APPENDIX G

LOW-INTENSITY CONFLICT INTELLIGENCE PREPARATION
OF THE BATTLEFIELD GRAPHICS

During the evaluation process, you begin to identify the location of the threat. You do this by producing and fusing various templates or overlays to assist in the analysis. This appendix describes the overlays and templates used in the IPB process and provides examples of how each is used.

TERRAIN OVERLAYS

We produce five basic terrain overlays in LIC: population status, concealment and cover, logistics sustainability, key facilities and targets, and LOC. These overlays are heavily dependent on new data. You receive new information, develop new intelligence, and post it to the overlays.

POPULATION STATUS OVERLAY

As we have said before, population is the key terrain in all LIC operations. Population provides both support and security to the threat and represents the only terrain feature which must be seized, controlled, or defended. For example, the failure of an insurgent offensive in San Salvador, El Salvador, in November 1989, was a result of the insurgent’s inability to mobilize the urban population against the government. This not only cost the insurgents the offensive but also severely undercut the credibility of their claim to represent the people’s will.

The generic population status overlay geographically represents the sectors of the population that are pro-government, anti-government, and neutral in the built-up areas as well as the country’s interior. Figure G-1 shows a population status overlay. This graphic may also display education, religion, ethnic, or economical aspects of the population.

A more refined product in a MOUT environment displays the exact homes and work places of key military, civilian, or subversive personnel as well as their relatives. In this instance, use large-scale maps or imagery to accurately plot the information by marking rooftops of buildings.

Such a refined product should be cross-referenced to OB files such as personality, faction, and organization. This graphic also assists the commander with his view of the battlefield and mission planning. This is also a good tool for prospecting for key nodes in built-up areas and factoring in the possibility of collateral damage to population and property.

This tool is also valuable in counter-drugs operations when used to show the quarters and work locations of known or suspected participants.

CONCEALMENT AND COVER OVERLAY

This product remains fairly constant throughout all facets of LIC; it graphically depicts the availability, density, type, and location of subversive concealment and cover. It should depict concealment and cover from the ground as well as from the air. See Figure G-2 for an example of this overlay.

In areas of frequent aerial attack or observation, overhead concealment and cover is important in selecting base amps, logistical bases, or drug laboratories. Surface configuration primarily determines cover. Here, cover includes caves and constructed features such as buildings, mine shafts, bunkers, tunnels, and fighting positions.

Vegetation is the primary feature that provides concealment. Some vegetation may provide concealment from both aerial and ground observation while other types will only provide concealment from the air or ground.

For example, picture a grove of cottonwood trees; bushy at the top and nothing below. This would prevent observation from the air but would allow observation from the ground. Conversely, tall saw grass or elephant grass would not permit observation from the ground. But from the air, trails and stop points would be observable.

The canopy closure overlay is critical in determining areas that offer concealment from aerial observation and is incorporated here. This is important when you are operating in an AO that is a tropical rain forest.
Figure G-1. Population status overlay.
Figure G-2. Concealment and cover overlay.
In MOUT, it is obvious that the city itself provides concealment and cover to the subversive. To isolate probable locations or areas in use, begin with data from the population status overlay. Aside from locating quarters and work places of these individuals and their family members, begin identifying safe houses as well. Combine these locations with known rally points and meeting places and you have a good start on a concealment and cover overlay for MOUT operations.

**LOGISTICS SUSTAINABILITY OVERLAY**

In LIC missions, the subversives always require supply and resupply. As in conventional warfare the supply or logistics base is a key threat location. Here, though, we are more interested with the availability or sources of goods and services.

If the group is operating away from a built-up area, look at farms, orchards, growing seasons, and water sources. In a built-up area, focus on supermarkets, food warehouses, pharmacies, hospitals, clinics, and doctors’ residences.

There are also unique applications for this overlay; in counter-drugs you want to identify the locations of suppliers of processing chemicals. In counterinsurgency you may need to locate businesses that sell PVC tubing that can be used in making mines and booby traps.

In PKO you may need to identify retail or wholesale outlets that sell printing materials that could be used for PSYOP products. The key to this function originates from your BAE: Know the subversive, his requirements, and the availability and location of his needs. Figure G-3 is an example of a logistics sustainability overlay.

**KEY FACILITIES AND TARGETS OVERLAY**

This product, formerly known as the trap overlay, shows the location of possible threat targets within your AO. Targets include banks, bridges, electric power grids, oil refineries, HN and US military installations, key residences, and places of employment of HN and US personnel. Figure G-4 is an example of a key facilities and target overlay.

