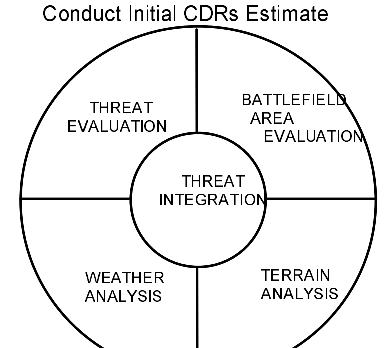
BUILDING THE CO/TM DEFENSE

TLP/STEP	REMARKS (Method/Techniques)
1. **Receive Mission** (WARNORD/FRAGO/ OPORD):	* Planning begins at receipt of W/O (tactical, CSS, and personnel).
Receive BN/TF WARNORD	* TF WARNO must include sufficient detail to begin planning process.
Conduct Initial CDRs Estimate  	1. Consider enemy situation, IPB: a. What is the area of operation/interest. b. Enemy force size, type, mission, etc. c. Avenues of Approach (AoAs) 2. Status of friendly forces. 3. Initial Time Analysis. a. Critically analyze TF timeline if provided; solicit information on TF scheduled events if not (ensure TF time questions are answered at TF OPORD if not provided in WARNO). b. Make initial estimate of time for CO/TM; identify time available, critical tasks and priority.
Issue Initial WARNORD #1 Begin PCI/Rehearsal	* Include necessary details for movement, rehearsals, PCI, security of the CO/TM and recon as applicable or available.
Initial Movement May Occur Now (To: AA/BP)	* Scouts Screen? Counter Recon? Occupation Plan? OPs?
Initial Recon Occurs Now	* CDR, with FSO and Engineer, meets BN CDR in EA; to see the ground prior to OPORD.
Attend BN/TF OPORD	* At a minimum the CO/TM CDR MUST receive: R&S Overlay/Matrix OPs Graphics Fire SPT Overlay/Matrix EN Overlay/Matrix CSS Graphics Time Schedule
2. Issue Warning Order:	***Issue CO/TM WARNORD #2.**
3. Make a Tentative Plan Conduct Estimate Template the EA (Based on MAP Recon)	1. Conduct Estimate. a. Mission Analysis b. Analyze Situation and COAs c. Analyze COAs (wargame) d. Compare COAs e. Decide 2. Mark BN/TF TRPs (on map). 3. Decide where to kill the enemy; consider: a. Where he wants to go, will go and can go. b. Asset integration, (M1, M2, Dragon, small arms).

