

WHY IMPROVE AIR QUALITY IN ELEMENTARY CLASSROOMS?



EXISTING HORIZONTAL VENTILATION UNITS ARE **NOT ENERGY EFFICIENT**



EXISTING HORIZONTAL VENTILATION UNITS ARE NOT ENERGY EFFICIENT, ARE NOISY



EXISTING HORIZONTAL VENTILATION UNITS ARE NOT ENERGY EFFICIENT, ARE NOISY **AND OUTDATED**



DUE TO THEIR AGE, OUTDATED UNIT VENTS ARE DIFFICULT TO SERVICE AND MAINTAIN, RESULTING IN HIGHER OPERATING COSTS



EXISTING HORIZONTAL UNIT VENTS ALSO **DON'T PROVIDE ADEQUATE AIR EXCHANGE** RATES FOR TODAY'S CLASSROOMS



APPROPRIATE VENTILATION RATES FOR TODAY'S MODERN CLASSROOMS IS **THREE TIMES MORE** THAN THE EXISTING SYSTEMS PROVIDE



TO MAINTAIN SECURE CLASSROOMS, OPENING WINDOWS IS NOT A SAFE MEANS TO INCREASE AIR FLOW



HOW WILL AIR QUALITY BE IMPROVED?



REPLACE EXISTING UNIT HORIZONTAL VENTILATION UNITS WITH NEW VERTICAL UNITS THAT ARE **MORE ENERGY EFFICIENT**



REPLACE EXISTING UNIT HORIZONTAL VENTILATION UNITS WITH NEW VERTICAL UNITS THAT ARE MORE ENERGY EFFICIENT, **QUIETER**



REPLACE EXISTING UNIT HORIZONTAL VENTILATION UNITS WITH NEW VERTICAL UNITS THAT ARE MORE ENERGY EFFICIENT, QUIETER, WITH **A MORE CONTROLLED TEMPERATURE FOR THE ENTIRE CLASSROOM**



VERTICAL UNITS, AS WELL AS ADDITIONAL DUCTWORK, PROVIDE MORE UNIFORM HEATING DURING THE COLDER MONTHS AND COOLING DURING THE WARMER MONTHS



THEY WILL ALSO **INCREASE FRESH AIR EXCHANGES** IN THE CLASSROOMS **BY 300%**



REMOTELY PROGRAMMED TEMPERATURE CONTROLS WILL **REDUCE OPERATING COSTS** BY REDUCING THE AIR EXCHANGES WHEN THE ROOM IS UNOCCUPIED



WHAT'S THE IMPACT OF AIR QUALITY ON STUDENT LEARNING?