This overlay requires refinement on some locations such as airfields and military installations. In these instances you have to determine what facilities at these locations are most susceptible to attack based on subversive capabilities and desires. For example, if the goal is to disrupt air traffic at an airfield, the control tower and fuel storage tanks would become lucrative targets as important as the runway itself. Direct mortar fire on runways cause minimal damage compared to that inflicted upon fuel storage tanks.

This type of information is significant to the commander and his planners, as well as to internal security and CI personnel. Discovering an indigenous worker pacing off the distance between a guard tower to the fuel storage area is a valuable indicator of threat intentions.

There are other instances when this overlay is extremely important, such as during a nation-building operation or a DRO when you may face lawlessness, pillaging, or looting. This overlay is a good tool for identifying those locations that are most likely to be struck by such activities: grocery, clothing, or appliance stores and supporting warehouses.

**LINES OF COMMUNICATION OVERLAY**

This seasonal tool, formerly known as the road and trail overlay, highlights roads, trails, railways, airfields, and major waterways in the AO. Carefully compare recent aerial imagery and map products to ensure updating new LOC to the final product.

If you are operating in a tropical rain forest region with a dense canopy, fresh-cut ground trails will not be observable from the air and will require specific map-tracking debriefings of US or HN patrols. This often proves to be a valuable indicator of potential threat activity.

For example, if a specific trail is freshly cut by unknown individuals once a month, pattern analysis may reveal that at about the same time the trail is cleared each month there has been some type of major action conducted by the threat force.

Therefore, this trail could be one of several LOC for the threat force to move into the area. This lets the commander determine where he will attempt to interdict the next threat push.

Graphically represent waterways by displaying width, depth, velocity, navigability, and fording sites.

In MOUT operations it is important to develop a product that depicts both sewage and storm drainage systems. Another valuable product in MOUT is a depiction of public transportation routes (bus and subway) with timetables. Generally, these products should already exist and be readily available from the HN. Figure G-5 is an example of LOC overlays.
Figure G-3. Logistics sustainability overlay.
Figure G-4. Key facilities and target overlay.
Figure G-5. LOC overlay.
OTHER OVERLAYS AND TEMPLATES

While the previous overlays are the most significant, there are others that you need to know about. They tend toward narrow focus and greater detail than the previous ones.

HOST NATION GOVERNMENT AND MILITARY OVERLAYS

These overlays depict the disposition of key personnel (homes and work locations), organizations, facilities, and key nodes of the HN. They are useful in any LIC mission, but are critical in nation-building or DRO. Locations recommended for inclusion are—

- Key personnel and leaders’ homes and work places, their immediate relatives, and the routes taken to and from work.
- Military installations, LEA, and fire departments.
- Public utilities such as telephone, power, garbage dumps, sewage treatment plants. Add water purification facilities, including the locations of business offices and substations.
- Radio, television, newspaper, and printing facilities to include transmitters and repeater sites.
- Embassies and consulates.
- Universities and secondary schools.
- Hospitals, clinics, Red Cross, and Red Crescent facilities.
- Religious facilities (churches, synagogues, mosques).
- Banks.
- Public markets.
- Cultural centers and tourist points of interest.
- Judicial, executive, and administrative centers.

NONBELLIGERENT THIRD-PARTY OVERLAYS

These overlays are used for the same purpose as those described for HN. They are beneficial in NEO missions. Consider the value of these overlays during Operation JUST CAUSE when forces were searching for General Manuel Noriega. Had all nonbelligerent locations been depicted, and fused with the SITMAP, perhaps someone would have seen the Vatican’s Papal Nuncia.

WEATHER OVERLAY

Weather analysis or templating in LIC does not differ a great deal from that conducted during the standard process.

Weather effects on observation and fields of fire, camouflage, helicopter LZS, and LOS for radio and radar equipment still apply.

A thorough knowledge of regional climatic conditions, as well as the usual evaluation of short duration weather forecasts, is needed to determine the effects of weather on unit mission.

In the areas of great seasonal climatic change, terrain intelligence produced during one season may be practically useless in others. Therefore, weather effects, based on observed or forecast weather and terrain analysis must be fused and continuously updated. Weather effects on systems, operations, and personnel are detailed in Chapter 3 and FM 34-81-1.