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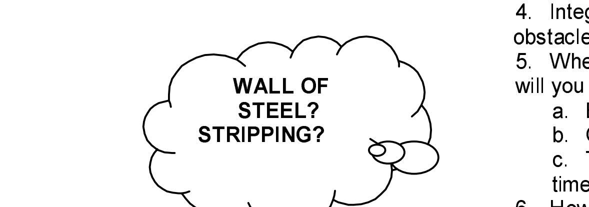
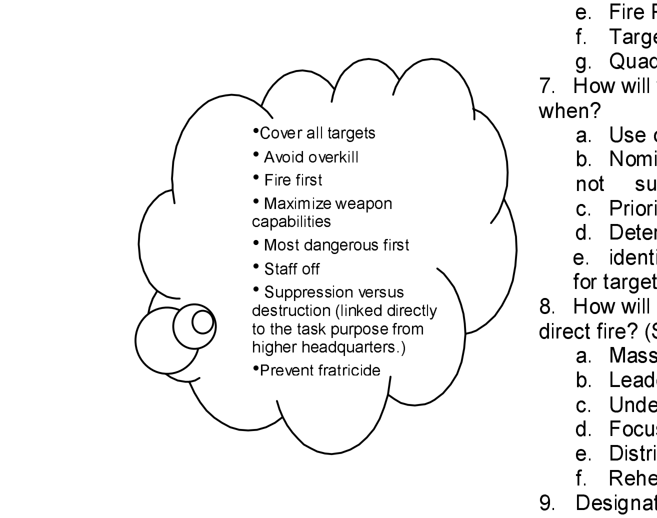
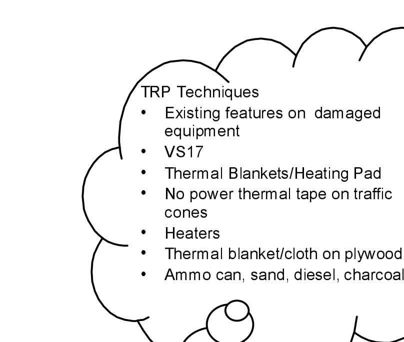
	c. Where his rate of advance can be stopped and where his mutually supporting formations and his ability to mass can be disrupted; choke points; reverse slope, etc. d. Terrain that allows you mass dispersion and depth and maximizes your protection, firepower, mobility while minimizing his. e. Constructing EA to force enemy to fight in a minimum of two directions at once. 4. Mark TRPs for massing fires on specific AoAs and mobility corridors, and TRPs for controlling platoon fires. 5. Identify and mark proposed obstacle locations, consider obstacles that (turn, fix, disrupt, block); a. Support the commander's intent. b. Canalize the enemy into the EA, or keep him there. c. Disrupt his mutually supporting formations. d. Slow his rate of advance. e. Protect the BP. f. Support the scheme of maneuver. g. Covered by fire. h. Tied-in to existing obstacles. i. Employed in depth. j. Employed for surprise.
Template Friendly POSNS	1. Identify proposed PLT Battle Positions based upon Terrain and enemy Situation Template and type of EA you are going to construct. 2. Identify Platoon/Section and mark it on map. a. Platoon positions are based on proposed task/purpose for each platoon. b. Position weapons to provide mutual support within the EA, and on AoAs into adjacent BPs. c. Position platoons in depth to hit the enemy formations; depth is built using terrain in relation to the EA and the enemy. d. Avoid positioning soldiers and weapons directly in the path of the enemy attack. 3. Identify CO/TM FO positions. Consider TF target responsibilities.
Develop Initial CO/TM Fire Plan	1. Consider IPB: a. How the enemy wants to attack his formation, speed, AoAs, etc. b. What will you see first, where? c. Integrate with terrain and weather. d. Plan for battle field obscuration.





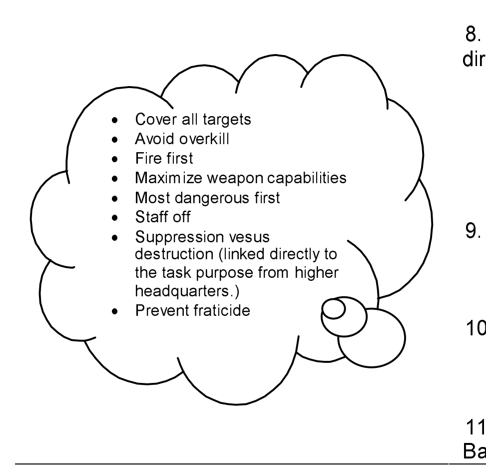
TLP/STEP	REMARKS (Method/Techniques)
	2. Is there a TF plan; are there TF control measures, EAs, TRPs, CFLs max/min engagement lines, etc.? 3. Where do you want to kill the enemy; where is your EA, max/min engagement line, etc.? 4. Integrate direct fires, indirect fires, and obstacles into CO/TM Fire Plan. 5. When do you want to kill the enemy; how will you initiate/shift fires? a. Event (trigger lines) b. On command (radio or signal) c. Timed (consider relay, shift, MVT time) 6. How will you control fires to focus and distribute fires laterally and in depth? (SH 7-45,USAIS) a. Dividing the EA b. Sectors c. Closest TRP d. Target Array e. Fire Patterns f. Target Array Quadrants g. Quadrants 7. How will you integrate indirect fire; where, when? a. Use of mortars versus artillery. b. Nominate targets if existing targets do not support scheme of maneuver. c. Prioritize targets. d. Determine triggers for targets. e. identify primary/alternate observers for target responsibilities. 8. How will you maximize the principles of direct fire? (SH 7-45, USAIS) a. Mass b. Leaders control fires c. Understood by all d. Focus e. Distribute f. Rehearsals 9. Designate techniques of engagement: a. Simultaneous b. Alternating c. Observed 10. Designate patterns of fire: a. Cross fire b. Frontal c. Depth 11. Where will CDR be at to CONTROL fires? Back up plan for initiation? Rehearse both!

