

Revisiting Low Income Residential Construction Options in Spokane

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1 Abstract

Affordable housing plays an important role in providing equal opportunity for individuals within most communities in the United States. In the area of eastern Washington State, in particular, there is currently a dearth of affordable housing options; especially for larger families. This lack of three- and four- bedroom residences presents a challenge for the City of Spokane, and the low-income residents seeking housing. This paper provides a preliminary look at certain alternate construction approaches for stand-alone houses with the end goal of optimizing taxpayer funding available, and to reduce living expenses for occupants. Two possible alternative approaches [structural insulated panels (SIPs) and straw bale wall construction] are compared to traditional wood frame construction; all in terms of cost and structural performance. Alternate foundation options are also currently under consideration. It appears that certain alternate construction techniques are worthy of a fresh look; particularly straw bale construction.

Keywords: Affordable Housing; Housing Materials; Straw Bale; SIP; Low Income Housing;

2 Introduction

Affordable housing is an important component of the “American Dream” by providing a basic need and strengthening communities. In 1908, President Theodore Roosevelt appointed the Housing Commission to investigate the need for affordable housing. From this, the Housing Act passed in 1937 with the goal to improve housing access for low income citizens. Despite these early efforts to improve the housing situations for the low-income population, millions of Americans still find themselves struggling to maintain suitable housing. With 33% of Americans considered as low income [80% below the area median income (AMI)], and 12.3% of Americans considered as extremely low income (30% of the AMI) [1], many communities

and municipalities appear to be exploring new ways of meeting funding needs for low income housing.

Recent United Way ALICE (Asset Limited, Income Constrained, Employed) reports [2] [3] indicate that the economic conditions surrounding affordable housing have generally remained unchanged in Washington State in the recent past (i.e., no significant improvement to date). The number of households in poverty has decreased from 13% to 11% from 2013 to 2016, while the number of ALICE households have increased during the same time period. However, the number of households above the ALICE threshold have decreased slightly as well indicating that there are still significant numbers of families, by definition, unable to adequately provide for themselves, or may be just above that threshold, putting these families in financial jeopardy if an emergency should arise (Fig. 1). The