Since its establishment in 1965, the New York City Landmarks Preservation Commission has defended and successfully designated as landmarks over 25,000 historic buildings throughout New York City. There still remains, however, the challenge of creating a compelling argument for the sustainable practice of retaining original double-hung wooden windows on historic residential buildings in New York City. Reasonable concerns such as energy efficiency, deterioration of materials, impaired counterbalance weight systems and the associated prohibitive cost of restoration have for decades countered the argument to restore original wooden windows. Compounding this issue are the thousands of New York City residential buildings, which have had their historic facades altered by the installation of contemporary aluminum replacement windows.

This thesis argues for the sustainable retention of original double-hung wood windows wherever feasible, and proposes an economically viable, environmentally sustainable and historically appropriate approach to restoring/retrofitting original double-hung wood window systems as an alternative to the installation of contemporary aluminum window replacement systems in historic New York City residential buildings. In order to defend this rather large and complicated argument, individual arguments are presented in each chapter including the significant technical development of the wooden sash window and counterbalance weight system, alternate methods for achieving energy efficiency, the historic significance of wood material derived from historic wooden sash, the significant contribution of historic double-hung window sash on New York City streetscapes, finally summarized with a proposal for addressing the management of contemporary aluminum replacement windows on historic New York City residential buildings. The aim of this work is to provide preservationists with alternate arguments to present to historic building owners in order to change the manner in which window restoration and replacement is perceived and conducted in New York City historic residential building.