# APS145
# Applied Problem Solving
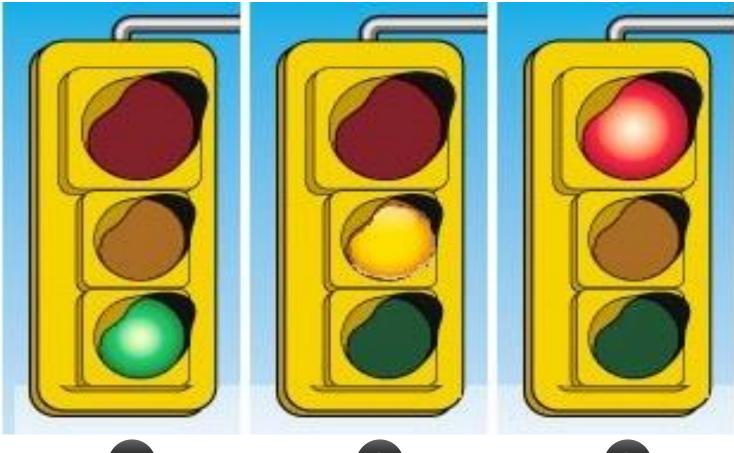
## Workshop #3

# Traffic Lights: Standard 3-Lights and 3-States

- **Three (3) states**:
  1. Green [**60 sec.**]
  2. Yellow/Amber [**10 sec.**]
  3. Red [ **? sec. ?** ]

- Each state has a **timed interval**

- Consider an "**interrupt**"
  – Traffic controllers can override:
    - Flash all amber (yield/caution)
    - Flash all red (4-way stop) etc…
  – After the interrupt, the entire system either **turns off** or **resets**

**Start Process on a <u>Green Light</u>**



①  ②  ③

# Traffic Lights: 4-Lights with 5-States

- **Five (5) states**:
  1. Solid Green + Adv. Left (Green) [**15 sec.**]
  2. Solid Green + Adv. Left (Amber) [**5 sec.**]
  3. Solid Green only [**40 sec.**]
  4. Solid Amber only [**10 sec.**]
  5. Solid Red only [ *? sec. ?* ]

- Each state has a **timed interval**

- **Sensor**:  When 6 cars are waiting (applies to <u>RED</u> light only):
  - **Reduces wait time to 25 seconds**

- Pedestrian **Request To Walk Button** (applies to <u>Red</u> light only):
  - **Reduces wait time to 25 seconds**

- Consider an "**interrupt**" (**Don't define the <u>details</u> to this though**)
  - Example types of interrupts: Traffic controllers can override the lights to…
    - Flash all amber (yield/caution)
    - Flash all red (4-way stop) etc…
  - After the interrupt, the entire system either **turns off** or **resets**

## Start Process on an <u>Adv.Green Light</u>