In this talk, we will present our new results on variational analysis of directional minimal time functions that specify the minimal time for a vector to reach an object following its given direction. We will provide a careful analysis of general and generalized differentiation properties of this class of functions. The analysis allows us to study a new model of facility location that involves sets.

(This talk is based on joint work with C. Zalinescu) (Received September 21, 2012)