INCREASED FRESH AIR EXCHANGES HELP MOVE TOWARD A MORE PRODUCTIVE, REDUCED-ALLERGEN CLASSROOM FOR STUDENTS



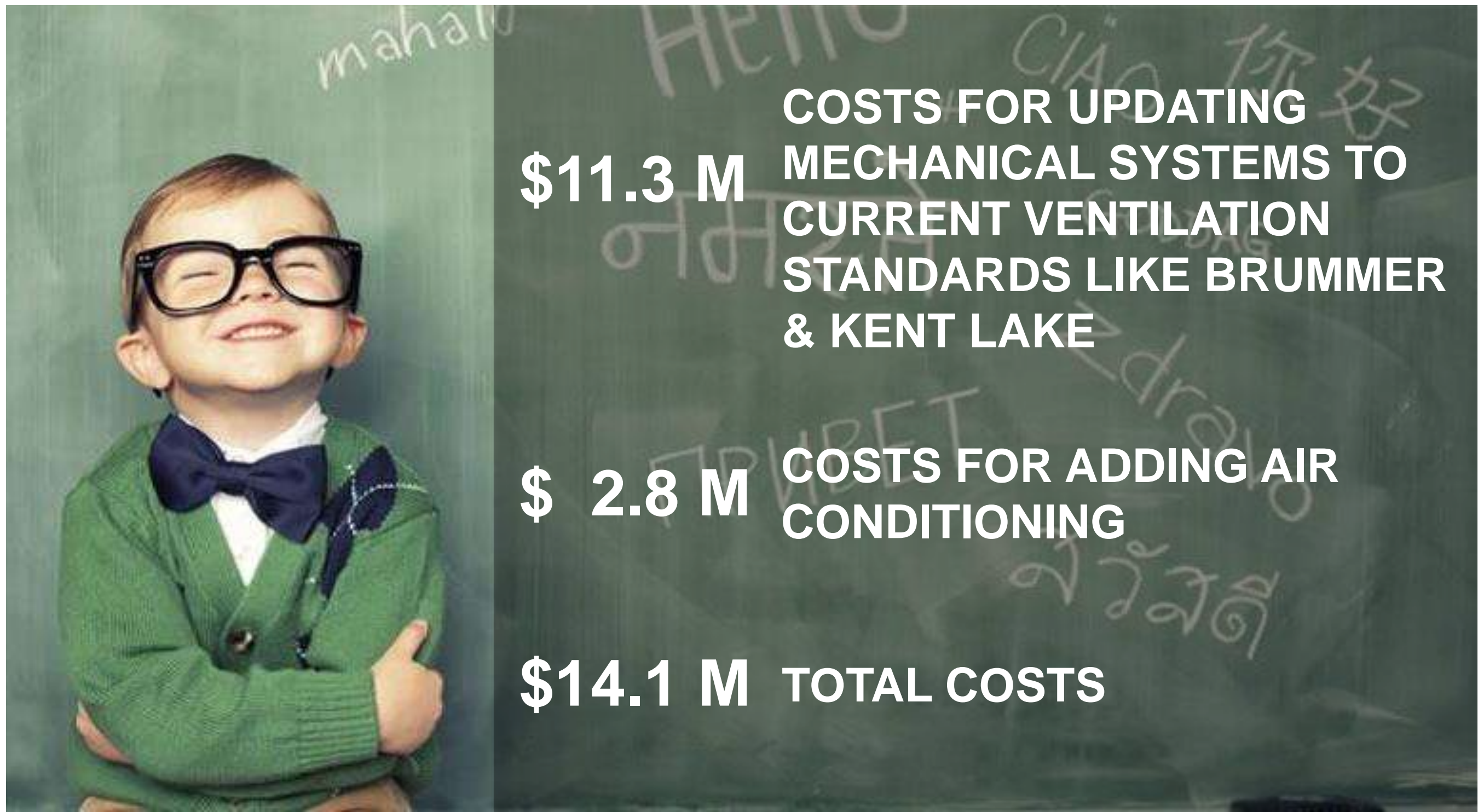
THEY ARE MUCH QUIETER THAN THE OLDER SYSTEMS



COMFORTABLE STUDENTS & TEACHERS = BETTER LEARNERS

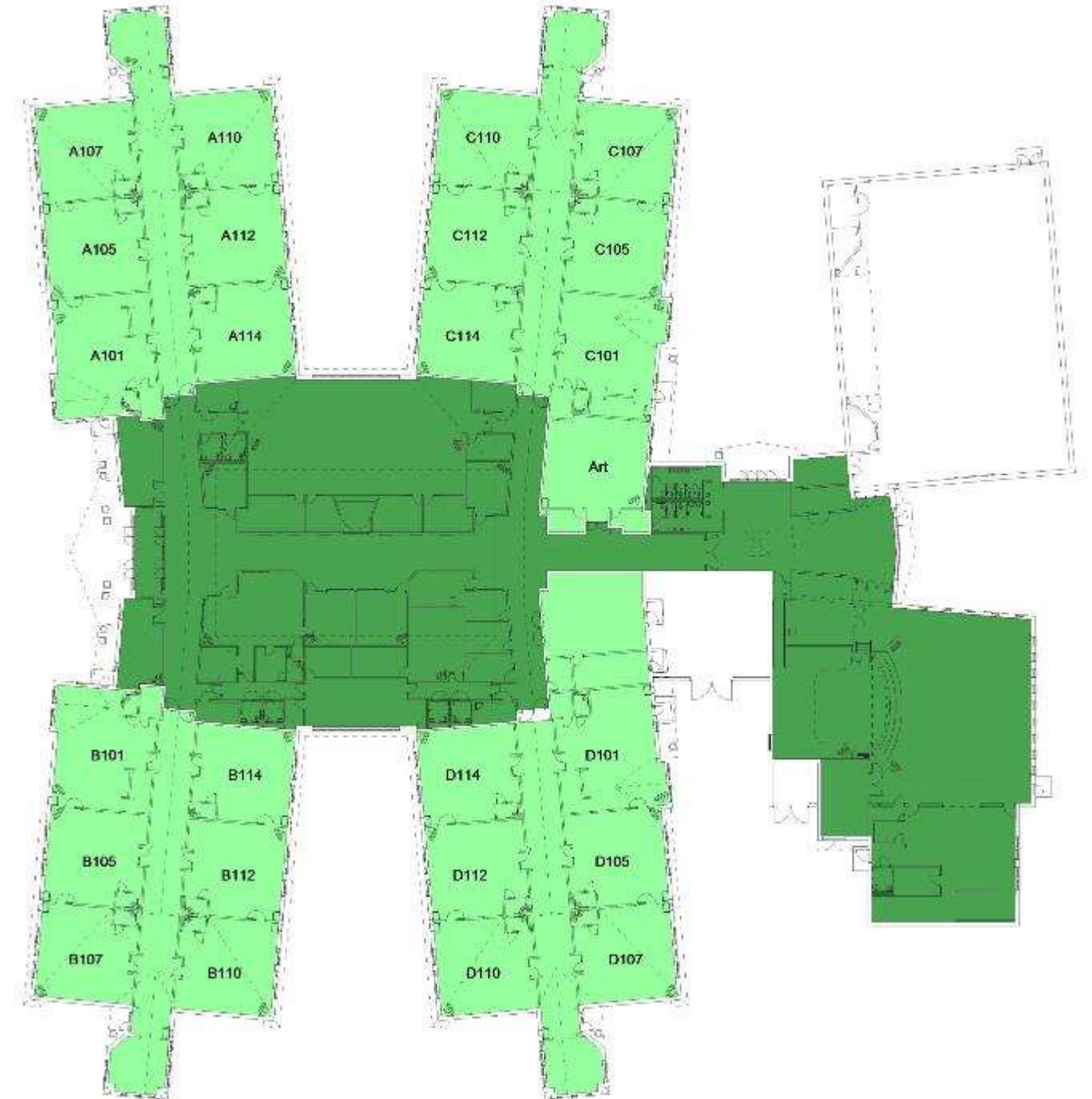
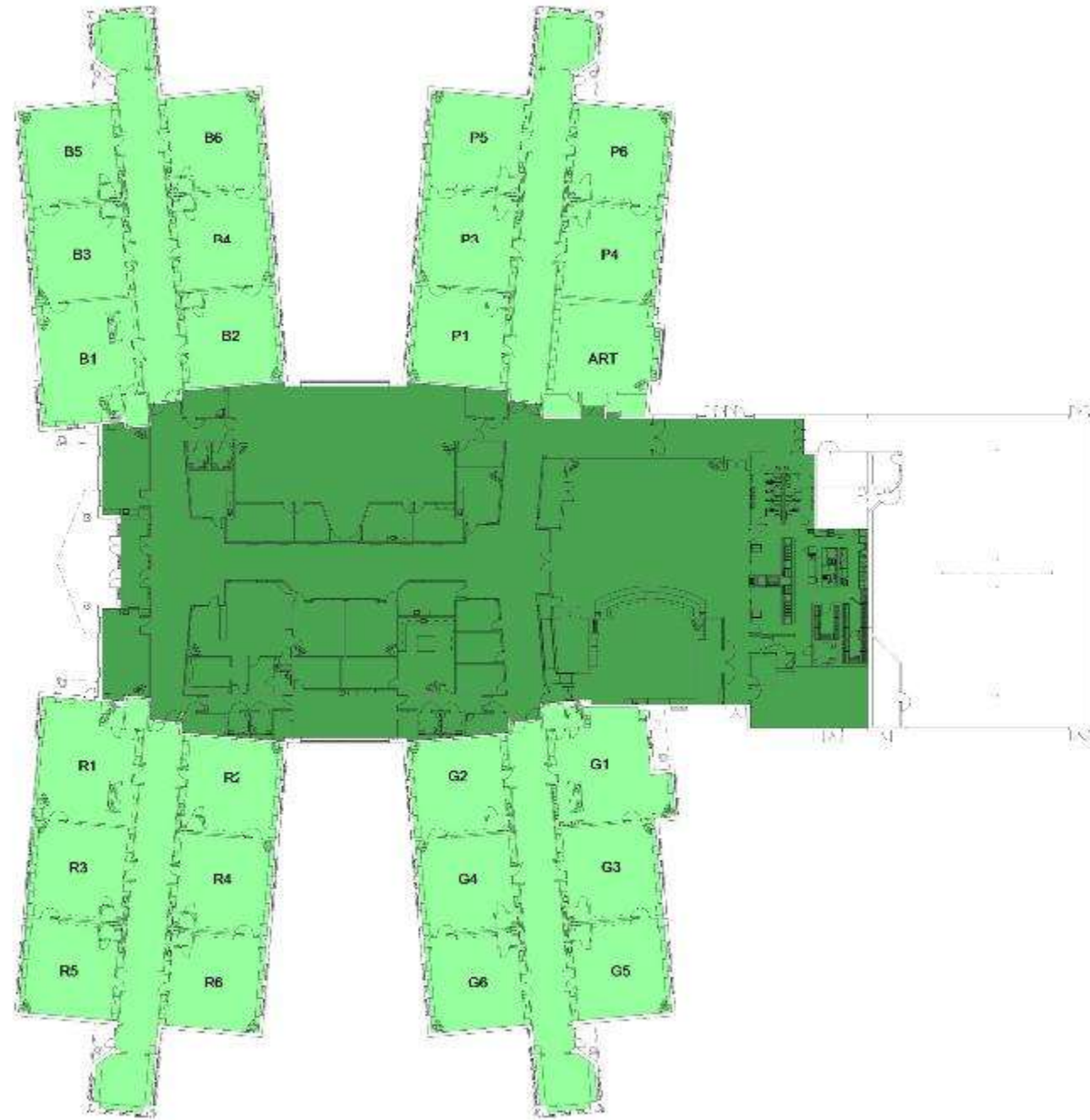