TLP/STEP	REMARKS (Method/Techniques)
4. Initiate Movement:	* This step is initiated whenever necessary to meet requirements in the time line. May have been completed in Step 1.
5. Reconnoiter: Conduct Leaders Recon	* Leaders must get out on the ground to verify the tentative plan, confirm or deny assumptions made during map recon, and to get the feel of the ground; they must take everything with them they need to build the EA, i.e., Pickets (2 per TRP, indirect fire target, obstacle, and weapon position), Engineer tape for marking vehicle positions and obstacles, binoculars, weapons systems, night sights, Rock Drill Kit. * Possible techniques for recon are: - CDR, PLs, FIST EN PLT LDR, w/ 1 CBT VEH per + 1 WHL + Workers. - CDR, PLs, SLs w/3 M1/M2s + 1 WHL - CDR (PLs?) w/ M998/M113 and Security Force 1. Meet with leaders in the EA. a. Explain to PLs: - The CO/TM and TF area of operation/ interest (Battle Space). - Where the enemy will enter the CO/TM Battle Space. - Enemy force size/speed and what will come first. - CO/TM task purpose in TF scheme (what effect does the TF CDR want from the CO/TM fires). - Proposed task/purpose for each platoon. - Tentative CO/TM plan. b. Walk/drive the EA and area of responsibility; If time permits, drive the terrain from the enemy point of view. c. Get the feel of the terrain. 2. Identify actual enemy avenues of approach (for mounted, dismounted, and recon elements).
6. Complete Plan: Build the Engagement Area	1. Decide when to kill the enemy; consider: a. Where he wants to go, will go and can go. b. Where his rate of advance can be stopped, and where his mutually supporting formations and his ability to mass (effects) can be disrupted; Choke Points, reverse slope, etc.



TLP/STEP	REMARKS (Method/Techniques)
	c. Terrain that allows you mass, dispersion and depth and maximizes your protection, firepower, mobility while minimizing his. 2. Physically mark TRPs for massing fires on specific AoAs and mobility corridors, and TRPs for controlling platoon fires. 3. Identify and mark proposed obstacle locations, consider obstacles that (turn, fix, disrupt, block): a. Support the commander's intent. b. Canalize the enemy into the EA, or keep him there. c. Disrupt his mutually supporting formations. d. Slow his rate of advance. e. Protect the BP. f. Support the scheme of maneuver. g. Covered by fire. h. Tied-in to existing obstacles. i. Employed in depth. j. Employed for surprise. 4. Obstacles, TRPs, targets, and triggers are physically marked during this phase, engineer stakes with VS17 panels or large wood panels are useful for this purpose. a. Marking should be IAW unit SOP, but should be clearly visible from proposed weapons locations so weapons range and ability to hit TRPs and obstacles in the EA can be verified during weapon siting. b. Obstacles should be marked from begin point to end point; engineer tape. 5. Force enemy to fight in a minimum of two directions at once.
Select Friendly Position	1. Identify the proposed battle position from the enemy side. 2. Move to the proposed battle position and adjust the BP so TRPs, targets and triggers can be seen and ranged by weapons. 3. Identify each weapon position and mark its location on the ground. (Remember to consider Posns for dismounts.) a. Platoon positions are based on the proposed task/purpose for each platoon. b. Weapons are positioned to hit the EA, TRPs, and obstacles, which should be visible from the BP if properly marked. Positions should be selected using binoculars at ground level to verify that the weapons sights will be able to see the EA and TRPs when dug in.

