles. The bold and underlined counter is a continuous counter, the others are all short term counters.

The Kirwin Reservoir and the Kirwin National Wildlife Refuge attract hunters, fishers, boaters, and nature lovers to Phillips County. Although an

exact count of these people is not available, the Facebook page for the Kirwin National Wildlife Refuge has more than 1,500 followers.

Despite the decline in resident population within Phillips County the traffic count maps show that there are many people who visit or travel through the county. The area served by these three offices is still approximately 30 miles by 30 miles. All these people, residents and visitors, may have need of the services provided by these offices.

## Methodology

For this study we assume that the scope of services and the service areas for the Health Department, EMS, and Emergency Management Office are not changing. What is changing is simply their locations. Instead of three different old buildings each with particular limitations, a single new building will house all three of them. So, what changes, and what does not change? The method that we used looks at the existing activities and considers how they are likely to change when a single facility is used.

In conversations with Pete Rogers, Genny Robben-Rahjes, Lisa Capps, and Deb Hays it was clear that they all see increased administrative efficiencies as a result of a single facility. For instance, there are often occasions when two or more of them will meet to discuss an issue. Although each trip between offices is relatively short in both time and distance, it does not take many trips to add up to a significant amount of time. And, of course, each person must bring with them all that they think is relevant to the purpose of the meeting.

All three offices have robust education/training programs. These require, among other things, a suitable classroom and materials for the participants. The classroom(s) is an issue to work out with the architect. However, the current classroom at the EMS facility is also used for storage, and the Emergency Management Office must pay for the use of the classroom in the Fischer Building. Additionally, a single facility would allow for a single copy machine at a lower cost than three separate copy machines. Again,

the point is that the single building encourages both cooperation and increased efficiency.

The cooperation and efficiency of office functions may well extend to telecommunications and internet services. It is still very early in the planning process; however, everything that is currently purchased individually for each office should be considered for purchase just once rather than three times.

In addition to increased efficiency of administration and processes, a single facility will reduce the utility costs for all three offices. The current buildings are old and not energy efficient. The current standards used by architects and by heating and cooling engineers will reduce energy consumption by a significant amount. Utility costs and rent are treated as a single item because in one case utility costs are included in the rent and in another utility costs are in place of rent. The Health Department incurs both rent and utility costs.

## Analysis

There are linear forecasts, based on a five year moving average, of the revenues and expenditures for the Health Department and the EMS in the appendix. If the efficiencies in operations allow for more services, then the revenues from those services should increase. The potential amount of increase is not known.

Potential increases in efficiency are likely to come from increases in staff and administrative effectiveness at a single location. Additionally, centralization provides an opportunity for sharing of resources and for cross training of staff. The present staffing levels indicate a very “shallow bench” should a need arise for someone to fill in for another person.

The delivery of educational services to the public, volunteers, and staff will be enhanced by having one or more classrooms properly sized for the groups that will be participating. The design and configuration of this space will be determined through discussions that have not been completed. The proposed new location on US Highway 183 should be convenient for clients and others who need to use these three offices. Off-site screenings and clinics will be unaffected by this change in location.

Table 2: Current Annual Occupancy Expenses

Category	Health Department	EMS	Emergency Management	Total
Rent/Utilities	\$16,000	\$12,600	\$13,000	\$41,600
Communications	\$9,750	\$10,200	\$9,000	\$28,950

Table 2 shows the major occupancy expenses for each office. Other expenses, such as, office equipment and refrigeration/stand-by generators, are duplicated among the offices and can probably be reduced by moving to a single location.

**Table 3: Projected Annual Occupancy Expenses**

Category	Health Department	EMS	Emergency Management	Total
Rent/Utilities	\$10,600	\$6,800	\$4,600	\$22,000
Communications	\$6,490	\$6,790	\$6,000	\$19,280

Table 3 shows that the projected rent/utilities is 53 percent of the current annual occupancy expenses. Communications expenses are projected to decline by one third with the consolidation to a single building.

**Table 4: Decrease in Total Energy**

Year	1979	2012
Decrease in total energy (1,000 btu/sf)	114	80

Source: U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS) 2012

Table 4 shows the decrease in total energy use for all commercial buildings from 1979 to 2012. The annual percentage decrease is slightly less than 1 percent (0.92%). Table 5 shows how this decrease would affect utility costs by moving from three old buildings to one new energy efficient building.

**Table 5: Expected Energy Use Decrease in Proposed Facility**

Building Used By	Building Age (years)	Expected Decrease (percentage)
EMS	50	46.1%
Health Department Emergency Management	70	64.6%

Table 6 shows that smaller buildings tend to be less energy effective. The volume of a building increases more rapidly, in most cases, than the size of the exterior. Energy consumption in 2012 for the West North Central U.S. is 70.41 (1,000 btu/sf) for all commercial buildings.

