

Strategy Research Project

Foreign Infrastructure Investment and Operational Engagement Framework

by

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Abstract

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Foreign Infrastructure Investment and Operational Engagement Framework

Stability operations have consumed the United States in the past two war efforts in Iraq and Afghanistan and we have learned that these types of operations are complex adaptive systems. One key aspect of stability operations is the use of infrastructure investment to build host nation capacity as an underpinning to good governance, economic stabilization and the rule of law. Infrastructure investment is time consuming and costly, especially when conducted by US forces. So, undertaking stability operations utilizing infrastructure investment must be made with a cautious and complete understanding of the environment. This research adds to the understanding of the stability operations environment through three areas. First, economic theories are analyzed to assess how they connect to infrastructure investment. Second, in conjunction with the US Army's Peacekeeping and Stability Operations Institute (PKSOI), a framework is developed using United States Institute for Peace's (USIP's) Cross-cutting Principles in combination with Fund for Peace's (FFP's) Fragile State Index. This framework is used to analyze theater security cooperation in Central America through the lens of humanitarian civic assistance projects. Finally, a humanitarian civic assistance engagement in Belize to support host nation legitimacy is evaluated through a few vignettes on project execution and survey data that was collected using a theoretical model describing citizen satisfaction. These three topics provide senior leaders a better way to understand the operational environment that exists with each military engagement and stability operation. Better insight into the operational environment allows our senior leaders to define the problem and develop a full spectrum approach that is required in a joint operation planning process.

Many different economic theories can shape and influence foreign infrastructure investment. Five economic models are discussed.

The first model is the flow model as a gross domestic product measurement, whereby $Y = C+I+G+(X-M)$. GDP = Consumption + Investment (Private) + Government Spending + (Exports – Imports).¹ This equation impacts nations differently depending on where they fall on the economic maturity scale. In a nascent country, such as Afghanistan in 2005, consumption, (private) investment, exports and imports are relatively low. Therefore, the major impact on GDP increase was due to US government involvement in reconstruction efforts that pumped money into the economy as government spending. The GDP was continually buoyed by US government spending and international aid and in the last few years, consumption, investment, and exports have increased.

In a more mature economy such as the United States, the variables are more predictable and the influx of government spending has less of a direct impact. The impact of building partner capacity and interoperability amongst U.S. and foreign countries far exceeds the expense of the direct investment. In Belize, where GDP is \$2.9B², US government investment in infrastructure does not impact GDP growth in a substantial manner. So, the direct economic impact of US infrastructure investment, such as \$5M in building materials and services should not be the main reason for making that investment.

The second economic model is the production possibilities frontier (PPF) that describes the efficiency of an economy by comparing resource allocation required to create alternative products. Figure 1 shows a conceptual PPF graph. Using this

theoretical model, the country allocates its scarce resources to produce some combination of only two products. Product 1 is shown on the vertical axis; product 2 is shown on the horizontal axis. Point A represents full employment of the country's labor force that produces only Product 1. Point B represents full employment dedicated to making only Product 2. Point C represents a combination of full employment in making a combination of products 1 and 2. Point D represents unemployment because there is untapped labor that is not being fully utilized. Point E represents major unemployment and cause of concern for the host nation government. Point F represents an unattainable level of production because of the existing limitations of labor, materials, and technology within the country.

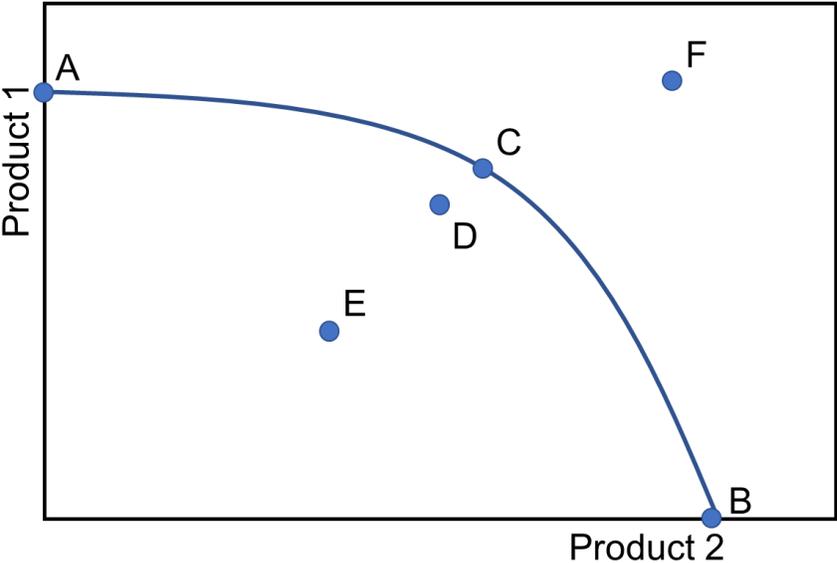


Figure 1. Production Possibilities Frontier (PPF)³

The theory posits that, at full employment, an economy can either maximize production of one of the two commodities or allocate its scarce resources to produce some lesser amount of both commodities. Employing the in-country labor force enables

a more efficient local economy and reduces the opportunity cost of lost labor productivity. This can be a stabilizing force in developing or fragile states.

The third economic model is the aggregate supply/demand model. This model provides one explanation of how infrastructure investment can produce a stabilizing effect on a country. Infrastructure investment increases aggregate demand and overall GDP, putting upward pressure on domestic prices. Both the increased aggregate demand and the rising prices prompt businesses to build more products, thus creating more jobs and wealth while increasing aggregate supply.⁴ Increasing employment, economic activity, and GDP all provide greater stability in the country.

The fourth economic model is the economic-input output model described by Wasily Leontief. The economic input output model published in 1966 reveals the interplay between industries within a national economy. The model takes the data from all the industries and cross references their impact to all the other established industries within an economy. A developed input-output model allows economists to determine the impact from various changes within the economy such as wage and supply chain cost increases. It also shows how dollars within a certain industry roll throughout the other parts of the economy. For example, construction takes land, labor, and capital. But it takes additional manpower, materials, and equipment to produce the initial consumption of construction materials. In some industries, the dollar rolls over more times than in other industries. Leontief's model allows the analysis for any particular industry to "compute the complete table of its input requirements at any given level of output, provided we know its input ratios."⁵ This concept is vital in understanding the importance of infrastructure investment because construction tends to have a greater wealth effect

on the entire population versus investment in other industries. Knowing this may provide an opportunity for planners to obtain regional goals through infrastructure investment.