TLP/STEP	REMARKS (Method/Techniques)
	c. Position weapons to provide mutual support within the engagement area, and on AoAs into adjacent BPs. d. Position weapons in depth to hit the enemy from the flanks or rear throughout his formations; depth is built using terrain in relation to the EA and enemy, not using cookie cutter solutions like the lazy W or diamond positions. Consider WPN capabilities! e. Position FIST, FOs, and OPs to observe indirect fire targets/triggers. Ensure FSO makes TAC FIRE Commo Check. f. Consider natural cover and concealment and routes into and out of the position. g. Avoid positioning soldiers and weapons directly in the path of the enemy attack. h. Have you positioned the engineers? i. Digging survivability positions may begin. (MTETT-CDRs Decision.) j. Weapons locations should be selected during daylight; locations are marked IAW unit SOP, marking should be exact location and orientation; pickets with engineer tape are ideal for this purpose. k. The commander may allow the PLs to pick positions, or may assist them based on available time. l. If subordinate leaders are present during recon, they can begin making range cards and sector sketches.
Confirm Initial CO/TM Fire Plan	1. Consider IPB: a. How the enemy wants to attack, his formations, speed, AoAs, etc. b. What will you see first, where? c. Integrate with terrain and weather. d. Plan for battle field obscuration. 2. Is there a TF plan; are there TF control measures, EAs, TRPs, CFLs, max engagement lines, etc.? 3. Where do you want to kill the enemy; where is your EA, max engagement line, etc.? 4. Ensure integration of direct fires, indirect fires, and obstacles. 5. When do you want to kill the enemy; how will you initiate/shift fires? a. Event (trigger lines) b. On command (radio or signal) c. Timed (consider relay, shift, MVT time)



TLP/STEP	REMARKS (Method/Techniques)
	6. How will you control fires to focus and distribute fires laterally and in depth? a. Dividing the EA b. Sectors c. Closest TRP d. Target Array e. Fire Patterns f. Target Array Quadrants g. Quadrants h. Engagement priorities, weapon priorities i. Volley fire 7. How will you integrate indirect fire; where, when? a. Use of mortars versus artillery. b. Plan targets forward of the BP, on it and behind it. Ensure that indirect fires are integrated into the CO/TM fire plan. c. Confirm primary/alternate observers can see target/trigger from PRIM/ALT/SUP positions. d. Adjust required targets (FPF, priority targets, etc.). e. Determine triggers targets. 8. How will you maximize the principles of direct fire? (SH 7-45, USAIS) a. Mass b. Leaders control fires c. Understood by all d. Focus e. Distribute f. Rehearsals 9. Designate technique of engagement: a. Simultaneous b. Alternating c. Observed 10. Designate patterns of fire: a. Cross fire b. Frontal c. Depth 11. Where will CDR be at to CONTROL fires? Back up plan for initiation? Rehearse both!
7. Issue the OPORD	Overlook Engagement Area
8. Supervise: Occupy the Battle Position/Site Weapons	1. Link up with CO/TM brought up under control of 1SG/XO. a. Brief subordinate leaders on basic plan. b. Execute CO/TM Security Plan. 2. Move vehicles/weapons into designated positions.

TLP/STEP	REMARKS (Method/Techniques)
	3. Verify using weapons sites that they can hit intended areas. Technique - lay down simulating. You are in your completed vehicle position. 4. Drive EA while gunners/SLs/PLs make range cards and sector sketches. 5. Identify dead space; cover with indirect fire. 6. Coordinate with adjacent units and confirm or deny ability to tie in and have overlapping fires. 7. Identify and mark trigger lines (same method as TRPs). 8. Prepare Range Cards and Sector Sketches (3 each). Master Gunner inspects Range Cards and collects. Platoon Leaders prepare Sector Sketches for distribution to CO/TM and Task Force.
Arrange CSS	* Coordinate with CTCP for CSS requirements: LOGPAC, prestock, barrier materials, additional support, etc. (Ongoing; begins at receipt of mission.)
Rehearsal of Engagement Area	* Rehearse fire plan (direct and indirect). * Purpose is to ensure every leader and soldier understands the plan, and can hit intended areas with direct fire. * Controlled by the commander over the radio from his position in the BP; each soldier and member of the chain of command position themselves where they plan to fight the battle and talk to the commander over the radio net or land line. * Conducted normally by the XO with company trains vehicles, driving through each part of the EA and on each AoA; CO/TM and platoons practice issuing fire commands and ensure that the CO/TM can mass at least 2/3s of its fire in each part of the EA, and illustrating how obstacles and indirect fires are integrated with direct fires. * Rehearse displacement within the battle position, and time moves into new positions. (Worse case - MOPP IV, Night) * FIST and FOs verify and identify trigger lines for indirect fires to the CO/TM and timing when the fires should impact. * Rehearsal is conducted using the crawl, walk, run mode, ending with the XO moving through the EA at the doctrinal rate of march for the enemy.

