



TACTICAL

C O N C E P T S

By Sid Heal

PLANNING AND INTELLIGENCE (TERRAIN ANALYSIS)

The study of terrain and the effects it has on tactical operations has been known and described since at least 500 B.C. when a Chinese military strategist by the name of Sun Tzu first described it in a treatise called, “The Art of War.”¹ Because some types of terrain may hinder or help the movement of persons across it, a prediction of their movements is possible. In operations attempting to resolve problems resulting from natural disasters, such as fires and floods, terrain also plays a critical role. For example, fires burn better uphill and waterways are barriers while floods are entirely terrain dependent.

One of the best ways to determine the impact terrain will have on your operation is to conduct a terrain analysis. A terrain analysis refers to the process by which critical terrain features are identified and evaluated for their impact on a tactical operation. The most common method involves a five-step process identified by the acronym KOCO.A.² This stands for:

Key terrain features

Observation and fields of fire

Cover and concealment

Obstacles

Avenues of approach and escape

KEY TERRAIN FEATURES

A key terrain feature is any locality or area, the control of which affords a marked advantage to either the suspect or police. More simply stated, a key terrain feature may be used to

deprive a suspect of his ability to move or escape or assist tactical team members in moving, observing or by protecting them in some manner. Key terrain features can be natural or man-made. Thus, conducting a terrain analysis is just as appropriate in the urban environment as the rural. While not as common, a terrain analysis can also be useful for large buildings, such as shopping malls and custodial facilities. It is important to understand that key terrain features need not be occupied to be controlled. It suffices that you are appropriately exploiting the terrain. For instance, you may not be able to occupy a part of a building but you may deprive a suspect of it by creating barricades, blocking doors or using tear gas. Likewise, a terrain feature that allows a suspect to observe may be obscured with smoke.

Some terrain is so critical that the success of an operation may hinge on who controls it. This is a special kind of key terrain called “commanding terrain.” Commanding terrain is any terrain that offers a decisive advantage. Perhaps one of the best known examples is the tower at the University of Texas occupied by Charles Whitman when he killed 15 people and wounded 31 others. In order to defeat Whitman, the police were required to seize the tower.³ While many people think of key terrain as being the “high ground” this is not always the case. Terrain is only important to the degree that it provides some sort of advantage.

OBSERVATION AND FIELDS OF FIRE

Observation is simply the ability to see. It provides intelligence for better and more complete planning and may inhibit a suspect’s movements by revealing his attempt to evade

other components of the operation. A “field of fire” refers to the area that a weapon can cover effectively from a given position. Vegetation and the contour of terrain greatly affect both observation and fields of fire and for this reason they are considered simultaneously in terrain analysis.

A related but quite different requirement of weapons employment is a sector of fire. A sector of fire describes an assignment rather than the capabilities of a weapon and where it is deployed. It is absolutely imperative that sectors of fire be considered in the deployment of personnel to avoid creating crossfires or injuring innocent bystanders.

COVER AND CONCEALMENT

Cover is defined as anything that protects against fire and the affects of fire. Simply put, it means that whatever it is you are hiding behind must not only stop the suspect’s bullets but must not harm you from related problems. For example, if you hide behind a propane tank, what difference does it make whether you are killed from the suspect’s bullets or the ensuing explosion? Granted, the tank may stop the bullets but are you in any less perilous situation?

Concealment prevents the suspect from observing your movements (or you from observing the movements of a suspect) but will not prevent injury from the suspect’s bullets. Concealment may be provided by woods, underbrush, tall grass, fences or darkness. Some types of concealment, such as darkness, are temporary. For this reason it is important to understand that an operation lasting into the night or from the night into day will require at least two different deployment plans.

OBSTACLES

An obstacle is any object that stops, impedes or diverts the movement of either yourself or the suspect. The operation commander who recognizes the significance of obstacles can exploit them to great advantage

and thus more effectively utilize his personnel and predict a suspect's movements. Examples of obstacles often encountered in police operations are fences (particularly when topped with razor ribbon), walls, flood control channels and the like.

Some obstacles are so formidable as to prevent movement. These obstacles are called "barriers." Barriers are especially critical in the urban environment because of the nature of terrain. A 50-foot cliff in a rural environment may be a formidable obstacle but can usually be traversed. A two-story wall in an urban area, however, is usually a barrier and must be circumvented.

AVENUES OF APPROACH AND ESCAPE

An avenue of approach is simply a route by which you or a component of your operation can reach an objective. An avenue of escape is simply a route by which a suspect can evade your attempts to capture him. A good avenue of approach supports the movement of personnel while providing cover and concealment. Avenues must also be broad enough to permit necessary maneuver and bypassing any obstacles. Too narrow an avenue and a tactical team may become constricted and canalized. This makes mutually supporting actions difficult and inhibits the ability to take advantage of available cover and concealment.

Terrain analysis is fundamental to any tactical operation planning. The commander who understands the influence and appropriately exploits key terrain gains a substantial advantage over one who does not. ■

ENDNOTES

1. "Ground equally advantageous for the enemy or me to occupy is key ground." Sun Tzu, *The Art Of War*, Translated by Samuel B. Griffith, Oxford University Press, New York, 1982, p. 130
2. KOCO A is the military acronym. Some law enforcement texts use COCOA which substitutes the term "Critical terrain features" for "Key terrain features."
3. Widely known as the "Texas Tower Incident," Charles Whitman occupied the tower for 99 minutes and was only defeated when police stormed the tower and killed him. This incident is largely credited as the impetus for the formation of SWAT teams.

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