The fifth economic model and the one used to extend this research is the combination of diminishing marginal utility and expectancy theory. First, the theory of diminishing marginal utility describes how the increase in consumer satisfaction derived from the consumption of a good or service diminishes as more of it is consumed.⁶ For instance, a Texas oil transportation business entrepreneur owns 79 Dodge Vipers. This icon of American consumerism provides a great illustration of diminishing marginal utility. The theory postulates that the first Viper purchased brought a much higher increase in satisfaction than the 79th Viper. The article continues with the individual seeking his 80th Viper.⁷ As more sports cars are obtained, the increase in satisfaction decreases. The same dynamic applies to investments in infrastructure. For example, the local population of a small town is more exuberant with the first new road in the community than it will be with the second, third, fourth, and so on. A threshold does exist whereby an additional road does little to add value and at that point, stability operations should seek to move onto other types of infrastructure investment or locations. Eventually, foreign opinion of the U.S. resulting from infrastructure investment plateaus and does not produce any greater positive effect, it merely maintains a previous level of perception. However, the United States and other external actors can still have a highly stabilizing impact if the infrastructure projects are designed to support and prioritize host nation legitimacy, rather than simply increase local opinions of the U.S. Host nation legitimacy should always be the primary goal of any stability operation, thus setting the stage for independence from foreign government investment and aid.

An example of diminishing marginal utility occurred with U.S. reconstruction efforts in Iraq and Afghanistan where the U.S. built electrical grids, water lines, sewer lines, government and military facilities, extensive road networks, telecommunications, police stations, intelligence offices, etc. These efforts improved the two countries' entire infrastructure network, however, the construction plays the role of a commodity that follows the theory of diminishing marginal utility. Whereby the increase in goodwill that the U.S. acquires diminishes as the U.S. continues to reconstruct those two countries year after year. Then as in the past few years, as funding constricts, satisfaction of U.S. presence decreases.

Second, the theory of expectancy predicts that the impact of an economic stimulus will produce less benefit than expected because the market realizes the benefits of the stimulus as soon as consumers incorporate the stimulus into their future expectations. For example, in the United States, the political bureaucracy to pass a stimulus package normally takes months to approve, process, and implement. During this time, the market expects these additional funds to flow into the system. Supply chains react by adding manpower, materials, and equipment, to absorb and execute the stimulus package. When this occurs, the government's expected outcome or benefit of the policy is reduced once the policy is officially announced. Expectancy theory emerged in the Nobel Prize-winning work of Sargent and Sims, and it must be considered when deciding to pursue foreign infrastructure investment.⁸

For example, the resources allocated to the reconstruction efforts in Iraq and Afghanistan are a stimulus package delivered into the nations' economic system. The U.S. investment inflated the GDPs of Iraq and Afghanistan. Iraq's GDP hovers around

\$120B and Afghanistan around \$20B. In Iraq, the coalition spent \$60.5B in construction efforts and \$100B in Afghanistan.⁹ While the actual impact of this infrastructure investment was less than expected as noted by the 2013 SIGIR Report, “More than nine years after the start of the reconstruction program, Iraq is still far from having a vibrant, market-based private sector.”¹⁰ Also, according to the 2016 SIGAR report on Corruption in Conflict, “The U.S. government should take into account the amount of assistance a host country can absorb, and agencies should improve their ability to effectively monitor this assistance.” Simply put, infrastructure can only set the stage for a vibrant economy, while necessary, it becomes too easy for U.S. leadership to focus on infrastructure investment as a short-term solution, when long term solutions require more extensive intervention and capacity building.

In addition, the secondary effects of fiscal shocks to an economy must be considered. The investment in infrastructure by an outside force drives the market in ways that may not help program execution. For example, the U.S. military’s desire for quick results led to delays caused by a vast amount of investment dollars flooding the Afghanistan market creating supply and demand issues for the entire supply chain. The demands for manpower, materials, and equipment were enormous, driving up program costs. Local manpower dried up, requiring personnel from other countries to fill the gap, which became a political obstacle.

This discussion reveals the economic yield signs the U.S. must heed before driving on with the endeavor of foreign infrastructure investment. The U.S. must recognize the issues that initial large infrastructure investments create. First, large initial investments create a massive program management problem that is exacerbated by a

non-permissive environment. Second, large investments create a tension between winning over the local population with essential services and the addiction on foreign funds to support a false economy. When this false economy is created, only increasing investments will have a positive effect on foreign perceptions of U.S. investment, an example of diminishing marginal utility. The U.S. must be prepared to commit infrastructure dollars of the same or slightly increasing amount to keep satisfaction stable. Therefore, the U.S. must “choose wisely” on initial funding amounts and be prepared to sustain that funding amount over the long-term. In fact, it is better to provide the expectation of lower funds, under promising and lowering expectations, and then secure increasing amounts of funds for long term execution, and over deliver in program performance.

Third, the U.S. must understand that the discussion of funds commitment for infrastructure investment may have a positive effect on a foreign economy but not a dramatic effect because of the theory of expectation posited by Sargent and Sims. Expectation of the funding source is anticipated by the local economy and diffused into the economic system earlier in the process. Therefore, the U.S. must follow through and provide a continuous flow of funding. Otherwise, if funding does not continue, additional risks to long term stability may be incurred. The U.S. must keep the expectation of proposed stimulus low and then over time over-deliver on funds obligations. The limits to expectation are overcome when the investment propels the host nation to build capacity and legitimacy.

Diminishing marginal utility and expectancy theory, in concert with USIP’s seven cross-cutting principles necessary for stabilization and reconstruction, provide vital

insight to U.S. leadership when considering an investment strategy.¹¹ Continued moderation of recipient expectations and continued flow of funding is needed for an infrastructure investment program to be successful in providing a framework for stability. Finally, U.S. leadership must consider a strategy of restraint in resource allocation to guard against overwhelming the host nation absorptive capacity and to ensure an infrastructure investment program is on a road to success. Next, the paper broadens the discussion to analysis of a regional area.

U.S. regional engagements are a major tenet of every geographic combatant command. For example, SOUTHCOM lists three strategic priorities: defend the U.S., foster regional stability, and be an enduring partner.¹² The strategy to foster regional stability has five lines of effort, of which three require direct engagement to increase security capabilities. One type of direct engagement is humanitarian civic assistance (HCA).

HCA was first approved in 1984 and utilized in Panama to construct roads and bridges. Under the law, Title 10 USC 401, the Secretary of Defense has the ability to utilize the military to conduct humanitarian and civic assistance to countries when the following provisions are satisfied.

