

Redefining Route Clearance For Future Operations

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道路清除因應未來作戰新詮釋

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America's current and potential adversaries have learned several lessons from watching more than .10 .years of conflict in Iraq and Afghanistan. One of these lessons involves attacking the overwhelming U.S. technological advantage with relatively simple, low-tech improvised explosive devices (IEDs) and other explosive hazards (EHs). Our enemies will use explosive devices during any foreseeable Future conflict, and the U.S. Army can expect to conduct route clearance missions as a key enabling task to allow freedom of movement and maneuver for the combined arms team. Our current application of doctrine treats route clearance as a mission that is separate from combined arms breaching, but future military operations will require less distinction between them. Combined arms teams will be called on to apply the breaching fundamentals of suppress, obscure, secure, reduce, and assault repeatedly against EHs to get maneuver units to their objective with combat power intact. Route clearance should be defined as the detection and neutralization of EHs in support of a combined arms movement or maneuver to or from a specified objective.

美國現今與潛在敵人已於過去十年間從伊拉克及阿富汗衝突觀察中得到幾個寶貴經驗。其中一個即是關於使用相對簡單、低科技的急造爆裂物(IEDs)及其他具有爆炸危險物品(EHs)去攻擊在科技上具有壓倒性優勢的美國。我們的敵人將會使用爆裂物(裝置)在任何未來可預見的衝突中，而美國陸軍被期望當作執行道路清除關鍵促使聯合兵種戰鬥群執行自由行動與機動的任務。我們現今準則運用認為道路

清除任務與聯合戰鬥打擊是區分開的，但未來軍事作戰要求將其中差異縮小。聯合兵種戰鬥群將主動運用基礎壓制，隱蔽、安全、減低與快速打擊反制危險爆裂物，使機動單位能在戰鬥力未損前到達目標區。道路清除應被定義為支援聯合兵種戰鬥群移動或機動往、返特定目標，對抗危險爆裂物的壓制與偵測。

Addressing the Definition of Route Clearance

道路清除的定義

Route clearance is typically understood to be a mission that is conducted to remove all obstacles along a given path so that friendly forces can travel safely. This definition does not imply that follow-on forces will maneuver along this route at a particular time or for a particular purpose. Route clearance, as often conducted in recent conflicts, is simply keeping a route open because the commander requires mobility along that route at some unspecified point with some unspecified force. This definition is problematic since it leaves room for interpretation. Furthermore, a clear route implies that all obstacles—to include IEDs and other EHs—have been completely removed.

道路清除典型地被認為是種執行排除沿著特定路線上所有障礙的任務，如此一來友軍可安全通過。此種定義意味後續部隊將能於特定時間及目的沿此路線機動。道路清除(有時會於最近衝突中執行)僅是維持路線暢通，由於指揮官要求沿著路線，伴隨未知點與部隊的機動性。如此定義是有問題的，因為遺留下詮釋的空間。並且，一條無障礙的路線隱含著所有障礙(包括急造爆裂物(IEDs)及其他危險爆裂物)應完全清除。

The current definition of route clearance requires revision since enabling friendly maneuver along a route implies that the route must be cleared and must remain under surveillance.² This definition is also overly broad, encompassing aspects of the counter-IED fight ranging from predictive analysis to forensic evidence exploitation. The definition of route clearance should be amended to read that the neutralization of IEDs, EHs, and other obstacles is conducted in direct support of a separate unit's movement or maneuver.

在既有認知上，道路清除是沿任務路線執行清除障礙以確保友軍機動安全。這樣定義是過於簡略，防範急造爆裂物的範圍，從預期分析及需証據方式佐證。道路清除定義需修正，並解讀為癱瘓急造爆裂物(IEDs)、危險爆裂物(EHs)與其他障礙物之影響。並且可於不同機動與移動單位下直接支援。

Defining the purpose of route clearance as the elimination of a threat along a route is at odds with reality, since practitioners from operations in Iraq and Afghanistan will agree that the elimination of IED and EH threats along any route is possible only for brief stretches of space and time. Because a location is only clear for as long as friendly forces keep it under observation after eliminating the threat, saying that the route is clear after a route clearance operation could be misleading. While one may assume that every maneuver commander intuitively understands the risk associated with the lapse of time after a route has been cleared, one must keep in mind that the maneuver commander receives information in a time-compressed environment. Designating a route clear or color-coding it to denote the extent to which a route is clear can oversimplify the tactical condition of a route in the absence of concise, shared definitions that tie risk to time lapse. Also, today's force has learned lessons from more than a decade of experience in Iraq and Afghanistan. Tomorrow's commander may have to face the EH threat without such experience. When conducted to clear, route clearance produces very narrow effects that are confined to a specific location for a limited time. For this reason, the definition of route clearance should be to neutralize obstacles along an assigned route to enable a supported unit to arrive at its objective with enough combat power intact to complete its mission.