HOW MUCH OF THE COSTS FOR ELEMENTARY SCHOOL AIR-QUALITY IS RELATED TO ADDING AIR CONDITIONING?



BRUMMER ELEMENTARY

KENT LAKE ELEMENTARY



 EXISTING AREA WHERE AIR QUALITY IMPROVEMENTS ARE NOT REQUIRED


 PROPOSED AREA TO RECEIVE IMPROVED AIR QUALITY

PROPOSED AIR QUALITY SCOPE PLANS

BARTLETT ELEMENTARY

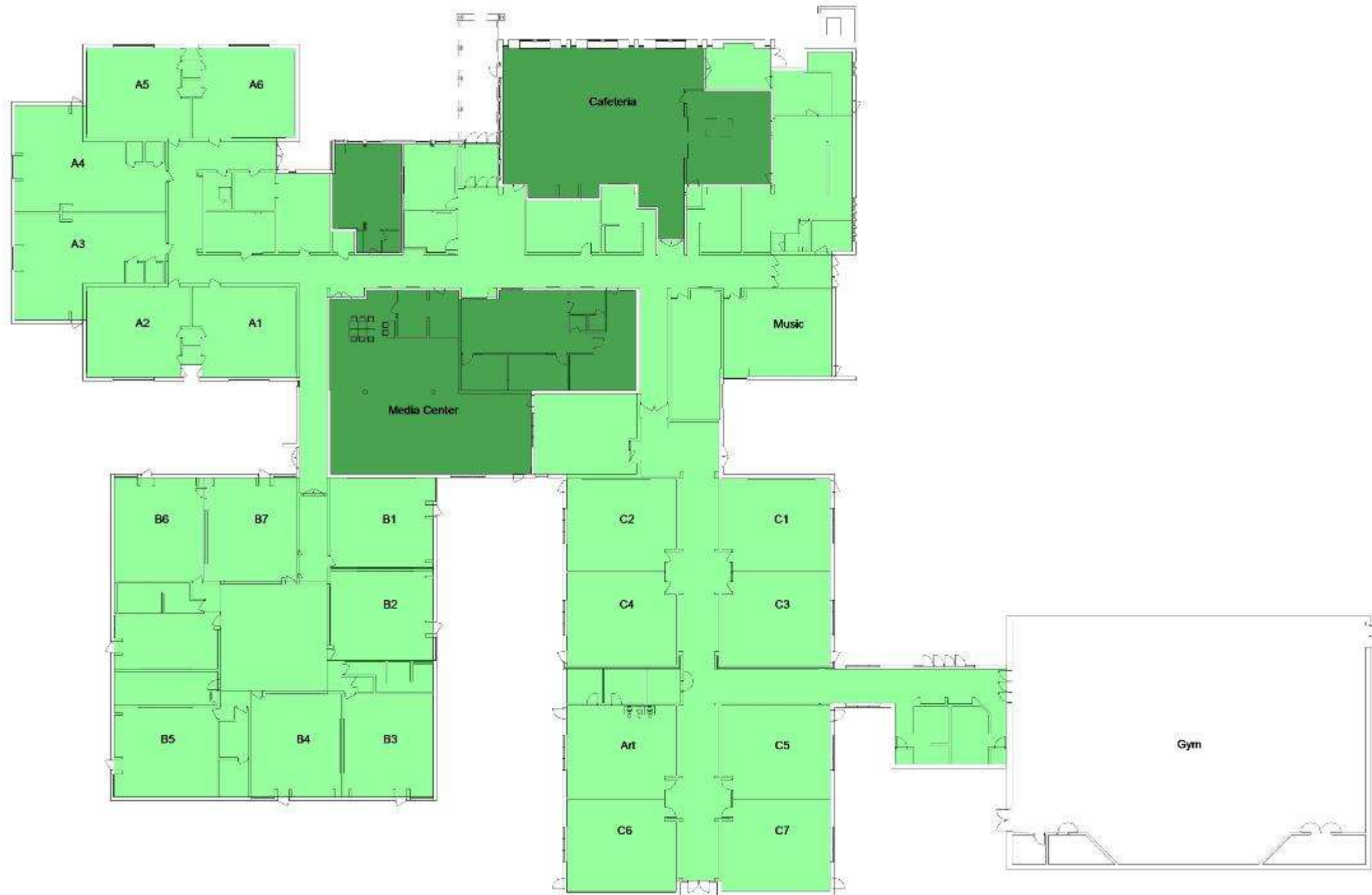
DOLSEN ELEMENTARY




 EXISTING AREA WHERE AIR QUALITY IMPROVEMENTS ARE NOT REQUIRED

 PROPOSED AREA TO RECEIVE IMPROVED AIR QUALITY

PROPOSED AIR QUALITY SCOPE PLANS




 EXISTING AREA WHERE AIR QUALITY IMPROVEMENTS ARE NOT REQUIRED

