Obstacle Integration
A Matter of Intent

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Throughout the Army, we continue to improve our ability to fight as a combined arms team. The integration of the mobility, countermobility, survivability operating system, however, remains below the mark. And nowhere is this more true than at battalion task force level.

Task forces continue to have difficulty integrating obstacles to support their defensive schemes of maneuver. Their obstacle plans are often developed piecemeal and without a thorough appreciation for the enemy's maneuver options within a sector. The engineer often develops his obstacle plan in isolation from the task force's maneuver planning process. And, since he lacks proper planning guidance from the commander or the S-3, his plans fail to synchronize the effects of the obstacles with the task force's fires and to focus on supporting the direct fire fight.

Company commanders are also issued the task force obstacle plan without a clearly defined link between obstacle effects and the direct fire fight. As a result, they often change the orientation, composition, or location of obstacles to better fit their idea of what their company needs without regard for the effect of the change on the task force's fight. These problems all stem from the lack of an established and clearly understood obstacle intent.

The success of a task force plan has always relied on actions at the company level; a task force commander synchronizes the company plans through his clearly understood intent and personal supervision. The same holds true for the obstacle plans generated at task force level. The task force commander is therefore responsible for establishing an obstacle intent. It provides continuity and unity of effort as the task force's obstacle plans are confirmed or adjusted by the company commanders and as the obstacles are integrated into the company's direct and indirect fire plans.

INTENT

When the tasks force's operations order is issued, the commander's maneuver intent is presented in the form of a stated scheme of maneuver, complete with direct fire control measures and maneuver graphics. The company commanders use these to position and orient their weapons so the direct fire effects achieved will be consistent with the task force commander's intent.

Likewise, the subordinate commanders are given the commander's fire support intent in the form of a stated scheme of fires (with a target list and overlay) that discusses the desired effects in terms of *suppress*, *neutralize*, or *destroy*. The company commander uses these to plan the execution of assigned fires as well as his own so the desired indirect fire effects can be achieved.

For the task force obstacle plan, however, a company commander is usually handed a target list and an overlay so he can sight in the obstacles and cover them with fires. Rarely is there any sort of discussion of the scheme of obstacle support to explain the effects the task force commander is trying to achieve with his tactical obstacles or the way these effects support the total task force fight.

The standard operations order (OPORD) paragraph titled "Obstacles, Mines, and Fortifications" is intended to describe the way the engineer's effort supports the task force fight. In practice, however, its sum content is usually "Engineer priority is to countermobility, survivability, and then mobility." This says nothing. And the company commander is never issued graphics that illustrate for him the way his fires and the obstacle effects combine to support the task force commander's intent.

The technique presented here will help task force commanders and their staffs plan obstacles to support a defense-in-sector mission. The focus of the technique is on the use of graphics to depict obstacle effects in developing an obstacle intent. These same graphics help the engineer develop an obstacle system design that is consistent with the overall intent.

Furthermore, the final product of this system, the scheme of obstacles overlay, gives the company commander graphics that illustrate both the obstacle plan and the obstacles' desired effects on enemy maneuver (the obstacle intent). This link between intent and plan is critical to the company commander's understanding of the way the obstacles will complement the direct fire fight. It also enables him to adjust obstacle locations, when the

need arises, in keeping with the task force commander's intent.

The Engineer School recently revitalized Field Manual 5-100, Engineer Combat Operations, and included some new doctrinal concepts and terms that a maneuver commander needs to understand.

Of particular importance is the manual's new treatment of obstacles within the framework of the defensive mobility, countermobility, and survivability operating system. Obstacles, in the traditional sense, are no longer purely in the category of countermobility. They are now subdivided into *tactical* and *protective* obstacles.

SUPPORTING

Although tactical obstacles have kept their place under the heading of countermobility, their focus is now more clearly defined as supporting the task force's direct fire fight. They are used to directly target enemy maneuver and "to support the tactical play by physically manipulating the enemy in a way that is critical to the commander's concept." Individual tactical obstacles and subsystems are designed to produce one of four specific effects on enemy maneuver: *Disrupt, turn, fix,* and *block.*

Protective obstacles, on the other hand, now fall under the category of survivability. By their nature, they have little effect upon enemy maneuver in a way that supports the task force's tactical fight. Their focus, rather, is on "providing a force [usually a company/team or smaller] with a combat edge during an enemy's final assault."

Protective obstacles are planned much like a unit's final protective fires (FPFs) and are certainly integrated into the FPFs. As with FPFs, a company commander is responsible for planning, siting, and emplacing his unit's protective obstacles. Although work assets and material resources may also be allocated for protective obstacles, tactical obstacles must be the primary focus of the engineer effort.