TLP/STEP	REMARKS (Method/Techniques)
	* Rehearse closing of lanes and engineer regress routes.
Finalize CO/TM Fire Plan Prepare Postions Dozer Control Techniques •CINC Dozer - CSM? EN PLT SGT? LNO? •Remember Time	* Adjust based on the EA Rehearsal. * Be prepared for dozers/SEEs to arrive at any time. * Ensure thorough plan for controlling blade assets and eliminating down time, establish responsibility for controlling these assets and a time schedule. * Ensure prior to digging that weapons positions are verified at ground level, (use binoculars in the prone position).
Update OPORD with FRAGO	* Every 3-5 hours in different parts of the BP to supervise, and to let CO/TM leaders see each area. 1. PLs brief commander on standard areas during each meeting: a. Maintenance status. b. Personnel status. c. Progress of fighting position completion. d. Progress of obstacle construction. e. Any problems or required support. 2. CDR briefs the following areas: a. Changes to the plan. b. Updates to the enemy situation. c. Updates to the CO/TM and TF timeline. 3. FIST, XO, 1SG, Medics, Maintenance TM Chief, ADA and Engineers (as applicable) brief changes and updates to the basic OPORD.
Continued Prep/Rehearsals	

ENGAGEMENT AREA MATH SCENARIO

1. This example portrays a mechanized infantry team consisting of 10 BFVs and 4 M1s in the defense.

2. As an enemy MRB consisting of 66 vehicles enters the engagement area, the 10 BFVs engage at 3,750 meters with TOW, destroying 10 tanks. Three TOWs per vehicle were fired from each BFV. Each BFV destroyed one enemy vehicle and there are 45 vehicles left to be destroyed. One BFV has been destroyed from indirect fire.

3. As the enemy enters the 3,000 meter mark, the BFVs continue to engage. Two TOWs have been fired from each BFV with the result of 9 enemy vehicles being destroyed. Four M1s fire 6 rounds each resulting in each M1 destroying 2 enemy vehicles each. A total of 8 enemy vehicles have been destroyed by the tank platoon for a total of 27 enemy vehicles destroyed between 3,000 meters and 2,000 meters mark. One M1 and two BFVs have been destroyed from enemy direct fire. At this time the commander directs that 6 BFVs switch to 25mm.

4. Between 2,000 meters and 1,000 meters two BFVs engage, firing 2 TOWs each. Each BFV destroys 1 vehicle. Three M1s fire 5 rounds each destroying 2 vehicles for a total of 6 vehicles destroyed. The five remaining BFVs each engage 5 enemy vehicles with 25mm, each destroying 3 enemy vehicles for a total of 16 enemy vehicles destroyed. Total vehicles destroyed by the CO/TM between 2,000 meters and 1,000 meters is 23. Fifty of the 55 enemy vehicles have been destroyed.

5. In the area less than 1,000 meters from the CO/TM defensive positions, the remaining forces (3 M1s, 7 BFVs, 8 Dragons) have the potential to destroy the remainder of the first MRB. The CO/TM has the potential to destroy 49 vehicles from the second echelon MRB.

ASSUMPTIONS

* Assumptions will vary with each unit. Assumptions are based on unit proficiency from historical data. This example is purely generic and is based on flat terrain. Combat multipliers (fires, obstacles, etc. .) have not been considered.

TOW
1. Probability of TOW kill between 3,000M and 3,750M is 30%.
2. Probability of TOW kill between 3,000M and 2,000M is 50%.
3. Probability of TOW kill between 1,000M and 2,000M is 50%.
4. Probability of TOW kill under 1,000M is 90%. Increase due to decrease in range.

TANK
1. Probability of tank kill between 3,000M and 2,000M is 60%.
2. Probability of tank kill between 2,000M and 1,000M is 66%. Increase due to decrease in range.
3. Probability of tank kill under 1,000M is 75%.