 PROPOSED AREA TO RECEIVE IMPROVED AIR QUALITY

PROPOSED AIR QUALITY SCOPE PLANS

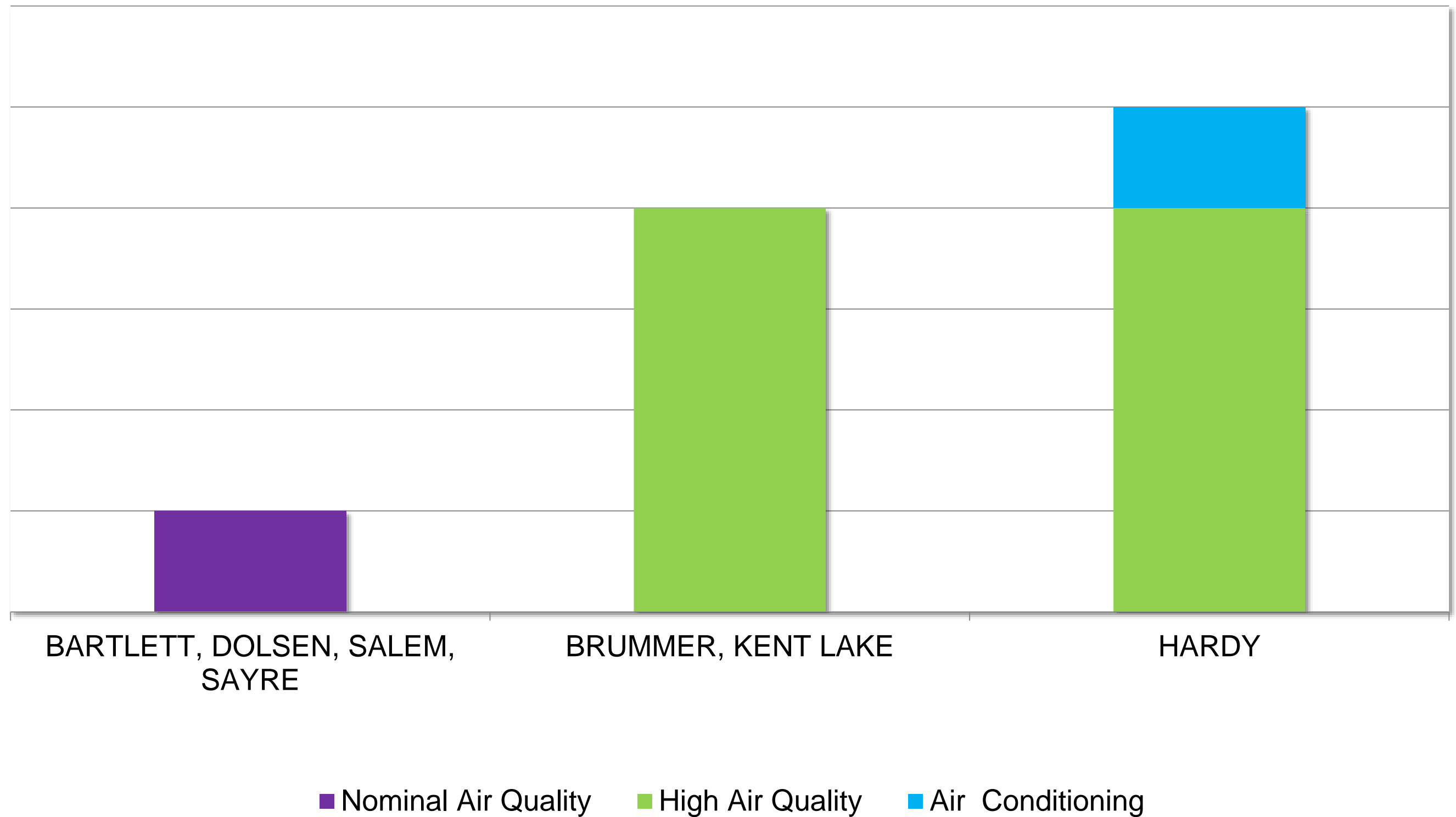


 EXISTING AREA WHERE AIR QUALITY IMPROVEMENTS ARE NOT REQUIRED

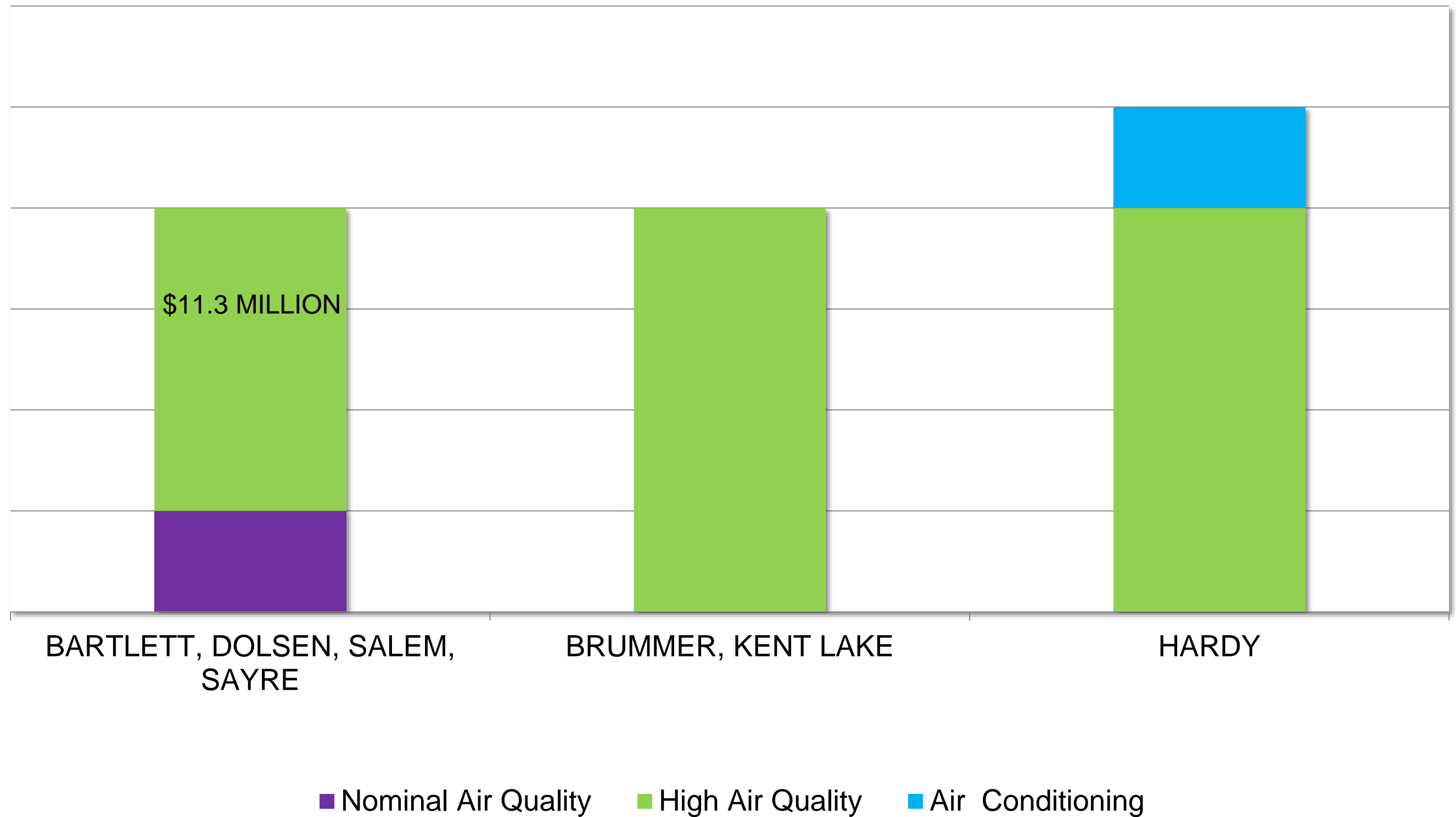
 PROPOSED AREA TO RECEIVE IMPROVED AIR QUALITY