All members of the task force involved with the obstacle plan must understand the four functions of tactical obstacles and the effects they can expect to have on an enemy maneuver force:

Disrupt. These obstacles disrupt enemy march or pre-battle formations, break up timing, frustrate low level command and control, and try to exhaust the enemy's breaching assets early. They may be used to cut high speed routes and to strip wheeled support vehicles away from the main body. They are usually of small frontage, quick to emplace, easy to breach, and in sufficient depth to cause the necessary level of frustration.

Although these obstacles may or may not be covered by direct fire, they are always covered by observable indirect fire.

Turn. Turning obstacles move or manipulate an enemy formation to the task force's advantage. The turning effect is normally used in conjunction with a battle position's orientation. The key to a turning obstacle's effect is the degree of subtlety used to effect the turn. Thus, the obstacles should turn the enemy formation in small stages with easily detectable bypasses in the direction of the desired turn. Supporting fires should be used to complement the turn.

Turning obstacles must be tough to breach, and the fires must target any breach attempts to help protect the integrity of the obstacle.

Fix. Fixing obstacles slow the enemy within a specified area, with the aim of killing him by massed fires or by allowing friendly forces to disengage and reposition.

Fixing obstacles should be employed in enough depth to force the enemy to conduct repeated breaches throughout the range of the available supporting weapons. Fixing obstacles are most effective when used against deployed formations and therefore should not be used at the maximum range of the supporting weapons unless other weapons have already caused the attacker to deploy.

A fixing obstacle should not appear so hard to breach that the enemy diverts his forces elsewhere. Instead, it should allow him to continue his advance slowly until his attrition is complete.

Block. Although obstacles, by themselves, never completely block enemy maneuver forces, the combination of massed supporting fires and complex obstacles that are designed to defeat enemy breaching efforts can stop an attacker along a particular avenue of approach (or allow him to advance but only at an extremely high cost).

Blocking obstacles may be used to limit an enemy penetration or to set up a lucrative target area for a counterattack by fire. Blocking obstacles require a great deal of time and resources and by their nature must be tied in with restrictive terrain.

Nothing about the obstacle integration technique presented here is really new except for its total commitment to establishing an obstacle intent and its emphasis on developing both intent and plan within a framework of specific obstacle functions or effects. The intent then becomes the foundation for all engineer and maneuver coordination at both the task force and the company team levels. The intent must always be the focus, since it bonds the obstacle effort with the direct fire fight. It does use some unique graphics and a seven-step procedure to highlight obstacle planning considerations. In the end, an overlay is produced that illustrates both the obstacle intent and the obstacle plan.

BASIC STEPS

The seven basic steps are the following:

- Analyze the situational template and the maneuver graphics.
- Analyze the direct fire needs.
- Integrate the obstacle intent.
- Allocate the engineer efforts.
- Design the obstacles.
- Identify the mobility requirements.
- Prepare the scheme of obstacles overlay.

To make it easier to discuss obstacle integration, the maneuver course of action used from this point on is shown in Figure 1. The terrain is intentionally left out to simplify matters and to focus on the particular obstacle integration technique being presented.

First, although a maneuver plan has been adopted, the engineer's involvement

should begin earlier when the task force receives its warning order. That involvement should continue through the IPB process, the development and wargaming of maneuver courses of action, the integration of indirect fires, and so on.

Analyze the Situational Template and the Maneuver Graphics. Too many maneuver plans are developed without a thorough appreciation for the avenues of approach and the mobility corridors that run through the sector.

Figure 2 shows an example situational template compared against the maneuver graphics. The S-2's template should identify the points where the enemy is capable of moving through the sector, in what strength, and toward what objective. It should also indicate which avenues of approach and mobility corridors the enemy is most likely to choose. In cases where the enemy has several maneuver options, the analysis must identify each of these options. Looking at it from the enemy commander's perspective, the S-2 must also identify the point at which he must make a decision to move from one corridor to another.

A thorough analysis of enemy maneuver possibilities is essential if the enemy's weakness is to be found and exploited.

Analyze Direct Fire. A separate overlay may or may not be necessary to the analysis of the task force's direct fire plan and the direct fire capability of each battle position. In this step, the task force's direct fire control measures are highlighted and the approximate ranges of the major weapons in each battle position are drawn. In drawing the range fans, care must be taken to consider any limitations the terrain may impose on a particular weapon system.