“(1) The security interests of both the United States and the country in which the activities are to be carried out; and

(2) The specific operational readiness skills of the members of the armed forces who participate in the activities.”¹³

HCA provides the Secretary of Defense the ability to engage countries across the globe; however, “Humanitarian and civic assistance may not be provided under this

section to any foreign country unless the Secretary of State specifically approves the provision of such assistance.”¹⁴

Developing a framework to evaluate regional engagement is necessary for theater planners. The following analysis in concert with PKSOI develops a framework by combining the United States Institute of Peace’s (USIP) seven cross-cutting principles of regional stability with the Fund For Peace’s (FFP) Conflict Assessment System Tool (CAST) methodology as a way to evaluate regional engagement. This combined framework (USIP and CAST) is applied to SOUTHCOM’s engagement in Central America and provides a way of addressing gaps that exist from desired future state and the current state of a country’s stability.

Having a secure port and passage through Central America is vital to U.S. interests. Recently, the USS Zumwalt was sidelined in Panama due to an engineering issue and was towed to the U.S. Naval Station Rodman on the west bank of the canal. This incident highlights the need for a stable nation to control the Panama Canal, a vital U.S. interest.¹⁵ In addition, more than 36M tons of materials passed through the Panama Canal in January 2017, the most in history.¹⁶ Since the Monroe doctrine, U.S. engagement with Central and South America is vital to national security and will continue well into the future. The combined framework provides a systematic way to evaluate the conditions of previous SOUTHCOM engagements and provide an understanding for senior leaders to develop an operational approach for further engagements.

Table 1 shows the countries surrounding the Panama Canal and their scores according to the Conflict Assessment System Tool (CAST) developed by the Fund for

Peace.¹⁷ In addition, the United States and Finland are included as a frame of reference due to their relative stability. For example, Finland, according to the Fragile States Index, is the most sustainable country in the world due to its scores across the 12 indices. *Lower scores are better than higher scores. Higher scores indicate greater fragility. Therefore, in Central America, Guatemala and Colombia are more fragile than Panama and Costa Rica.

Table 1. Central American Countries 2016 Fragile States Index¹⁸

Fragile States Index 2016		Total	Demographic Pressures	Refugees and IDPs	Group Grievance	Human Flight	Uneven Development	Poverty and Economic Decline	Legitimacy of the State	Public Services	Human Rights	Security Apparatus	Factionalized Elites	External Intervention
61	Guatemala	83.2	7.4	5.8	8.2	7.0	8.3	5.7	6.7	7.7	6.9	7.3	6.8	5.4
67	Colombia	80.2	6.7	7.9	7.0	6.3	7.8	3.9	6.5	6.1	7.2	7.0	7.6	6.2
68	Honduras	79.8	6.5	4.0	6.1	6.6	7.9	6.6	7.0	7.0	6.6	7.0	6.8	7.7
71	Nicaragua	79.0	5.5	4.2	6.7	8.3	8.2	5.9	7.6	6.9	5.4	5.7	7.1	7.5
96	El Salvador	72.5	6.6	5.0	6.2	7.5	6.6	5.6	5.0	6.6	6.5	7.0	4.3	5.6
116	Belize	66.0	5.6	3.8	4.1	6.7	5.9	6.4	5.4	6.1	4.4	6.1	4.3	7.2
133	Panama	53.2	5.4	3.2	5.3	4.3	7.6	3.1	3.7	5.3	4.5	5.4	2.5	2.9
142	Costa Rica	45.1	3.8	3.6	4.4	3.8	5.5	4.2	2.6	4.1	1.7	3.3	3.8	4.3
159	United States	34.0	3.0	2.1	5.1	1.4	4.5	2.5	2.1	1.8	3.4	2.9	4.3	0.9
178	Finland	18.8	1.3	2.5	2.0	2.0	1.2	3.7	0.6	1.0	1.0	1.4	1.1	1.0

Figure 2 combines the 2016 Fragile States Index ratings and the number of humanitarian assistance exercises (engineering and medical) that occurred in Central and South America since 1984.¹⁹ *Note that the figure does not cover all engagements that SOUTHCOM conducted, but only the engineering and medical HCA exercise engagements. Engineering exercises consist of building roads, bridges, schools, medical clinics and drilling wells. The medical exercises consist of optometry, dental, surgeries, and veterinary consultations. Figure 2 shows the abundance of exercises that have occurred in Central America, which will be the area of interest in applying the combined framework of cross-cutting principles and CAST indicators.

The Panama Canal supports all North American transportation between the Atlantic and Pacific Ocean. Figure 2 shows that a concentrated effort occurred to

engage the countries that surround the Panama Canal. Between 1984 and 2004, over 70 humanitarian assistance exercises were executed in that region versus a relatively few exercises that occurred in South America, highlighting the U.S. strategic intent to secure access to and through the Panama Canal.



Figure 2. SOUTHCOM HCA Engagements and 2016 Fragile States Index²⁰

This analysis uses the Cross-Cutting Principles, as defined in the “Guiding Principles for Stabilization and Reconstruction,” as a framework to evaluate the environment facing SOUTHCOM’s engagement strategy in Central America, especially

engineering and medical humanitarian assistance needs.²¹ The Cross-Cutting Principles are defined and linked to a CAST indicator. The CAST indicators are used to evaluate the Cross-Cutting Principles with respect to the Central American countries. Table 2 shows the cross-cutting principle in the left column and the associated CAST indicator in the right column.

It is noted that some of the connections between the cross-cutting principles and the CAST indicators are imperfect or non-existent. For example, political primacy does not have a CAST indicator that is directly connected. In addition, many of the CAST indicators do not match precisely to a cross-cutting principle. Another imperfect connection is unity of effort and factionalized elites. Unity of effort focuses on building collaboration between domestic and international actors, including non-elites, while factionalized elites focuses solely on domestic elites. However, the connections that do exist provide a quantitative analysis that can aid military planning and decision making.

Table 2. USIP Principles and Associated CAST Indicator²²

USIP Cross-Cutting Principle	FFP CAST Indicator
1. Host nation ownership / capacity	Public services, poverty and economic decline
2. Legitimacy	State legitimacy
3. Unity of effort	Factionalized elites
4. Security	Security apparatus
5. Conflict transformation	Group grievance
6. Regional engagement	External intervention
7. Political primacy	N/A

First, Host Nation Ownership and Capacity describes the requirement for the indigenous population to own the issues and challenges that face them. The host nation must seek to build capacity to ensure a successful future which includes public and private partnerships to increase economic prosperity and security for the population.