SITUATION TEMPLATE

You use situation templates to show how threat, friendly, and nonbelligerent third-party forces might operate and communicate within constraints imposed by meteorological conditions and geography. The situation template is basically a doctrinal template with terrain and weather constraints applied.

It is used to identify critical threat, friendly, and nonbelligerent activities and locations. It provides a basis for situation and target development and HVT analysis. A situation template is a visualization of what a particular force might do at a certain time and place. In a counterinsurgency operation, this template might be substituted for a target analysis overlay.

EVENT TEMPLATE

Event templates show locations where critical events and activities are expected to occur and where significant targets and opportunities will appear. You use these templates to predict time-related events within critical areas. They provide—

- A basis for CM.
- Threat, HN, and third-party COAs.
- HVT locations and tracking.

They depict NAIs; the events, the sequence of activities, and relationships that should occur for each
COA. The SOF S10 in FID, for example, attempts to identify significant actions the insurgents may take, such as—

- Engage in nationwide economic sabotage.
- Assassinate mayors in contested regions.
- Negotiate with the government.

As the forces are templated, critical areas become apparent, significant events and activities will occur, and targets and opportunities will appear. Figure G-6 shows insurgent planning for an operation. These NAIs are points or areas where human activity or lack of activity will confirm or deny a particular COA.

Events within NAIs can be analyzed for indicators in which intelligence and target acquisition resources can be directed to look. NAIs and SIR are incorporated into the collection plan.

You may have to correlate types of events with historical or insurgent commemorative dates; for example, identify a historical or commemorative day or time frame during which the insurgents are likely to be active. You then identify the types of training, logistics, intelligence, and tactics the insurgents would likely employ.

One insurgent COA maybe to seize a small district capital on a national holiday and hold it for 24 hours. The hope is to trigger an anti-government insurrection among the inhabitants. Insurgent planning for such operations require—

- Detailed HUMINT.
- Deception.
- Psychological preparation of the populace.
- Pre-attack surveillance.

Specialized assault teams in the opening stage of the assault should identify and target selected key nodes, such as—

- Police stations.
- Military garrison headquarters.
- Government radio and television stations.
- Telephone exchanges.
- Power plants.
- Fuel depots.

To do all of this, the insurgents require—

- A battalion-sized assault force.
- Direct and indirect fires.
- Possibly antiaircraft weapons.
- Propaganda teams.
- Population screening and control.

Therefore, the insurgents must designate assembly areas and routes to the objective. These insurgent activities can be observed by establishing NAIs and TAIs. Figure G-7 is an example of a TAI within a NAI.

**DECISION SUPPORT TEMPLATE**

You use the DST to show decision points keyed to significant events and activities. The DST is the intelligence estimate in graphic form. It does not dictate decisions to the friendly commander, but rather identifies critical events and human activities relative to time and location that may require tactical or operational decisions by that commander.

DSTs identify where and when targets can be attacked or other opportunities exploited to support the commander’s mission concept.

A TAI is an area or point along an infiltration or maneuver corridor (MC) where friendly interdiction of threat forces will cause them to change their plans. Examples of TAIs include key bridges, road junctions, checkpoints, DZs and LZs, known fording sites, and assembly areas. TAIs which are essential to the uninterrupted progress of threat forces are HVTs.

The identification of a TAI is a joint effort between the intelligence and operations staffs. In LIC, population groups can be TAIs for targeting by PSYOP, civil-military operations, and other nonlethal means.

Decision points are those operational events that require tactical or operational decisions. They are geographical and chronological points where the commander must make a decision in order to retain the initiative. Decision points can be NAIs or TAIs.

Decisions must be made early so they can be implemented in time, but they cannot be made until there are indications that particular events will occur and their locations accurately fixed. Decision points are determined by comparing times required to implement decisions, doctrinal movement rates (adjusted to
Figure G-6. Insurgent incident steps, drawn as an equivalent event template.
Figure G-7. TAI within an NAL
compensate for the effects of weather conditions, terrain, and human action on mobility), and distances.

For example, if it requires 2 hours to implement a friendly decision, the decision must be made while the threat force is at least 2 hours from the TAI where the event will occur.

Time phase lines (TPLs) are based on threat doctrine, pattern, and trend analysis. They help to determine where the threat, friendly, or nonbelligerent third-party force will be and what it will look like. TPLs are drawn across an assembly area or MC to illustrate potential threat advance at doctrinal or historical rates, as modified by terrain and weather conditions. TPLs project where a particular force is expected to be at any given time.