The object of this analysis is to identify where direct fires can be massed based on the identified avenues of approach and mobility corridors. It is worthwhile at this point for planners to note also what type of weapons can be massed on which target reference points (TRPs). This information will come in handy later in analyzing whether the obstacle intent and force allocation are compatible.

Integrate the Obstacle Intent. Developing the tactical obstacle intent is a critical step that should involve the participation of at least the task force commander, the S-3, and the engineer. The S-2 should be within earshot to help answer questions regarding the enemy's anticipated maneuver scheme and reaction to the task force's obstacles.

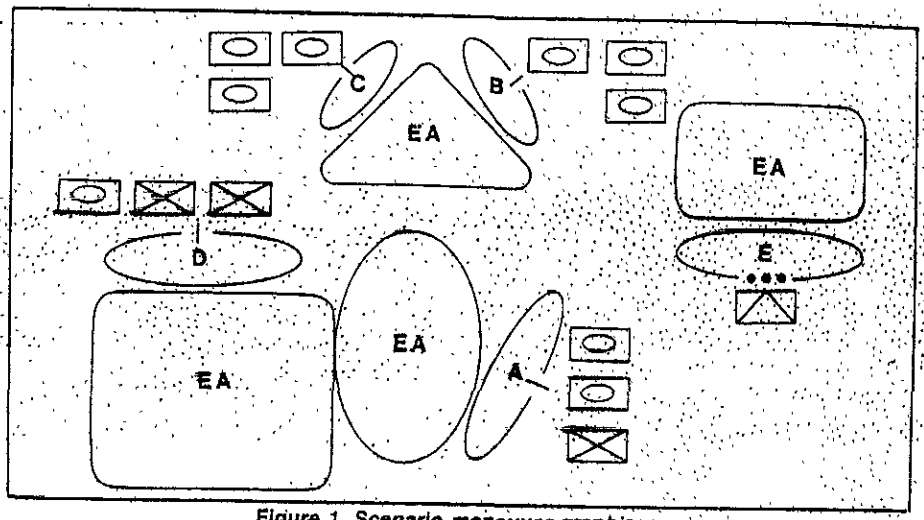

Figure 1. Scenario maneuver graphics.

The object of this step in the obstacle planning process is to use the previous analysis of enemy maneuver and friendly direct fires to decide which obstacle effects can be applied to support the direct fire fight. Accordingly, both the situational template and the maneuver graphics should remain posted on the map along with a new piece of acetate for the obstacle intent graphics.

The commander, the S-3, and the engineer wargame the enemy's maneuver through each likely mobility corridor and decide the obstacle effects desired and the locations where they will cause the enemy to maneuver to the force's advantage. Then, each obstacle effect is indicated on the map using the appropriate graphic symbol (Figure 3).

Once a solid draft of an obstacle intent has been developed, the staff may want to re-wargame each likely enemy course of action, concentrating on the direct fire fight. Then, the obstacle effects must be considered in light of the types of weapons being used. Sometimes a weapon system that can cover both an obstacle and its effect may not be the most suitable weapon. TOWs, for instance, may be excellent to cover dis-

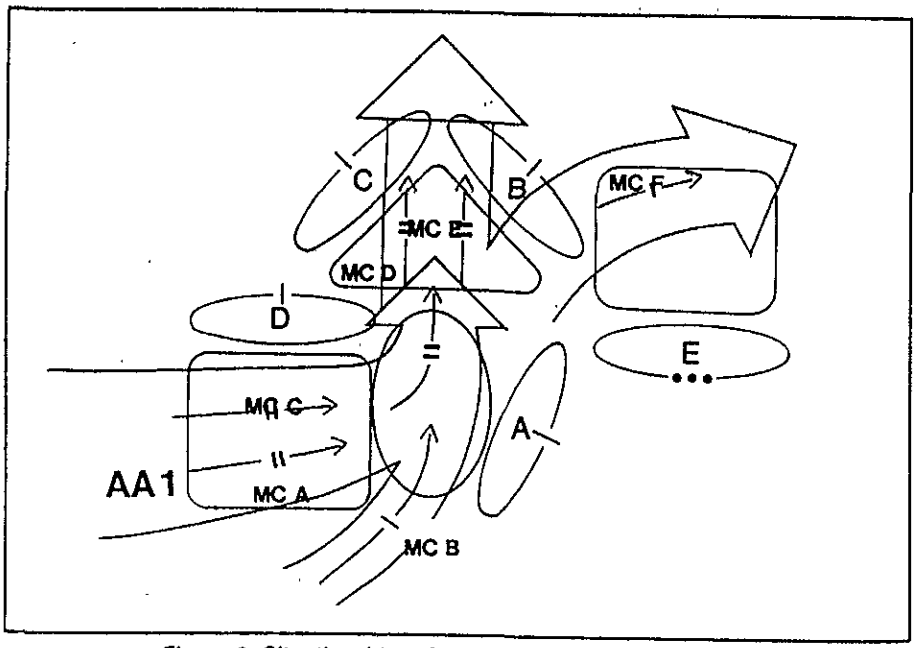

Figure 2. Situational template and maneuver graphics.