Host nation ownership also includes the ability to build local and national groups that seek the same endstate.²³ Two CAST indicators are associated with the Cross-cutting Principle of Host Nation Ownership and Capacity. They are poverty and economic decline (3.1 to 6.6) and public services (4.1 to 7.7). Two of these CAST indicators have a major impact on Central American governments. The CAST indicator of poverty and economic decline describes the ability of the national government to provide for its citizens and the tensions that exist between the “haves” and “have nots.” A low poverty and economic decline indicator represents a country where the economy is strong and continues to grow and prosper for the majority of its citizens. A high indicator represents a country with a weak economy and a shrinking GDP that extends to all levels of the local population.²⁴

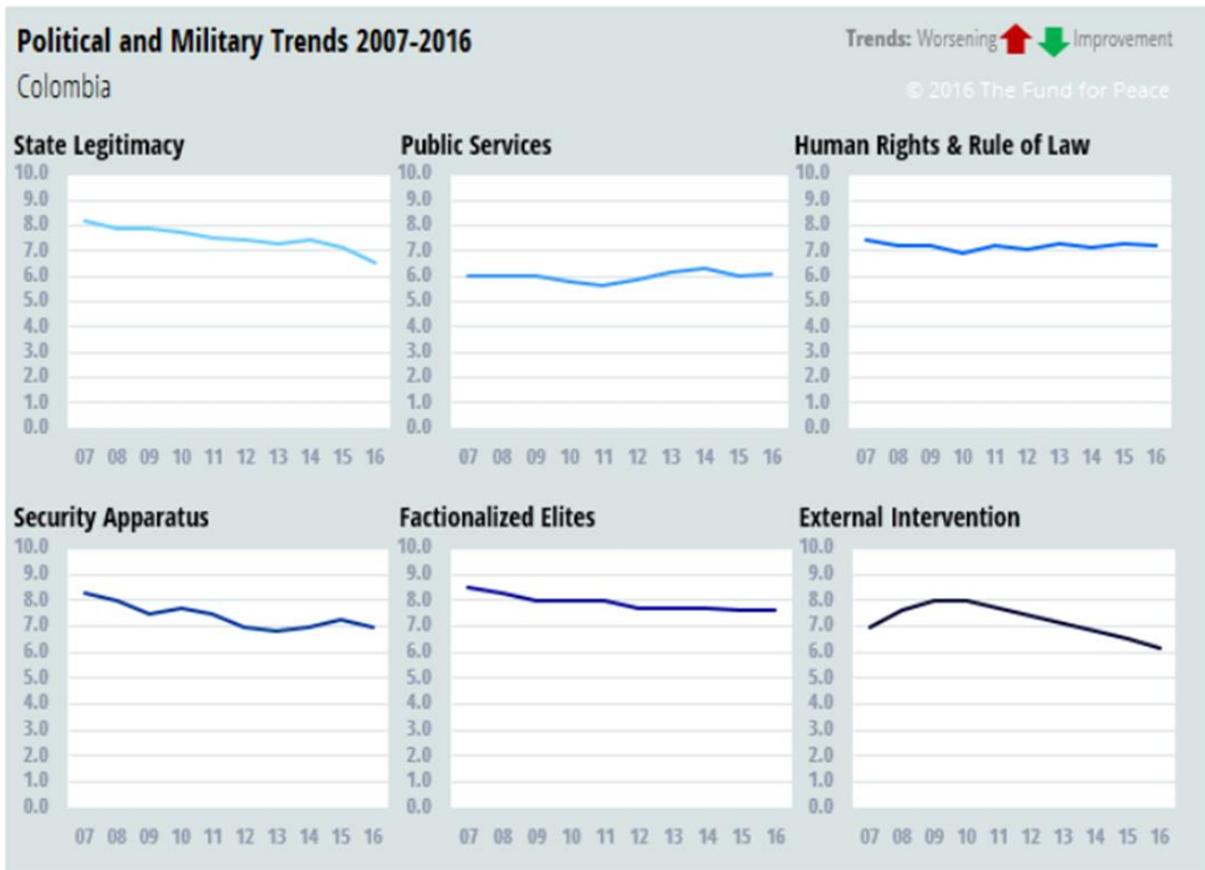
With respect to poverty and economic decline as shown in table 1, the Central American countries’ CAST indicators range from 3.1 to 6.6. This range is described as the national economy is strong but shows signs of weakness (3.1) to the economy is weak and does not show signs of improving (6.6).²⁵ Future SOUTHCOM engagements should support improved infrastructure which can improve the capacity to grow the countries’ economies. In particular, humanitarian assistance that provides infrastructure that can improve education, roads, or public services which in the long-term can lead to economic gains within Central America.

The CAST indicator of public services describes the ability of the national government to provide healthcare, education, and infrastructure services for its citizens. A low public services indicator represents a country where the infrastructure is good in

both rural and urban areas. A high indicator represents a country where infrastructure is not provided in either rural or urban areas.²⁶

The Central American countries with respect to public services as shown in table 1, have a range of CAST indicators between 4.1 to 7.7. This range is described as strong public services in urban areas but weak in rural areas (4.1) to non-existent public services in rural areas and adequate in urban areas (7.7).²⁷ Future SOUTHCOM engagements to improve infrastructure in rural areas is one way to increase host nation capacity. Better infrastructure allows goods and labor to flow into and out of rural areas, increasing trade with larger communities. With respect to host nation capacity and ownership, continued SOUTHCOM engagement is warranted and can provide substantial improvements in regional stability.

For example, figure 3 shows the trends of the CAST indicators for Colombia, which was chosen because of its proximity to Panama and the relatively few engagements there by the U.S. In this example, Colombia's public services have not improved over the past ten years, therefore, further engagement by the U.S. in the development of infrastructure can prove helpful. This improvement in infrastructure can improve the flow of goods and services, enabling greater host nation partner capacity. "Providing basic social services to the most vulnerable population areas enhance government and democratic legitimacy. These projects of course need a great amount of financial resources that the Colombian State is not able to provide, so the international assistance is key to success."²⁸



The chart above demonstrates the long-term trends, year-to-year, for the Political and Military Indicators for Colombia. Upward movements represent worsening trends, while downward movements represent improving trends.

Figure 3. Colombia's CAST Indicators²⁹

Second, legitimacy refers to the perception of the local population towards the host nation government and ranges from no support to full support of mandates and laws put in place by the government. One aspect of political primacy is how the host nation government communicates their message to the population and whether the population receives the information in a positive light.³⁰ The CAST indicator that represents this principle is state legitimacy. State legitimacy describes the level of corruption and the state's ability to represent the local population. A low state legitimacy indicator represents a country that has little to no corruption and the local population

does not question the legitimacy of the government. A high state legitimacy indicator represents a local population that does not trust the government, corruption is rampant and large violent opposition to the established government exists.³¹

The Central American countries with respect to state legitimacy as shown in table 1, have a range of CAST indicators between 3.7 and 7.6. This represents situations where corruption exists within the countries and stronger oversight mechanisms are needed (3.7) to the government is illegitimate and opposition is prevalent but non-violent (7.6).³² Therefore, with respect to the cross-cutting principle of legitimacy, SOUTHCOM should continue engagement within this region because there still exists the ability to reduce corruption in Central America and increase stabilization mechanisms. Engagements can showcase how government oversight can lead to successful projects and improve host nation processes leading to a more stabilized region.

