Assured Mobility in the Army's First Stryker Brigade

By Major Heath C. Roscoe and Captain Kenneth Dean Mitchell

The 3d Brigade, 2d Infantry Division, the Army's first Stryker Brigade Combat Team (SBCT), deployed from its home station in November 2003 for Operation Iraqi Freedom. After training at Camp Udairi, Kuwait, the brigade moved into Iraq and conducted combat operations in the Salah al-Din province (Ad Duluiyah, Balad, and Samarra), located in the Sunni Triangle, and later moved north to the Ninevah province (Mosul and Tall Afar). Due to the complex nature of the conflict in Iraq, the brigade is conducting stability operations and support operations concurrently with combat operations. The enemy's ability to affect mobility with the use of improvised explosive devices (IEDs) was anticipated. With the organic and attached engineer units and the assured mobility framework, the brigade has been able to effectively deal with the IED threat to its mobility in the city of Mosul.

An ESV with slat armor

Engineers in the SBCT

The engineers in the SBCT are a large part of assuring its mobility. Engineers organic to the SBCT are the Brigade Engineer Section and the 18th Engineer Company, while the 276th Engineer Battalion (Corps) (Wheeled) and the 744th Explosive Ordnance Disposal (EOD) Company are attached for general support.

Brigade Engineer Section

The Brigade Engineer Section consists of an operations/planning cell and a brigade terrain team. The cell integrates all of the engineer battlefield functions (mobility, survivability [force protection], countermobility, topographic engineering, and general engineering). The terrain team provides standard and nonstandard terrain products and tactical decision-making aids. These products, critical to the targeting process, help commanders at all levels visualize the terrain and assist them in making decisions on the employment of SBCT assets.

18th Engineer Company

The primary focus of the 18th Engineer Company is tactical mobility. It consists of a headquarters section, three mobility platoons, and a mobility support platoon. Its mission is to detect and prevent emplacement of IEDs by patrolling the main routes in the city of Mosul. The engineer anti-IED patrol is a platoon mission. The

mobility platoons have a full complement of necessary engineering equipment, with the engineer squad vehicle (ESV) at the center. However, platoon leaders in the company currently have up-armored, high-mobility multipurpose wheeled vehicles (HMMWVs) instead of ESVs. The brigade is working through the Department of the Army Review Team process to add ESVs to the mobility platoon leader position. The engineer anti-IED patrol will soon receive new systems to prevent remote detonation of IEDs, and new equipment training for these systems is currently being conducted. Since IEDs seem to be the weapon of choice for the enemy, modification of the ESV to add the counter-remote-controlled IED is important.

A HMMWV with a steel ballistic shield

276th Engineer Battalion and 744th EOD Company

The primary focus of the 276th Engineer Battalion is supporting the maneuver battalions with mobility, survivability, and general engineering. The brigade has task-organized sapper platoons in a direct-support role to all five maneuver battalions. This provides an engineer reserve to respond to priority force protection projects. The 276th uses the Meerkat and Husky to detect and neutralize mines and IED threats in remote sectors of the area of operations. The company also provides the 744th EOD Company with mobility and security while responding to IEDs and caches throughout Mosul. An IED response force and a cache response force for the brigade consists of a platoon from the 276th and an EOD team. The cache response force has the haul capability required for large finds of captured enemy ammunition or arms.

Assured Mobility in Action

Assured mobility encompasses those actions that give the force commander the ability to deploy, move, and maneuver where and when desired, without interruption or delay, to achieve the mission. The imperatives and fundamentals of assured mobility are a relatively new doctrinal framework. These fundamentals enable friendly forces to exploit superior situational awareness and situational understanding, gaining unsurpassed freedom of movement. This framework describes the processes that enable the commander to *see first*, *understand first*, *act first*, and *finish decisively*.[1] The six fundamentals of assured mobility are—

- *Predict*—predict the ability of the enemy to impact maneuver.
- *Detect*—use intelligence, surveillance, and reconnaissance (ISR) assets to identify the emplacement and location of obstacles. ISR assets can also be used to identify solutions and alternate courses of action.
- *Prevent*—act early to prevent obstacles from affecting maneuver.
- *Avoid*—choose alternate routes to avoid the obstacle.
- *Neutralize*—reduce the obstacle if avoidance is not possible.
- *Protect*—protect soldiers, equipment, and the mission from enemy countermobility effects.