定義道路清除目的與沿著路線清除威脅，與現實狀況是不同的。因為從在伊拉克及阿富汗作戰的作戰人員，將會同意沿著任何路線清除急造爆裂物(IEDs)和危險爆裂物(EHs)威脅是可能的，但僅限於短暫的空間及時間。因為位置是否無障礙，只要友軍部隊能在威脅消除後能持續偵察。並且，道路清除完後就說是路線無障礙，可能是有誤解的。同時，假設每一個機動部隊指揮官開始認知風險是與路線被清除後時間長短有關。有件事須牢記在心，機動部隊指揮官是在時間緊迫環境下接收資訊。明確指定路線或用色碼標定那條路線是清除的，可能是過於簡化的路線戰術狀況，尤其在缺乏簡明的，置風險於時間長短共同定義。而且，今日的部隊已在伊拉克與阿富汗超過數十個經驗中學到教訓。明日的指揮官可能在無此種經歷下面臨危險爆裂物的威脅。當去執行道路清除造成侷限在特定時間與地點的微小影響。因此，道路清除的定義可能是沿著指定路線癱瘓障礙影響，確保被支援單位有足夠戰力且無戰損的到達其目標區完成任務。



A mine-resistant, ambush-protected vehicle with mine rollers and a Husky mounted mine detection vehicle participate in route clearance operations in Khowst Province, Afghanistan.
 一輛防地雷突擊車(MRAP)、排雷犁與賀斯基地雷裝載與偵測車(HMDs)在阿富汗霍斯特(Khowst)省執行道路清除任務。



A Husky mounted detection system performs route clearance.
 賀斯基排雷系統執行道路清除。

Conducting route clearance on a regular basis with no supported unit maneuvering behind while synchronized with the clearance element does not produce a cleared route or provide the maneuver commander with improved mobility. A 2010 article in *Engineer* clearly demonstrates the point in the following excerpt:

於無機動支援單位伴隨去執行例行道路清除與清除，將無法執行道路清除或提供機動指揮官足夠機動能力。在2010年有篇關於工兵的文章中清楚說明下列觀點：

RCPs [route clearance patrols] clear routes in direct support of a BCT [brigade combat team] maneuver element conducting a mission. RCPs conducting missions that are not in support of a BCT maneuver element are not defeating the device, but simply putting RCP assets at risk. This argument is based on three assumptions:

路線清障巡邏隊(RCPs)在旅戰鬥隊機動小組支援下執行道路清除之任務。路線清障巡邏隊若無旅戰鬥隊機動小組支援下，是無法執行除障任務的，並且機動小組會有損傷的風險。如此論點是基於下列三個假設：

- *AAF [Anti-Afghan Forces] IEDs can damage or destroy RCP assets.*
- 反阿富汗人部隊(AAF)之急造爆裂物(IEDs)能傷害與摧毀路線清障巡邏隊(RCPs)。
- *AAF have more IED-making material and Resources than U.S. and coalition forces have RCP assets within a BCT's area of operations.*
- 反阿富汗人部隊(AAF)已有許多製造急造爆裂物材料與資源，數量比美國與盟邦在旅級戰鬥隊作戰範圍所擁有路線清障巡邏隊多。
- *AAF can predict the routes U.S. and coalition forces use within a BCT's area of operations, thus giving the AAF the initiative.*
- 反阿富汗人部隊(AAF)能預測美國與盟友在旅級戰鬥隊(RCT's)作戰區域內路線運用情況，如此，能有助於反阿富汗部隊(AAF)的行動。

Once an RCP clears a route, the AAF simply return and reseed it with new IEDs.