* CTC data not FM 17-12-1

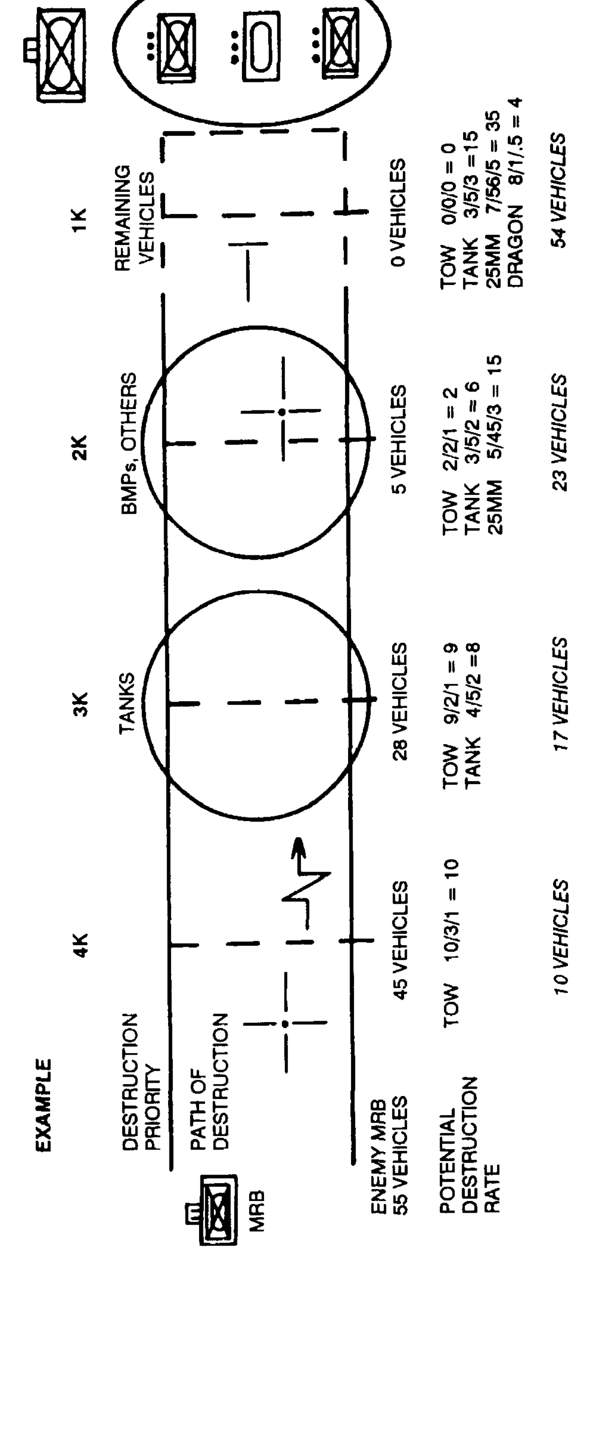
25MM
1. Probability of 25MM kill between 2,000M and 1,000M is 60%.
2. Probability of 25MM kill under 1,000M is 75%.

DRAGON
1. Probability of Dragon kill under 1,000M is 50%.

GENERAL ASSUMPTIONS

1. The enemy rate of movement is 3 minutes per kilometer.
2. Weapon system probability is based on unit gunnery proficiency and NTC live fire data.
3. Example assumes that we will engage the enemy lead vehicles when he enters the maximum effective range of TOWS. Tanks will be engaged first.
4. Over 90% of enemy vehicles will be destroyed beyond 1,500 meters from example position.
5. Change the majority of M2s to fire 25MM when the enemy approaches the maximum effective range for 25MM.
6. Discussion of which threat system to engage with friendly system will effect % probability of kill (PK) on METT-T.
7. Example assumes different weapon systems will fire a specified number of rounds between each 1,000M increment.

DISCIPLINE FIRES EA MATH "TTP"



SYSTEMS / ROUNDS FIRED / KILLS = THREAT SYSTEMS KILLED

* WEAPON PROBABILITY DATA VARIES FROM UNIT TO UNIT. ASSUMPTIONS MUST BE MADE.

GTA 07-04-006

INFANTRY LEADER'S REFERENCE CARD FOR BUILDING THE COMPANY TEAM FOR DEFENSE

REFERENCE: FM 71-1

HEADQUARTERS
DEPARTMENT OF THE ARMY

MAY 1994