**Project Description**

A recent surge in civil resistance, or strategic non-violence, has shown the power of large-scale protests to challenge legitimacy of governments and catalyze political change. On February 11, 2011, Egyptian President Hosni Mubarak stepped down from power after three decades of rule. His resignation was a result of widespread protests which included the occupation of Tahrir Square.

Many previous efforts to occupy the square had failed. The Egyptian police were expert at breaking up groups of protesters. “We had to find a way to prevent security from making their cordon and stopping us,” said 41-year-old Basem Kamel. Basem and approximately a dozen other protest organizers spent two weeks strategizing, planning a strategic approach to Tahrir Square.

This project builds upon techniques used in the Egyptian protest and examines how GIS tools can be used to identify strategic gathering points and protest routes based on spatial tools can be used to identify strategic gathering points and protest routes.

This project builds upon techniques used in other protest organizers. The analysis started by identifying three critical elements for a successful protest: 1) gathering points where demonstrators initiate protests; 2) two types of routes — major streets that accommodate large groups that are more difficult to disperse; and 3) convergence points where smaller groups of protesters merge to increase strength in order to approach the destination.

Publicly available data was used to the extent possible to simulate the resources available to protest organizers. Each of the three strategic elements were assigned criteria based on the strategy employed in Egypt.

**Methodology**

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**Translation of Protest Pamphlet**

1. Gather with your family and friends
2. Meet on any major street in Cairo
3. In or buffering open space to allow for large group movement

**Results**

The results of this project demonstrate that GIS tools can be used for plotting strategic routes for protest using criteria that can change based on the unique geographic environment.

In Cairo, the optimal gathering points, strategic routes and convergence points are not always located in an obvious path (i.e. optimal mosques located in areas with low road density or convergence points without gathering points in the close proximity). The map does, however, provide protest organizers with some basic instruction on where to start, what direction to head and where to converge for the final approach.

**Limitations**

Procuring data presents the biggest challenge for using GIS to identify strategic protest routes for civil resistance. In this analysis, for instance, a complete listing of mosques or police stations was not available. Population was not available at the desired scale — road density had to be used as a proxy. Open space and road data that could be analyzed as a network had to be acquired from private sources at cost.