**THREAT INTEGRATION TEMPLATES**

You may also produce a combination of locally produced standard and nonstandard templates during the threat integration step.

---

**REACTIVE SITUATIONAL TEMPLATE**

In counterinsurgency missions, the reactive doctrinal template, a kind of doctrinal template, becomes the reactive situational template (RST) when applied to the actual terrain in the operational environment. The RST shows uses of TPLs to forecast where the insurgents are likely to be in reaction to friendly actions. Figure G-8 is an example of an RST.

---

**REACTIVE EVENT TEMPLATE**

The RST becomes the reaction event template when you add NAIs and TATs. Figure G-9 shows an example of a reactive event template.

---

**REACTIVE DECISION SUPPORT TEMPLATE**

This template is the reactive event template that has TAs and decision points added. For example, in counterinsurgency decision points indicate when reaction and blocking forces would be inserted into the TAI. Or in counter-drugs, the decision points would indicate the shipment of the drug or precursor element. Figure G-10 is an example of a reactive decision support template.

---

**NONCOMBATANT EVACUATION OPERATION EVENT TEMPLATE**

The event template for NEO should portray any event that pertains to—

- The safety of US citizens in the country.
- Movements of threat forces.
- Status of all other parties involved in the operation.

The event template should depict the location, number, and status of all potential COAs, NAIs, TAs, and decision points. NAIs will be potential assembly areas for evacuation to take place, likely choke points on roads, and possible locations of critical installations.

---

**DISASTER RELIEF OVERLAY**

Overlay for disaster relief include locations of critical facilities Also important is the location of key people (within the national, state, and local governments) who can reestablish law and order, get government functioning again, and stabilize the situation. Formats outlined above can be tailored for this overlay.

---

**DISPLACED PERSONS OVERLAY**

Graphic overlays for DP operations would include information on the—

- Location of existing and potential camps.
- Migratory routes which DPs take or will potentially take.
- LOC to get to the sites.
- Destinations.

Critical installations and facilities are also templated and analyzed for potential use. Again, adapt a previously shown format to display this overlay.

---

**TARGET AREA REPLICAS**

Whether LIC is being conducted in a rural or an urban environment, a key technique in destroying the enemy while not alienating the population is the surgical application of force. The entire planning effort for surgical assaults is greatly enhanced when you portray the specific battle area in detail.
Figure G-8. Reactive situational template for counterinsurgency operations.
Figure G-9. Reactive event template for counterinsurgency operations.
Figure G-1 O. Reactive decision support template for counterinsurgency operations.
Map scales of 1:50,000, as well as 1:12,500 city graphics, are usually inadequate for surgical planning and target identification.

Target area replicas (TARs) are a combination of the standard terrain model or sand table, with the addition of cultural features (buildings and vertical obstructions) at an appropriate scale for planning. TARs are as much a function of IPB as traditional overlays.

The process is imagery intensive and can be done over months, time permitting. You could do a TAR in hours with some loss of detail. All aspect imagery is required (stereo is ideal) for a fully detailed TAR; however, less than all aspect coverage is enough to begin.

Other aspects can be filled in later based on debriefing or reconnaissance reports. The level of detail depicted is usually a function of the target, mission, and possible schemes of maneuver.

Construction methods vary with the time, materials, and personnel resources available. TARs which are produced at one echelon and intended for dissemination to subordinate units must be built to survive transport. Locally produced TARs need not be moved and can be constructed more simply. In any event, all efforts should be made to have the TAR ready by COA development.

**SCALE**

If the target consists of a small complex of buildings—and infiltration points are not an issue—scales between 1:300 and 1:500 work well in depicting windows, doors, construction, and terrain features.

Larger targets (such as airfields, sections of a town to be cordoned and searched, or a target plus a distant infiltration point) require a smaller scale, varying between 1:800 up to 1:8,000.

**AREA OF COVERAGE**

The mission dictates the coverage required. On some missions where helicopter or parachute infiltration is followed by a ground approach, the model should cover the infiltration points, the most likely approaches, as well as the target itself.

Should the scale turn out to be too small for detailed coverage of the target itself, construct another, more detailed TAR of just the target.

Disposition of nearby hostile forces may require coverage of that unit’s most likely avenue of approach. In any event, the target does not have to be in the center of the TAR.

**SKILLS REQUIRED**

IA are useful in TAR construction because they can read out the cultural details and provide measurements (particularly on the vertical plane). Topographic specialists often can conduct some imagery interpretation and work well with scale.