With respect to Colombia, corruption continues to erode the legitimacy of the state institutions. The U.S. can work with the Colombian government to ensure transparency of decisions are made to rebuild the trust and confidence of the population. "Corruption continues to permeate both public and private sectors weakening government legitimacy and credibility. So, advice and providing all types of support to counter this evil cultural habit is a need to overcome social unrest."³³

Third, unity of effort is described as the cooperation and coordination of the various host nation agencies and international actors when pursuing shared goals. It includes both state and non-state actors such as the host nation government, local governments, non-governmental organizations and the international community. Getting

all of these players aligned is critical to successfully orchestrate unity of effort.³⁴ The CAST indicator that represents this principle is factionalized elites, which describes the level in which local and national politicians work together in accomplishing state goals. Unfortunately, this connection is imperfect because factionalized elites deals with only internal stakeholders versus all internal and external stakeholders involved. However, this indicator still provides some insight to unity of effort. A low factionalized elite indicator represents a country where opposing views are debated amongst a popular vote and supported by a legitimate constitution. A high indicator represents a country where no legitimate national government exists and is dominated by warlords or factions with military might and no legitimate governance occurs.³⁵

The Central American countries with respect to factionalized elites as shown in table 1, have a range of CAST indicators between 2.5 to 7.6. This range is described as mainly bipartisan agreement on issues and a functional constitutional system with productive open debate (2.5) to a weak political government with minor successes in building constitutional structure and setting national programs (7.6).³⁶ Continued SOUTHCOM engagement is supported because in general the national governments are working together to better support their countries. Further engagement can help build more consensus amongst the political elite and help to provide more stability in the region. For example, in Colombia, U.S. engagements can support more state legitimacy in an effort to enhance the current negotiations with the FARC in order to address longstanding issues that remain a roadblock to peace.

Security is the fourth cross-cutting principle and is described as a necessary precursor to a peaceful endstate. Security ensures the freedom of movement of

personnel and supplies without the fear of a disrupting terrorist attack. It requires good governance and a robust security system with access to required resources.³⁷ The CAST indicator that represents this principle is security apparatus, which describes the level in which local and national government have control over the legitimate use of force by law enforcement or military security personnel. A low security apparatus indicator represents a country where security is civilian controlled and violence is not used to maintain control of the domestic population. A high indicator represents a country where violence is routinely used by the government to control the domestic population and widespread militias exist.³⁸

The Central American countries with respect to security apparatus as shown in table 1, have a range of CAST indicators between 3.3 to 7.3. This range is described as government control of security with few incidents of violence used to control the domestic population (3.3) to areas within the state that are securitized by organizations other than the official government but excessive use of force is not used (7.3).³⁹ Continued SOUTHCOM engagement is supported because in general the national governments have security of their borders and insurgencies do not exist. This allows U.S. forces, working within the country, freedom of maneuver without extensive security concerns of terrorist activities. Further U.S. engagement can help strengthen the security within the nation leading to more regional stability.

For example, in Colombia, over the past ten years, security within the country is improving. Further engagements by SOUTHCOM should focus on Colombian security forces. This will result in improved government legitimacy which in turn reduces the legitimacy of the Fuerzas Armadas Revolucionarias de Colombia (FARC). Specifically,

a SOUTHCOM planner can recommend that the U.S. military engage in more jungle training with Colombian security forces to improve tactics, training, and procedures.

Fifth, conflict transformation is described as the ability of the host nation government to manage internal conflict without violence. The host nation must be able to negotiate and communicate their conflict and grievances in a productive manner. The host nation must be able to demonstrate peaceful conflict resolution and show a positive trajectory in dealing with internal disagreements.⁴⁰ The CAST indicator that represents this principle is group grievance, which describes the ability of the local and national government to diffuse the tensions and violence that may occur between political groups. A low group grievance indicator represents a country where society is divided among communal or ethnic groups and grievances are solved through peaceful processes executed by the state. A high indicator represents a country where violence, discrimination and political exclusion are routinely used by ethnic groups.⁴¹

The Central American countries with respect to group grievance as shown in table 1, have a range of CAST indicators between 4.1 to 8.2. This range is described as declining grievances due to an increase in government processes to mitigate concerns of the people (4.1) to grievances are widespread throughout the population and “self-defense” groups exist to protect specific populations of the state (8.2).⁴² Continued SOUTHCOM engagement is supported in countries with lower group grievance and should be entered into cautiously where group grievance is higher. U.S. humanitarian engagement should only occur in higher group grievance locations where it can reduce the tensions between differing political parties or ethnic communities. If engagements

are not chosen wisely, the engagement could lead to more instability because either the government or differing political party is seen to be undermined.

For example, in Colombia, U.S. engagement in how to properly develop rule of law will strengthen the ability of Colombia to conduct proper conflict resolution. Colombia's judicial branch is perceived to be weak and corrupt by the local population. Providing a more transparent process of choosing its judges and allowing for open discourse on court proceedings will increase faith in the judicial system. "Supporting the judiciary system to strengthen the rule of law is a huge institutional need. The post-conflict requires a great deal of the people's support. However, the rule of law is weak, the judiciary branch requires a number of resources to overcome its negative social perception."⁴³

Sixth, regional engagement is described as the back and forth influence that the host nation has with its neighboring countries. These influences can be positive or negative as neighboring countries seek to shape the host nation.⁴⁴ The CAST indicator that represents this principle is external intervention, which describes the ability of the national government to meet its international obligations and the level in which outside agents intervene and interact with the local population. A low external intervention indicator represents a country where only positive economic influence is experienced by outside agents. A high indicator represents a country where an external agent is solely responsible for running the country.⁴⁵

The Central American countries with respect to external intervention as shown in table 1, have a range of CAST indicators between 2.9 to 7.7. This range is described as external agent's influence is primarily economic and positive but is critical of the

government (2.9) to external agents provide resources to support the government and its control over the population (7.7).⁴⁶ Therefore, continued SOUTHCOM engagement is supported in this region as long as the engagements are targeted to elevate local support of the government or seeks to improve the conditions and capacity of the host nation government.

Using the cross-cutting principles as a framework to determine if theater engagement is warranted and has a probability of success is necessary for theater engagement. Central American stability is a primary objective for SOUTHCOM. This analysis revealed that in general the Central American countries are relatively stable. Previous U.S. engagements have nurtured relatively secure national governments which warrants continued regional engagement.

