Data Visualizations for 25 Sample Runs (Indexes start at 1)

A graph of different colored lines

Description automatically generated with medium confidence

Gray bars represent runs where dynamically placed obstacles did not result in collisions with the path originally found by IRRT\*, which means Bug2 was not used. Purple bars represent the opposite, meaning Bug2 was used starting at the obstacle colliding with the original path, and completed the path by attempting to travel to the goal. Path lengths of 0 here mean a complete path to the goal could not be found given the default parameters of the program.

**Path Visualizations for 25 Sample Runs**

A collage of images of circles and lines

Description automatically generated

The red lines represent the original path found by IRRT\*, the black circles are the initial obstacles, and the blue circles are new dynamic obstacles found after IRRT\* builds the initial path. The purple lines represent the modifications made by Bug2 to the original paths to directly reach the goal. The purple line will only exist on path visualizations where the original path conflicts with the new dynamic obstacles. The empty visualizations represent runs where IRRT\* was not able to find an initial path, hence nothing was plotted. The circle obstacles in the path plots are not completely accurate in representing collisions as they have been rescaled by matplotlib for the purposes of visibility.