**Table 6: Annual Energy Consumption by Building Size**

Building Floorspace (sf)	Energy Consumed (1,000 btu/sf)
1,000 to 5,000	89.91
5,001 to 10,000	72.58
10,001 to 25,000	62.11

Source: U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS) 2012

## Results

The study finds that occupancy costs are likely to decrease annually by \$19,600 for utilities and \$9,670 for communications with a single energy efficient location for all three offices. The total expected decrease is \$29,270 per year or \$100,000 every 3 years and 5 months.

Additional reductions in occupancy costs are likely through reductions in the duplication of office equipment, such as copiers and printers.

Occupancy costs are also likely to be less through less duplication of specialized things like refrigeration equipment and stand-by generators.

Finally, increases in productivity are likely through improved communications, a more efficient workflow, and increased collaboration among the Health Department, EMS, and Emergency Management offices.

## Appendix

Table A1: Projected Revenue and Expenditures, Health Department

	2020	2021	2022
<b>Revenue</b>			
Ad Valorem Tax	\$ 230,174	\$ 245,147	\$ 281,455
Delinquent Tax	\$ 367	\$ 88	\$ 20
Motor Vehicle Tax	\$ 10,132	\$ 11,133	\$ 11,688
Recreational Vehicle Tax	\$ 271	\$ 280	\$ 291
16/20 M Vehicle Tax	\$ 3,277	\$ 3,707	\$ 4,249
Commercial Vehicle Tax	\$ 1,364	\$ 1,454	\$ 1,597
Watercraft Tax	\$ 111	\$ 131	\$ 151
Charges for Services	\$ 154,505	\$ 153,777	\$ 151,594
Charges for Contracts	\$ 6,133	\$ 6,684	\$ 4,751
Medicare/Medicaid/SRS	\$ 130,214	\$ 136,546	\$ 134,426
Donations	\$ 707	\$ 617	\$ 243
Reimbursed Expense	\$ 38,926	\$ 36,152	\$ 33,837
<b>TOTAL REVENUE</b>	<b>\$ 576,180</b>	<b>\$ 595,715</b>	<b>\$ 624,302</b>
<b>Expenditures</b>			
Personal Services	\$ 369,591	\$ 369,822	\$ 375,630
Contractual Services	\$ 126,055	\$ 125,782	\$ 132,410
Commodities	\$ 80,535	\$ 100,112	\$ 116,261
<b>TOTAL EXPENDITURES</b>	<b>\$ 576,181</b>	<b>\$ 595,715</b>	<b>\$ 624,302</b>

**Table A2: Projected Revenue and Expenditures, EMS**

	2020	2021	2022
<b>Revenue</b>			
Ad Valorem Tax	\$ 180,065	\$ 141,906	\$ 103,747
Delinquent Tax	\$ 70	\$ (2)	\$ (73)
Motor Vehicle Tax	\$ 8,719	\$ 8,881	\$ 9,043
Recreational Vehicle Tax	\$ 223	\$ 224	\$ 225
16/20 M Vehicle Tax	\$ 2,500	\$ 2,885	\$ 3,270
Commercial Vehicle Tax	\$ 1,056	\$ 1,129	\$ 1,202
Watercraft Tax	\$ 82	\$ 95	\$ 107
Charges for Services	\$ 271,980	\$ 246,696	\$ 221,412
<b>TOTAL REVENUE</b>	<b>\$ 464,693</b>	<b>\$ 401,813</b>	<b>\$ 338,933</b>
<b>Expenditures</b>			
Personal Services	\$ 343,573	\$ 334,282	\$ 324,990
Contractual Services	\$ 25,887	\$ 10,780	\$ (4,328)
Commodities	\$ 50,232	\$ 11,752	\$ (26,729)
Capital Outlay	\$ 30,000	\$ 30,000	\$ 30,000
Transfer to Ambulance Equipment		\$ 15,000	\$ 15,000
<b>TOTAL EXPENDITURES</b>	<b>\$ 449,693</b>	<b>\$ 401,813</b>	<b>\$ 338,933</b>

**Table A3: Projected Revenue and Expenditures, Emergency Management**

	2020	2021	2022
<b>Revenue</b>			
Emergency Management Budget	\$64,725	\$64,725	\$64,725
<b>TOTAL REVENUE</b>	<b>\$64,725</b>	<b>\$64,725</b>	<b>\$64,725</b>
<b>Expenditures</b>			
Personal Services	\$32,390	\$32,390	\$32,390
Contractual Services	\$21,150	\$21,150	\$21,150
Commodities	\$2,000	\$2,000	\$2,000
Capital Outlay	\$1,600	\$1,600	\$1,600
<b>TOTAL EXPENDITURES</b>	<b>\$57,140</b>	<b>\$57,140</b>	<b>\$57,140</b>

The emergency management budget is within the county general budget and remains fixed for several years at a time. Expenditures may not exceed the budgeted amount.

**Table A4: Average Utility Costs, Building Use**

	Commercial Buildings	Public Safety	Office	Outpatient	Education
Average Cost/sf	\$2.10	\$1.80	\$1.65	\$1.75	\$1.25

Source: U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS) 2012

Table A4 shows the range of average annual utility costs by the type of use of the building for selected building uses similar to the proposed building.