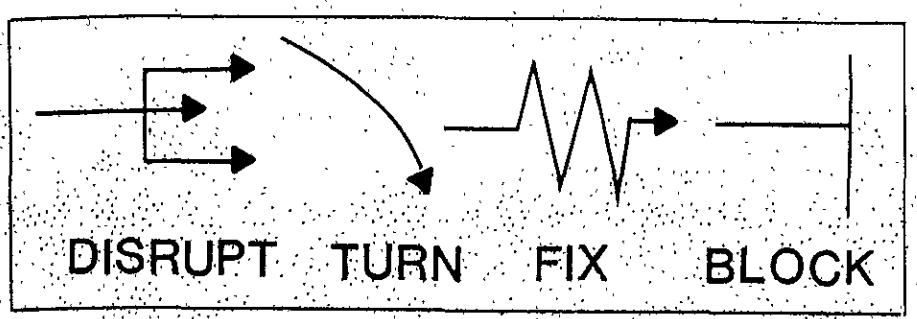

Figure 3. Graphic symbols for obstacle effects.

rupting obstacles that are forward in an engagement area, and their long range may offer excellent standoff. If the fields of fire are good and the enemy is expected to be in march column, the TOW gunner will have more than enough time to acquire the target. But TOWs may not be the most suitable weapon to cover a *fixing* obstacle system where the targets must be acquired rapidly and with a sustained high volume of fire.

Allocate Engineer Effort. First, allocating effort must not be confused with establishing priorities. If the commander designates an obstacle or obstacle subsystem as a high priority, the engineer must then ensure that, if there is a shortage of resources, all of his efforts will shift to the emplacement of that obstacle. Effort allocation, on the other hand, tells the engineer where the commander wants him to weight his efforts to support the obstacle intent. Depending on the mission, the terrain, and the commander's intent, therefore, the engineer's main effort may or may not be applied to the highest priority targets.

Maneuver commanders seem more comfortable using percentages to allocate the available engineer effort. Since an engineer estimate should already have been made by now, the percentages translate easily into meters of minefield, wire, tank ditches, and the like. This type of effort allocation also helps the engineer design the obstacle systems and enables him to begin moving materials and forces from the engineer forward supply point to more forward locations in accordance with the commander's effort allocation.

Design the Obstacles. At this point, the task force commander and the S-3 have given the engineer about all the guidance he needs to develop an obstacle plan. A generic minefield symbol is often used to represent the obstacles. This is not to say the minefields are the only type of obstacles that can be used to achieve the desired effects. In the case of blocking obstacle subsystems, a wide variety of obstacles must be employed to defeat the diverse breaching equipment available to the enemy. But using graphics to illustrate the desired obstacle effect helps the staff develop an obstacle plan. Moreover, the effects of each obstacle or obstacle subsystem are mutually supportive, bound by a single intent.

When he completes a tentative obstacle plan, the engineer must coordinate it with the commander and the S-3 for approval. He should have the maneuver plan, the obstacle intent graphics, and the obstacle plan all posted for one final mental wargame before receiving approval. He may also find it helpful to have the situational template handy in case questions arise regarding the enemy's maneuver options.

Identify Mobility Requirements. The aim of this step is to identify all possible task force requirements for routes through the obstacle systems so that proper lanes can be constructed, marked, manned, and closed.

This process must involve, at the very least, the S-3 (tactical repositioning), the S-2 (withdrawal of scouts and counterreconnaissance forces), and the S-4/executive officer (logistical package routes).

Many argue that mobility requirements should be identified before the obstacle plan is designed. (Why plan friendly obstacles that will get in the way of friendly maneuver?) I agree that obstacles should not be planned within a counterattack axis and that they should not obstruct a route that has been planned for repositioning forces. If adequate maneuver graphics are used during the obstacle planning process, however, these conflicts will become self-evident when the obstacle intent is being developed.