PROPOSED AIR QUALITY SCOPE PLANS

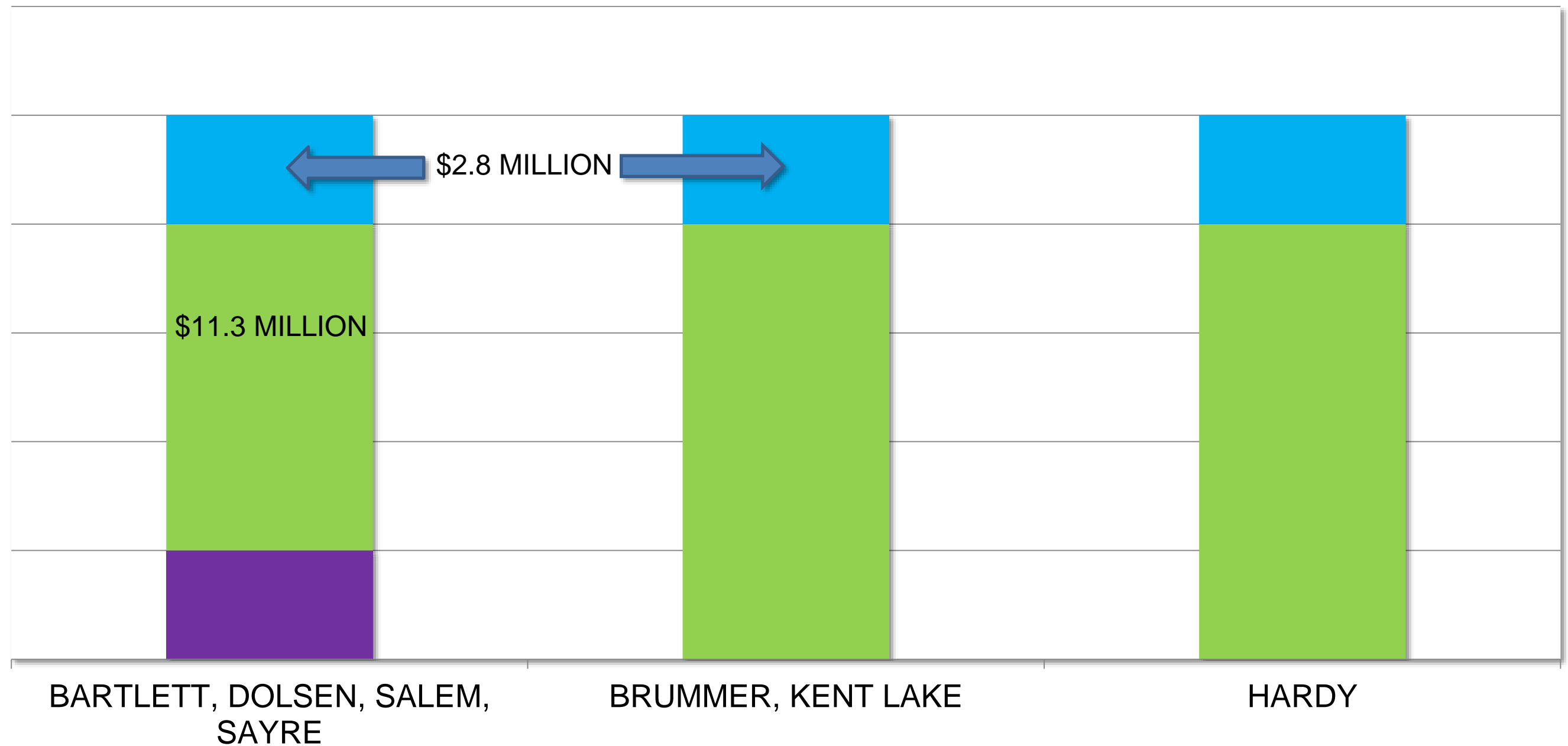
ELEMENTARY AIR QUALITY: CURRENT STATE



ELEMENTARY AIR QUALITY: GOAL 1 – AIR QUALITY IMPROVEMENT



ELEMENTARY AIR QUALITY: GOAL 2 – ADD AIR CONDITIONING



■ Nominal Air Quality ■ High Air Quality ■ Air Conditioning