The cross-cutting principles provide us a framework that should be considered prior to entering a theater engagement and can be used to evaluate engagements that have occurred. The abovementioned analysis combined the cross-cutting principles (USIP) and the CAST indicators (FFP) together to provide a regional stability picture. This regional stability picture provides insight for planners to decide on an engagement strategy. The analysis revealed that SOUTHCOM's engagement in Central America is warranted to secure the Panama Canal by stabilizing countries within the region. Senior leaders should ensure that the cross-cutting principles are in place or are on a sustainable trajectory before entering into regional engagements to reduce the most risk. However, if national interests are of utmost importance, then assuming more risk in the trajectory of the cross-cutting principles is necessary.

A case study on humanitarian civil assistance can shed light on the impacts that engineering exercises can have on a local population. New Horizons is a combined engineering and medical exercise that is executed every year in the SOUTHCOM area. The exercise aims to accomplish two goals. The first is to test the readiness capability of U.S. forces to deploy the proper logistics footprint to execute designated engineering and medical objectives. Building schools, medical clinics, roads and wells are examples of engineering objectives. Triage, dental, optometry, and various types of surgeries are examples of medical objectives. Second, the exercise provides an avenue to engage government and non-government entities in the country of interest. For example, in 2014, the New Horizons exercise occurred in Belize. The engineering exercise objectives were to construct five schools and a medical clinic in three cities, Belize City, Hattieville, and Belmopan (the capital of Belize). The exercise took place from March to June 2014, to provide the best opportunity to complete the infrastructure prior to the rainy season.

New Horizons 2014 at the operational and tactical level started a year in advance of the exercise with multiple planning conferences and site visits. The planning conferences took place in the United States and brought together U.S. forces and Belize government officials to discuss the objectives of both countries. Belize's Ministry of Health and Ministry of Education took the lead in identifying potential sites for the medical clinic and schools. The Ministry of Health identified only one medical clinic necessary for construction in Belmopan. The Ministry of Education however, had seven to eight schools identified for construction. This list was then reduced to five executable projects due to U.S. budget constraints, four schools in Belize City and one in

Hattieville. It is important to note that public education is offered by the Belize federal government and is not the responsibility of cities. Therefore, the facilities selected were in locations with the worst educational infrastructure in underserved locations.

During construction execution of the schools, the workers on the sites consisted of U.S. military and Belizean Defense Force (BDF) members. This enabled the cross-flow of ideas between the two militaries. The BDF learned U.S. construction and project management techniques. The U.S. forces learned special construction techniques from the BDF such as parging, which is a form of cement specially created to coat the building in stucco. Parging achieves a better aesthetic for the facility and provides a moisture barrier. This technique is not taught in U.S. military construction handbooks so it provided a fantastic transfer of knowledge between the forces.

An all military construction effort proved quite efficient and built a firm relationship between the two forces, however, what were the potential impacts of this workforce in an underprivileged and unemployed location? On one hand, the local population perceived that the national government is supporting their local needs which in turn produces more legitimacy in the state government infrastructure apparatus. On the other hand, many individuals within the local economy may be dissatisfied that the construction work is not being accomplished by local individuals. On a daily basis, we had individuals coming up to our security gates asking for a job, however, we had to turn them away and respond with, "This is a joint exercise between U.S. military and the BDF."

Also, in many of the project locations, the schools were surrounded by residential dwellings. In most cases, during the week, there were many worker aged men sitting on

their porches watching U.S. forces construct a school in their front yard. What signal was being received by the men on the porch? Did they see this as a positive or negative situation? The men on the porch may have thought, "I should be building that school, it is in my neighborhood and I have been out of work for over three months." The U.S. constructed school was completed in three months, and throughout that timeline the individual was sitting on his porch every day watching the U.S. military work.

At the strategic and operational level, it is good to evaluate the existing conditions of countries before U.S. engagement and utilizing the combined framework (USIP and FFP) previously mentioned is a good starting point. For example, in Belize a vast opportunity exists to improve infrastructure that ultimately will increase host nation partner capacity. However, as project execution occurs, tactical leaders must be aware of the sentiments of the local population and be able to raise these types of concerns to higher echelons to ensure public and civil affairs address any potential areas of inequity.

U.S. fiscal constraints have changed operational decisions for the New Horizons exercise in the past few years. This constraint had a potential impact on the 2014 New Horizons exercise. Since the exercise is funded by HCA dollars, it typically does not get officially allocated until February of the year of execution. Planning continues to occur, but contingencies are developed at the operational planning level to determine what part of the exercise will be turned off if anticipated budgets are not realized.

In this instance, operational planners have three options to meet budget constraints: cancel the engineering exercise, cancel the medical exercise or cancel the entire exercise and actively engage the national government to maintain relations. In my dealings with SOUTHCOM operational planners, with respect to funding constraints,

this decision would likely result in canceling the engineering exercise. The engineering exercise historically is the most expensive part of New Horizons due to the large footprint of U.S. military personnel, material, and construction equipment necessary to complete the required objectives.

Maintaining the medical exercise, in the eyes of operational planners is the easy part to retain because the footprint is substantially smaller and the local population sees U.S. and host nation military and government officials working together to provide a much-needed health service to underprivileged communities. Essentially, SOUTHCOM planners believe the medical exercise provides the most “bang for the buck” in both training and public perception of the host nation and U.S. government.

Humanitarian Civil Assistance as mentioned before serves two purposes, one to test readiness of military forces and two, provide a way to actively engage countries through security cooperation. However, limited information exists that shows the linkage between these exercises and an improved legitimacy of the Host Nation or the United States.

Van Ryzin’s work in citizen satisfaction is one possible avenue to understand the perceptions of a host nation population. The citizen satisfaction model developed through disconfirmation theory has four main parts. Figure 4 shows the disconfirmation model with expectations, performance, disconfirmation, and citizen satisfaction. Links A, B, and C represent the basic disconfirmation theory.⁴⁷