- 一旦路線清障巡邏隊(RCPs)清除一條路線後，反阿富汗人部隊(AAF)會回來並重新設置數個急造爆裂物(IEDs)

Predicting the Behavior of Future Adversaries:

預測未來敵人的作戰行為模式

Critics may argue that those assumptions may not prove relevant in future conflicts. First, any critic believing that future adversaries will not be able to damage or destroy RCP assets should remember how rapidly our adversaries have adapted low-tech solutions to defeat even our most protected systems, not only in our current wars, but in previous fights as well. Second, IEDs are most commonly manufactured with relatively inexpensive, commercially available,

dual-use technology. Homemade explosives are inexpensive and scalable, requiring a low level of technical expertise to produce. Explosive devices such as IEDs are likely to remain more common than RCPs in a future scenario, particularly as America continues to cut defense spending. Finally, those who say that poor operations security, rather than terrain, is to blame for our adversaries' ability to predict RCP movements should remember that our future conflicts will be conducted among populations who can report RCP movements via modern commercial communications much quicker than slow-moving RCPs can reach their objectives. Simply put, future conflicts involving EHs are likely to adhere to the assumptions outlined in the 2010 *Engineer* article above.

評論者或許爭論這些在未來衝突中未被證明之相關性假設，首先，任何認為未來敵人無法傷害或摧毀路障清除巡邏隊價值的議論者，應該記著敵人是如何快速地去採取低技術的方法來擊敗我們。甚至是保護嚴密體系，不只是現今的戰爭及是過去的作戰。第二，急造爆裂物(IEDs)通常是相對低廉，較易獲得雙重運用方式製造土製炸藥通常較不昂貴，並較易獲得，僅需低階技術的專門技術去製造爆裂物。例如：在未來想定中，急造爆裂物(IEDs)比路線清除巡邏隊(RCPs)保留可多共同性，尤其是當美國仍持續削減國防預算。最後，這些說匱乏的作戰安全性而非地形因素，則歸咎於因敵人預測路線清除巡邏隊動態能力的影響。，記得我們未來衝突將發生在人群中，能夠藉由現代民用通訊設備回報路障清除巡邏隊(RCPs)動態，相對於移動緩慢到達目標區的路障清除巡邏隊 RCPs 快些。總之，未來衝突中與危險爆裂物關聯很有可能地遵循著上述在 2010 年之兵文章所條列假設。

An RCP may detect and reduce multiple EHs during a mission, but our adversaries of the last decade have demonstrated a remarkable ability to emplace additional EHs immediately after the RCP and other friendly elements quit observing a location. There is no reason to believe that future adversaries would behave differently. This means that the RCP should be in support of a maneuver or support element and function under operational control of that element. No other arrangement preserves the maneuver commander's combat power, because the route is no longer clear at the end of a route clearance mission and no supported unit has arrived at an objective with combat power intact. Route clearance should not be conducted as an end in itself. Because adversaries are likely to emplace new explosive devices as soon as an area is no longer observed

by friendly forces, route clearance should only be conducted in coordination with, and in direct support of, another unit moving along the route.

一個路線清障巡邏隊可能在某個任務中探測與排除多樣的危險爆裂物，但是近十年的敵人已展現出在路線清除巡邏隊及友軍單位在停止偵查某區域後，立即設置額外危險爆裂物的驚人能力。沒有理由去相信未來敵人可能表現不同。這意味著道路清除應被機動支援(或者)於巡邏隊的作戰控制下的支援與功能。無其他的安排保留指揮官戰鬥能力。因為在道路清除任務結束後，路線不能沒有障礙，並且無支援單位能於戰力完整無缺下到達目的地。道路清除這任務是沒有終點的，因為敵軍很有可能很快地設置新的爆裂裝置。只要這個區域不被友軍發現，道路清除應沿著移動路線，並與直接支援單位並協調後再去執行道路清除任務。

Critics could argue that conducting route clearance solely in support of a dedicated maneuver unit would not protect the local populace. This point loses legitimacy when the nature of route clearance is considered. Route clearance is a slow, tedious process that often causes lengthy traffic jams when applied to heavily traveled civilian routes, frustrating the populace and disrupting host nation commerce. Damage to infrastructure will often occur during route clearance as explosive devices detonate on roads or bridges and slow-moving armored vehicles produce excessive strain on roads and bridges designed for civilian traffic. This adds to the frustration of the populace with U.S. forces and gives adversaries a propaganda advantage. The route clearance of civilian infrastructure involves an overt U.S. presence that delegitimizes host nation security forces. A better method for protecting the local populace from explosive device threats would be to help build or improve host nation counter-IED or route clearance capabilities.