When necessary, anyone who can convert actual distances to a given scale can construct a TAR. Often, TARs that are rapidly constructed at the local level are built by untrained personnel using only eyeball proportions.

**PORTABLE SAND TABLE METHOD**

The fastest and easiest method of TAR construction involves a simple kit. Build a shallow, rectangular box with a hinged top. Inside the box, keep—

- An entrenching tool.
- A sturdy cloth bag suitable for carrying dirt and sand.
- Straight edge and ruler.
- Six quarts (or more) of mixed color lichen (used to represent vegetation and readily available at hobby shops).
- Various color paints, markers, and pencils.
- Several sharp hobby knives.
- Several sheets of white posterboard.
- Tongue depressors or popsicle sticks.
- Scrap balsa wood.
- Pins and thumbtacks.
- String.
- Thin dowels or cheap bamboo skewers and toothpicks.
- Large sheets of butcher block or tracing paper.
- A roll of acetate.
- White glue.
- A plastic spray bottle (for water).
- Hair spray.

After roughly establishing the desired scale and area to be covered, template the rectangular shape of your
box onto the topographic map with a piece of acetate. Trace all the contours, roads, buildings, and power and treelines (include grid lines for reference).

If a viewgraph machine is available, project the traced image through the acetate onto a sheet of butcher block or tracing paper exactly the size of your rectangular box. Make sure that the projection is not at an oblique. Move the projector back and forth until the projected tracing exactly covers your pre-cut paper. Transfer the tracing onto your paper.

If a viewgraph machine is not available, sketch the tracing directly onto your paper by eye. This paper (now called the blueprint or sketch) should be tacked onto the lid of the box and will serve as the blueprint for TAR construction.

Place dirt or sand (remove rocks and twigs) into the cloth bag and place it in the box. Tack string across the box exactly where the grid lines are located on your blueprint or sketch. Spray the dirt with water until it will stay together while being shaped. Using acetate strips, draw vertical distance scales and tack these to the inside four corners of the box.

If you desire, a vertical exaggeration factor (often in the neighborhood of 1:4) can make terrain features stand out (do not let the dirt and sand level exceed the height of the box). Shape the dirt and sand with the tongue depressor, based on the contours depicted on the blueprint or sketch.

Use the vertical scales in the corners of the box to determine dirt and sand height. Spraypaint the terrain green (or brown or whatever the prevailing ground cover color).

Trace the roads, rivers, streams, and ponds from your blueprint sketch onto pieces of tracing paper. Cut these features out and color or paint them appropriately. In a hurry, colored pieces of string can substitute for painted paper. Place these carefully onto the dirt, using the terrain features and the grid lines for reference.

Place lichen to represent vegetation where required. On very large-scale TARs, individual trees are represented by placing a piece of lichen on a cut bamboo skewer or toothpick.

While this is being done, other personnel check the available imagery to add detail. First efforts are on the horizontal plane to update the blueprint or sketch with significant features not shown on the map. These include, but are not limited to—

- New roads or trails.
- Changes in treelines.
- Individual trees (depending on scale).
- Outlines of buildings.
- Defensive positions.
- Powerlines, poles, and the like.

The next, and perhaps hardest, step is detailed, scale sketches of buildings. These should be transferred, each view flat, onto the thick posterboard, complete with windows and doors. The posterboard is then cut and assembled with glue to form the buildings.

Paint can be applied if you have a feel for what the actual colors are on the buildings. Place the buildings onto the dirt in their correct locations.

Finally, search the imagery for additional vertical obstructions, which should be scaled, constructed, and placed appropriately on the TAR. With moist dirt, the box may be moved as necessary. If you want the dirt to stay together for an extended period, spray it liberally with hair spray.

**TAR CONSTRUCTION FOR TRANSPORT**

Building a TAR for transport to another unit involves a similar method, but with different materials. This process usually takes more time and supplies. Essentially, the blueprint or sketch plus cultural feature construction are the same.

Instead of using a box with dirt and sand, a baseboard of plywood is used with the ground contours built up with clay, layers of cut cardboard glued together, or plaster of paris (or any combination). Linear features such as roads and streams are painted onto the finished terrain, while buildings and vertical obstructions are glued in.

If the TAR will be too big for safe transport, it should be constructed on separate, smaller rectangular baseboards which can be placed together for display. Often, a protective box or covering is necessary to ensure the TAR arrives safely.