



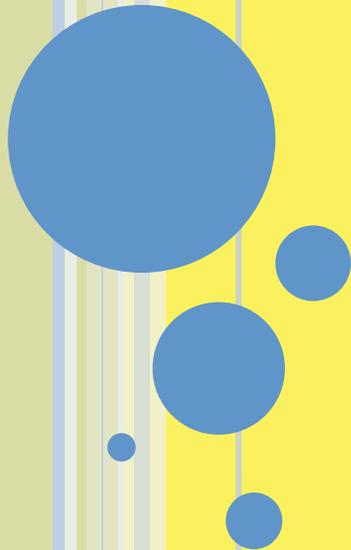
**MATHEMATICAL MODELING AT  
SHREWSBURY HIGH SCHOOL**

# WHAT IS THE MATHEMATICAL MODELING COURSE?

- HONORS-LEVEL COURSE FOR UPPERCLASSMEN
- REAL-WORLD PROBLEMS FROM VARIOUS DISCIPLINES...
  - APPLIED, CRITICAL THINKING & PROBLEM SOLVING
  - USE THE MATH FROM PRIOR COURSES & NEW MATH
  - SOLVED COLLABORATIVELY
  - WITH TECHNOLOGY

# HOW IS THE MODELING COURSE DIFFERENT?

- MOST MATH COURSES ARE ABOUT TEACHING NEW MATH
- REAL-WORLD PROBLEMS
  - NO ROADMAP TO THE SOLUTION
  - NO RIGHT ANSWER
  - COMMUNICATE RESULTS



# **HIMCM MODELING CONTEST**

- **36-HOUR MODELING COMPETITION**
- **TEAMS OF 4 STUDENTS EACH**
- **THIS YEAR – DETERMINE THE RELATIVE SAFETY OF A CITY BASED ON CRIME STATISTICS FOR THAT CITY.**

## **SOLVING THE PROBLEM...**

- **ANALYZE 11,162 ROWS OF DATA**
- **RESEARCH CRIME INFORMATION**
- **RESEARCH CRIME DATA FOR OTHER CITIES**
- **CREATE OUR METRICS FOR COMPARISON**
- **WRITE-UP THE SOLUTION**
  - **FOR THE JUDGES: TECHNICAL**
  - **FOR THE MAYOR: NON-TECHNICAL**