(Experience at the NTC has shown that friendly minefields rarely cause friendly casualties during a battle. Most friendly mine casualties occur before a battle begins, either during the preparation of a sector when a heavy volume of traffic is spread randomly throughout the sector or during the withdrawal of a counterreconnaissance force. Most of the vehicles in the sector during the preparation phase are support vehicles that have, at best, decentralized command and control.)

This step begins with the planners identifying where vehicles must move from and to; then, they designate the routes and mark the obstacle lanes where necessary. Any other planning procedure puts the cart before the horse, because an obstacle plan that is designed or modified to satisfy all movement requirements, particularly administrative ones, no longer focuses on the direct fire fight, and it will fail.

On the obstacle overlay, lanes are indicated where they are needed. The grid for the locations of planned lanes need not be recorded, because it will probably change. Instead, the maneuver company commander responsible for sighting in the obstacles should also sight in the lanes. His company should be assigned the mission of manning an obstacle passage contact point through which traffic must pass, and he should be updated on the location and status of the lanes. This same commander, in his sub-unit instructions in the task force OPORD, must also be given the specified mission to close the lanes.

Prepare the Scheme of Obstacles Overlay. The final product of this planning technique combines the obstacle intent graphics and the obstacle plan into one (Figure 4). Specific instructions may be added if they are critical to the effective integration of the obstacles or to the accomplishment of the commander's direct fire/obstacle intent and if they are not already clear in the graphics. These remarks may be more appropriate if a blow-up representation of the scheme of obstacles overlay is used during the

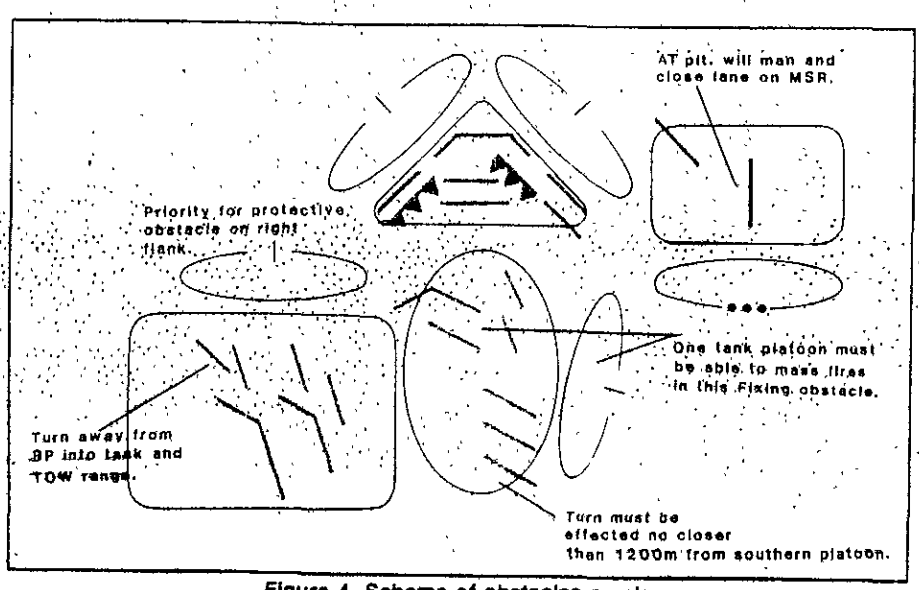

Figure 4. Scheme of obstacles overlay.

OPORD presentation.

This combined overlay is absolutely critical to the company commander during his own defensive planning and during his final obstacle, sighting and engineer coordination. It gives him a tool that expedites the integration of obstacles into his own plans, and it tells him what the task force is trying to achieve with the obstacles, and also how and where. If the company commander has it posted on his map and uses it as he plans the organization of his battle position and engagement area, the integration of obstacle effects with the company's fires begins immediately.

This is the beginning of true obstacle integration at the company level. The obstacles overlay helps maintain a high level of integration during the obstacle siting process, and it gives the company commander and the engineer platoon leader a common ground upon which to judge the value of a given obstacle. Moreover, it gives them a basis upon which to make any obstacle changes that may be necessary.

The final level of obstacle integration is reached when the company commander uses the obstacle plan with its intent in his own OPORD presentation. This allows his platoon leaders to understand what the obstacles to their front are doing for the task force. They, in turn, better appreciate how essential their platoons' fires will be to the success of the overall obstacle plan. This final level of integration is completed when company and platoon TRPs, trigger lines for shifting fires, and fire commands are adjusted to make the most of an obstacle's effect. (Both obstacle and intent should be noted on all range cards.)

Complete obstacle integration can be measured only during a battle. But if small unit leaders understand the obstacle intent, they will be better able to carry out the scheme of maneuver.

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