評論者可能爭論執行道路清除僅是支援個別專用機動單位，大概不會保護當地百姓。這個觀點喪失其合理性，當道路清除的本質，是考量道路清除是個緩慢及冗長的過程，時常造成冗長的交通阻塞。當在繁忙交通要道執行任務時，常阻撓當地百姓交通及造成當地商業貿易混亂，在除障時亦會常常造成基礎建設損害。若爆裂物在路上或橋上引爆了，移動緩慢裝甲車輛，會在路上或為百姓設計的橋樑上造成極度緊張。影響百姓與美軍和諧，且給予敵人一個有利的宣傳條件。百姓的基礎建設的道路清除牽涉到一個美國公開存在事實，減少其國家安全武力之合理性。另一個保護當地百姓免於爆裂物威脅的更好方法，是協助建立或改進當地國家對抗急造爆裂物(IEDs)或道路清除的能力。

The critics' second point could be that route clearance under these proposed definitions would limit contact with EHs to those found only on routes being traveled by U.S. forces. This would limit opportunities to collect evidence that could be used in the targeting cycle. However, evidence could still be collected during route clearance missions that support another unit's maneuver. Much as the breach force remains at the point of breach in order to pass the assault force and improve lanes in the obstacle during combined arms breaching activities, evidence can be collected by a stay-behind element of the route clearance unit if time is a concern. A more important consideration, however, is that our adversaries will probably place explosive devices only at locations where they can reliably target U.S. forces. The presence of U.S. forces to gather evidence would itself be a trigger for the adversary to emplace an explosive device, thereby compounding the threat to U.S. forces. Simply put, EHs sought out for evidence-gathering alone would risk route clearance assets for only marginal gain in the supported commander's freedom of movement and maneuver.

評論者的第二個觀點可能是這些提議與定義的道路清除，將限制與接觸危險爆裂物的。對於在美軍所經路線上找到的急造爆裂物(IEDs)，如此會限制目標循環中可能被運用於搜尋疑似爆裂物的機會。在支援其他單位機動的除障任務中，疑似爆裂物可能仍被發現。除障部隊於除障點停留，目的是讓攻擊部隊通過，當聯合兵種於道路清除行動可改善車道。假如時間是重要的考量因素的話，疑似爆裂物是道路清除單位的小組人員所必須考慮的。一個值得考慮的是儘管敵軍瞄準美軍的位置設置爆裂裝置。美軍搜尋疑似爆裂物的現況。針對敵人設置爆裂裝置而言，可能是自己本能是個觸發物，故增加對美軍的威脅。簡言之，單獨為了蒐集證據，搜尋急造爆裂物(IEDs)，可能導致路線除障部隊承受傷亡風險，如此對支援指揮官機動與運動的自由度僅是邊際利益。

Conclusion

結論

Future adversaries will continue to use improvised and manufactured explosive devices to disrupt U.S. forces and deny access to key areas throughout the operational area. Route clearance will continue to be a key mobility task in future conflicts. The RCP, as seen during more than 10 years of in Iraq and Afghanistan, will more closely resemble a combined arms breach as hybrid threats seek to disrupt, fix, turn, or block U.S. forces with IEDs, other EHs, and terrain. Route clearance must be defined as the detection and reduction of IEDs

and EHS in support of combined arms mobility to or from a specified objective. Conducting route clearance for a purpose other than enabling a supported unit to arrive at the objective with combat power intact commits precious mobility assets while achieving limited effects on terrain, enemy forces, and the local populace.

未來衝突中道路清除仍是個主要機動任務，道路清除將持續成為未來武裝衝突中機動任務主要的關鍵。路線除障巡邏隊，在伊拉克與阿富汗超過 10 年期間，類似聯合兵種執行複合型阻絕威脅清除，當多重威脅如利用急造爆裂物(IEDs)與其他危險爆裂物與地形試圖造成美軍遲滯、轉向、或封鎖。聯合兵種必須負責實施急造爆裂物(IEDs)與危險爆裂物(EHS)這些特定目標的偵測與排除。當戰力受限於地形，敵軍或是平民時，道路清除任務的執行可確保一個支援單位在戰力保存完整的情況下到達目標區。