Predict

Prediction is a function of brigade-level staff action, coordination, and analysis. The brigade engineer, along with the S2, must accurately predict potential enemy impediments to mobility. They analyze the enemy's countermobility capability and effects. The primary method used to impede mobility in Iraq is the IED. Materials for IEDs are readily available throughout the country, and anti-Iraqi forces train resistance elements in the construction and employment of IEDs. The purpose of IEDs is to kill or wound US and coalition soldiers and destroy vehicles. A secondary effect is that the route must be closed while an IED is properly neutralized, which disrupts civilian and military traffic. In a city of 1.8 million people, stopping traffic on a main route has major effects.

The brigade staff works to understand the enemy's tactics, techniques, and procedures; capability; and evolution in order to understand the effects it can have on mobility. The 101st Airborne Division (Air Assault) kept records of IED incidents since its arrival in June 2003, and the SBCT continued this historical data. The brigade engineer, along with the S2, analyzed the data and predicted the most likely emplacement times and locations. Using this data, the staff was able to coordinate the engineer effort, ISR collection activity, and maneuver forces to effectively counter the threat. But the targeted areas, emplacement times, construction, and trigger mechanisms continue to change, making it imperative to continually analyze the data and alter the brigade's efforts.

Strykers roll off the boat in Kuwait

Detect

The SBCT detects explosive hazards before the enemy can inhibit mobility or cause harm to US and coalition forces. This is done using the different maneuver and ISR assets embedded in the brigade: engineer anti-IED patrols, infantry patrols, observation posts, human intelligence sources, signal intelligence sources, unmanned aerial vehicles, and the Reconnaissance, Surveillance, and Target Acquisition Squadron. SBCT engineers also provided additional training to maneuver, military police, and host nation forces to increase effectiveness in identifying and detecting IEDs. There are three phases during which an IED can be detected:

- During emplacement
- While emplaced but not detonated
- After detonation

All three have some impact on mobility and must be addressed separately.

Detection During Emplacement. The SBCT aggressively conducts anti-IED patrols with the infantry battalions and engineer anti-IED patrols during likely emplacement times identified by the brigade staff. Some areas along the routes have been identified as high risk, or named areas of interest, during the predict process. Because of coalition presence, the enemy found it difficult to prepare and set up an IED. Ordnance has been found inside suspicious vehicles stopped by anti-IED patrols and at flash tactical control points. In addition, Iraqis report suspicious activity and devices to the Iraqi police, who respond with their own civil defense EOD team. These IEDs are detected early and prevented with an aggressive presence and human intelligence gathering. Detecting an IED during this phase has minimal impact on the mobility of the brigade.

Detection While Emplaced but not Detonated. Anti-IED patrols sometimes find partially set up IEDs. But anti-Iraqi forces are starting to produce and emplace "pop-and-drop" IEDs that significantly reduce emplacement time. The engineer anti-IED patrols use technology to their advantage. The thermal capability of the ESV, night vision goggles, and spotlights with infrared filters allow engineer soldiers to detect possible emplacement locations. The engineer anti-IED patrol varies security patrol times, routes, and direction of travel to support maneuver operations and prevent predictability. The brigade uses OH-58D helicopters and unmanned aerial vehicles to detect enemy activity in high-risk areas. Upon finding a potential IED, the Buffalo mine-protected vehicle is used to investigate with its robotic arm. When the Buffalo is not available, a Packbot or a MATILDA robot is used to confirm or deny potential IEDs. Using these devices reduces the risk to soldiers and false-alarm responses of EOD assets. When an IED is detected, the roads are closed as maneuver forces secure the area to ensure that the "triggerman" is not nearby. The IED response force then neutralizes the threat. Because the brigade can quickly transfer information through the Force XXI Battle Command–Brigade and Below (FBCB2) System, the IED does not impact mobility.

Detection After Detonation. At this phase, the IED detonates on US or coalition forces. The Stryker vehicles are remarkably tough and resilient, resulting in very little damage

to equipment or soldiers. The brigade has made an effort to protect unarmored vehicles with add-on armor kits. Depending on the operating tempo (OPTEMPO), the IED response force can conduct a post-blast analysis. If vehicles are damaged or personnel are injured, maneuver forces must close the roads temporarily and secure the site until recovery or medical assets can respond.