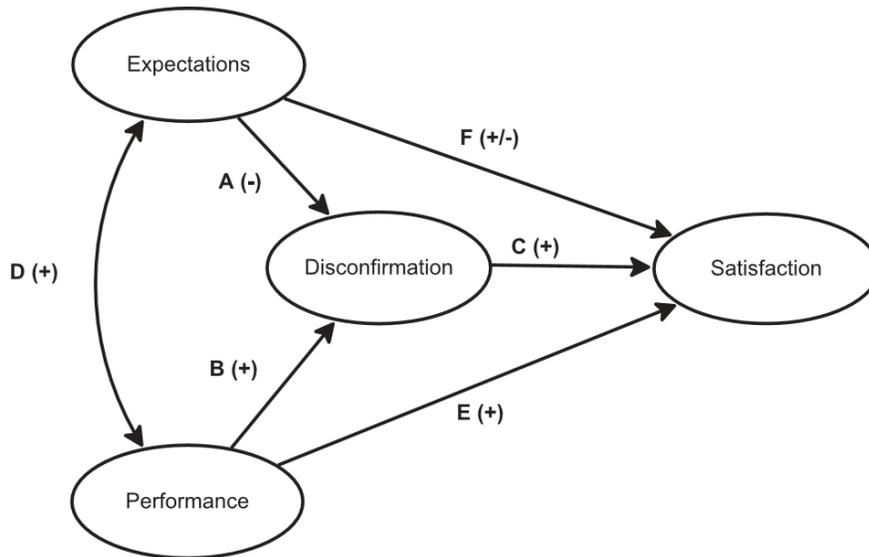


Figure 4. Expectancy Disconfirmation Theory (Van Ryzin)⁴⁸

Expectations is defined as what the participant thinks the host nation government should provide in different parts of infrastructure, governance, medical support, and rule of law. High expectations can produce a negative disconfirmation (Link A) because the relative difference between expectations and performance can be low. In other words, meeting someone's very high expectations is difficult, even if high performance is achieved, which can negatively impact satisfaction. Also, expectations are directly linked to satisfaction (Link F).

Performance is the perception that host nation personnel have of how the government is actually behaving. High performance is positively related to disconfirmation (Link B) and directly related to customer satisfaction (Link E). Disconfirmation is the difference between host nation expectation and performance. Also, there is an influence between expectations and performance (Link D) and that it appears to influence in both directions.

In 2014, I implemented this citizen satisfaction model with the help of two Master's students at the Air Force Institute of Technology and a member of the Air Force's Southern assessments division. We created a survey instrument that consisted of 26 questions and disseminated over 1400 surveys to various locations in Belize. The surveys were passed out by members of the Belizean Defense Force and local school teachers. 660 responses were received and analyzed (47% response rate). Table 3 shows the survey that was deployed. Table 4 shows the descriptive statistics of the responses. Each question was developed on the Likert scale.

Table 3. Belize Survey Instrument (2014)⁴⁹

Section 1: Priority Question						Question Group
What are your three most important government services ranked from 1 to 3 where 1 is most important?	1)					
	2)					
	3)					
Section 2: Expectancy - Disconfirmation Questions						
On a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree, how would you rate each of the following statements for your neighborhood?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Expectancy Measure
I expect the government to provide quality education	1	2	3	4	5	
I expect the government to provide quality health care	1	2	3	4	5	
I expect the government to provide other public services	1	2	3	4	5	
On a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree, how would you rate each of the following statements for your neighborhood?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Performance Measure
I am happy with the schools	1	2	3	4	5	
I am happy with the health care	1	2	3	4	5	
I am happy with the local police service	1	2	3	4	5	
I am happy with the garbage removal	1	2	3	4	5	
I am happy with the quality of drinking water	1	2	3	4	5	
I am happy with the cleanliness	1	2	3	4	5	
I am happy with the quality of roads	1	2	3	4	5	
On a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree, how would you rate each of the following statements for your neighborhood?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Disconfirmation Measure
The government has met my expectations for education	1	2	3	4	5	
The government has met my expectations for healthcare	1	2	3	4	5	
The government has met my expectations for other public services	1	2	3	4	5	
On a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree, over the last year how would you rate each of the following items?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Satisfaction Measure
I am satisfied with the public services in my neighborhood	1	2	3	4	5	Opinion of HN Government
I am satisfied with the fairness and equality ensured by the government	1	2	3	4	5	
I am satisfied with the benefits I have received from the government	1	2	3	4	5	
Section 3: Target Quality Questions						
Based on your overall experience in the last 12 months, please rate your neighborhood on a scale of 1 to 5, with 1 being strongly disagree and 5 being strongly agree, for each of the following items:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Quality of Target
I am happy with the overall quality of the school buildings	1	2	3	4	5	
I am happy with the overall quality of the school teachers	1	2	3	4	5	
I am happy with the overall quality of the learning materials (textbooks, homework assignments, and technology) available to students	1	2	3	4	5	
I am happy with the ability of schools to provide quality education	1	2	3	4	5	
Section 4: Perception of US Due to HA						
On a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree, how would you rate each of the following statements?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Opinion of United States Aid
I am familiar with the types of assistance received from the United States	1	2	3	4	5	
United States aid helps provide a better standard of living in my neighborhood	1	2	3	4	5	
United States troops training in Belize has been bad for the area	1	2	3	4	5	
My opinion of the U.S. has improved due to the assistance received	1	2	3	4	5	
Section 5: Demographics						
Age:						
Approximate income:						
Number of children:						
Highest education level:						
Gender of participant: Male Female						
Date of survey:						

Table 4. Citizen Satisfaction Statistics⁵⁰

Location	Round 1			Round 2		
	N	Citizen Satisfaction Mean	Standard Deviation	N	Citizen Satisfaction Mean	Standard Deviation
Belize City	32	2.96	0.99	175	2.61	0.84
Belmopan	5	3.80	0.45	0	-	-
Hattieville	19	2.53	0.71	72	2.33	0.93
No Project Location	116	2.25	0.83	208	2.74	1.06

Table 4 reveals that there was not an impact of the HCA projects that were constructed in Belize and found no conclusive data to reveal that a positive impact to host nation perception of the U.S. Now it may not be the intent of HCA projects to improve U.S. perceptions, but a better U.S. perception can be a positive outcome. The intent of HCA projects is to grow stability in the region regardless of whether perceptions by the host nation population of the U.S. increase or not.

The study revealed that the important variables to consider in humanitarian civic assistance projects are actual performance and disconfirmation. This result is obvious however, if the exercise in any way has a negative performance factor, this could negatively impact the perception of both the host nation government and the U.S. personnel engaged in a humanitarian civic assistance must properly frame the expectations of the host nation. Meetings between the U.S. and host nation partners should be common and in those meetings, the benefits of the projects must be expressed, i.e. “the schools we construct will help the country well into the future as the next set of citizens can obtain a proper education and this infrastructure will aid in that endeavor.” In addition, personnel engaged in civil missions must be able to moderate host nation expectations. Personnel must convey that the infrastructure cannot be gold

plated, that it will be useful, functional, and that maintenance by the host nation is critical to the success of the project for local citizens.

The work presented in this paper provides a way for senior leaders to understand the operational environment they face when delving into foreign infrastructure investment. In the cyclical format of design methodology, the three sections of this work provide a way for senior leaders to understand the environment, define the problem, and develop an operational approach. First in understanding the environment, a senior leader must recognize the challenges that one faces. This includes understanding the economic influences such as diminishing marginal utility. A senior leader must recognize the times when more infrastructure investment does not significantly aid in achieving strategic objectives. Keeping the endstate in mind, infrastructure investment may have to be redirected when one recognizes that diminishing marginal utility starts to occur. The redirection and reassessment of programs will ensure success in building partner capacity and host nation legitimacy, critical to stability operations.