Prevent

To prevent enemy placement of IEDs, infantry and engineer anti-IED forces patrol continuously, especially in front of critical soft logistical convoys. Soldier competence and alertness, coupled with mounted crew-served weapons and hardening of soft-skinned vehicles, make a more aggressive and less enticing target for the enemy. Anti-Iraqi forces usually do not detonate an IED on convoys with overwhelming firepower and an aggressive stance, but will wait until a softer target comes along. Thus, the posture of a convoy is a large component of preventing the detonation of prepared and emplaced IEDs.

The SBCT also prevents IED emplacement through seizure of caches throughout the city and securing critical ammunition supply points within the area of operations. Reducing the amount of ordnance available to bomb makers is a key component of prevention.

Finally, and most importantly, preventing the enemy from impeding mobility in the first place requires successful targeting. The best way to prevent IEDs is to capture or kill the bomb makers. ISR assets are tasked and focused on gathering intelligence on these high-payoff targets. An entire enemy IED cell was captured in early March, which was followed by a significant decrease in IEDs for a while. The institutional knowledge to construct the devices and emplace them was lost. However, those caught are soon replaced by others, and the brigade must continue to aggressively target these individuals.

Avoid

A route-status tracker is used to inform higher and subordinate elements on the threat conditions for the routes in the area of operations. This tracker, an element of the common operational picture (COP), is updated daily and briefed to the commander. This tool is used to plan and execute convoys and combat missions and avoid areas with IEDs. When an IED is identified or detonated, it is immediately reported to the brigade tactical operations center. The unit reporting the IED sends a contact report that contains critical IED information and a request for EOD support. The unit also populates the FBCB2 System with the location of the IED and blocked locations along the route, allowing military units and convoys to avoid the hazard. All brigade convoys patrol with an operational FBCB2 System. With the superior situational awareness and situational understanding given by the digital systems and the COP, units see the threat in real time and are able to avoid the affected area, thereby limiting the IED impact on brigade mobility.

Neutralize

Because Mosul is a large city and traffic is already severely congested, it is important to remove the hazard as soon as possible and get civilian traffic moving again. The SBCT created the IED response force for this reason. Its task and purpose is to neutralize IEDs as soon and as safely as possible to allow unrestricted movement of combat forces. The unit that finds an IED or the maneuver unit that owns the battlespace secures the site and keeps civilians and other military traffic away from the hazard area. Once the IED response force arrives, it makes a quick assessment, neutralizes the hazard, and reopens the route. Iraqi police, in conjunction with the local civil defense EOD team, responds to IEDs reported by Iraqis and only requests US EOD support if the IED is beyond their capability. This host nation's capability greatly reduces the OPTEMPO of brigade EOD forces.

The 744th and 276th did not come to the brigade equipped with digital systems, so they had no means to see the brigade COP and react in real time to incidents. This ability speeds up response time and allows them to avoid threats en route to a mission. The brigade reallocated FBCB2 Systems from organic SBCT vehicles to give them this capability; however, non-equipped forces should be fielded with compatible digital systems.

The Buffalo mine-protected vehicle

Protect

Protecting the brigade soldiers from the effects of IEDs has been a priority of the commander since Day One. The force modernization cell from the brigade has aggressively pursued ways to add force protection to brigade soft-skinned vehicles. The Army has come up with excellent kits for this purpose. But until these kits flow to the units, they must look for interim fixes by purchasing steel and Kevlar® blankets.

The equipment given to soldiers has improved as well. Ballistic eye protection, small arms protective insert (SAPI) plates, hatch operator gloves, knee and elbow pads, advance combat helmets, and medical battle packs are in the possession of each soldier. Items at the squad and higher levels include ratchet-type tourniquets, SKEDCO litters, Israeli litters, "jaws of life" extraction tools, combat lifesaver bags at the fire team level, intrasquad radios, and modular integrated communication headsets that filter out noise and prevent hearing loss. These items have all provided protection to soldiers during IED incidents. The SBCT continues to look for additional commercial, off-the-shelf technology to increase vehicle force protection and soldier survivability.

Conclusion

Assured mobility is a proactive process that, instead of reacting to the enemy, allows us to predict, detect, prevent, avoid, neutralize, and protect. This process requires the brigade staff and all units to conduct detailed planning—incorporating the assured mobility fundamentals—to ensure that our soldiers remain safe and the mission is accomplished according to the commander's intent.

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Endnote

[1]Field Manual 3-34, *Engineer Operations*, 2 January 2004, Chapter 3, Section II, paragraph 3-40, page 3-11.