Second, at the planning level, a framework should be used to evaluate the potential gaps that exist between a desired endstate and where the country presently stands. This framework combines the work of the cross-cutting principles with the CAST indicators to provide a qualitative and quantitative way to evaluate a targeted country. Albeit imperfect, this framework provides a way to initially evaluate an engagement strategy and develop gaps in services. This framework was applied at the operational level to show which countries in SOUTHCOM warrant further actions. Then at the tactical level, Colombia was evaluated and specific recommendations were provided to improve gaps in host nation capacity.

Third, a case study of infrastructure investment with survey data collected from Belize shows that in some instances, US involvement does not return anticipated gains in good will. However, over the long term, investment in education will provide the foreign country with a better ability to build host nation capacity. Investing in education infrastructure may not prove fruitful initially, but, in the long term, any country with a more educated society is more apt to be a stabilizing force in the world order. In addition, their trajectory for economic and political gains is much higher. Therefore, U.S. engagement around the world, in the right instances, can preserve our position in the world order and increase stability for many nations.

Endnotes

¹ The Balance, "Components of GDP: Explanation, Formula, and Chart," <https://www.thebalance.com/components-of-gdp-explanation-formula-and-chart-3306015> (accessed March 9, 2017).

² The Heritage Foundation, 2017 Index of Economic Freedom, "Belize," <http://www.heritage.org/index/country/belize> (accessed March 8, 2017).

³ Adam Hayes, "Economics Basics: Production Possibility Frontier, Growth, Opportunity Cost and Trade," <http://www.investopedia.com/university/economics/economics2.asp> (accessed March 12, 2017).

⁴ Khan Academy, "Aggregate Demand and Aggregate Supply," <https://www.khanacademy.org/economics-finance-domain/macroeconomics/aggregate-supply-demand-topic> (accessed March 9, 2017).

⁵ Leontief Wasily, Input-Output Economics New York: (Oxford University Press, 1966), 24.

⁶ Economics Concepts.com, "Law of Diminishing Marginal Utility," http://economicsconcepts.com/law_diminishing_marginal_utility.htm (accessed March 8, 2017).

⁷ Motor Authority, "Couple Adds 79th Viper to Their Collection," http://www.motorauthority.com/news/1027360_couple-adds-79th-dodge-viper-to-their-collection-video (accessed March 8, 2017).

⁸ Nobel Prize, "The Prize in Economic Sciences," http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2011/popular-economicsciences2011.pdf (accessed March 8, 2017).

⁹ Face the Facts USA, “U.S. Spends More Rebuilding Iraq, Afghanistan than Post-WWII Germany,” <http://www.facethefactsusa.org/facts/us-spends-more-rebuilding-iraq-afghanistan-than-post-wwii-germany> (accessed March 8, 2017).

¹⁰ Global Security, “Learning from Iraq,” <http://www.globalsecurity.org/military/library/report/2013/sigir-learning-from-iraq.pdf> pg. 119, (accessed March 7, 2017).

¹¹ USIP, “Guiding Principles for Stabilization and Reconstruction,” http://www.usip.org/sites/default/files/guiding_principles_full.pdf (accessed March 7, 2017).

¹² U.S. Southern Command, *Command Strategy 2020 Partnership for the Americas* (Washington, DC: U.S. Southern Command, July 2010), 5.

¹³ *Humanitarian and Civic Assistance Provided in Conjunction with Military Operations*, 10 United States Code, Chapter 20, Section 401, 2010, <https://www.gpo.gov/fdsys/pkg/USCODE-2010-title10/html/USCODE-2010-title10-subtitleA-partI-chap20-sec401.htm> (accessed November 29, 2016).

¹⁴ Ibid.

¹⁵ Sam Lagrone, “Updated: USS Zumwalt Sidelined in Panama Following New Engineering Casualty,” *USNI News*, November 22, 2016, <https://news.usni.org/2016/11/22/uss-zumwalt-sidelined-panama> (accessed November 26, 2016).

¹⁶ “Panama Canal Sets New Monthly Tonnage Record,” *Global Trade*, <http://www.globaltrademag.com/global-logistics/panama-canal-sets-new-monthly-tonnage-record> (accessed March 9, 2017).

¹⁷ Fund for Peace, “Fragile States Index 2017,” <http://fundforpeace.org/fsi/analytics/fsi-heat-map/> (accessed May 28, 2017).

¹⁸ Ibid.

¹⁹ U.S. SOUTHCOM “Engineering and Medical HCA Exercises,” Word document obtained from Alvin Gonzalez, US SOUTHCOM J77 November 2, 2016.

²⁰ Fund for Peace, “Fragile States Index 2016.”

²¹ United States Institute for Peace, *Guiding Principles for Stabilization and Reconstruction* (Washington, DC: United States Institute for Peace, 2009), 3-12.

²² Ibid.

²³ Ibid., 3-13.

²⁴ The Fund for Peace, *Conflict Assessment System Tool* (Washington, DC: The Fund for Peace, 2014), 10.

²⁵ Ibid.

²⁶ Ibid., 12.

²⁷ Ibid.

²⁸ Franklyn Gomez, Colombian Armor Officer, email interview by author, February 16, 2017.

²⁹ Fund for Peace, "Fragile States Index 2017," <http://fundforpeace.org/fsi/comparative-analysis/colombia> (accessed May 28, 2017).

³⁰ United States Institute for Peace, *Guiding Principles for Stabilization and Reconstruction*, 3-15.

³¹ The Fund for Peace, *Conflict Assessment System Tool*, 11.

³² Ibid..

³³ Gomez, email interview by author.

³⁴ United States Institute for Peace, *Guiding Principles for Stabilization and Reconstruction*, 3-18.

³⁵ The Fund for Peace, *Conflict Assessment System Tool*, 15.

³⁶ Ibid.

³⁷ Japan International Cooperation Agency, *Handbook for Transition Assistance* (Tokyo: Japan International Cooperation Agency, 2006), 17.

³⁸ The Fund for Peace, *Conflict Assessment System Tool*, 14.

³⁹ Ibid.

⁴⁰ United States Institute for Peace, *Guiding Principles for Stabilization and Reconstruction*, 3-21.

⁴¹ The Fund for Peace, *Conflict Assessment System Tool*, 7.

⁴² Ibid.

⁴³ Gomez, email interview by author.

⁴⁴ United States Institute for Peace, *Guiding Principles for Stabilization and Reconstruction*, 3-22.

⁴⁵ The Fund for Peace, *Conflict Assessment System Tool*, 16.

⁴⁶ Ibid.

⁴⁷ R.L. Oliver, "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, no. 42 (1980): 460.

⁴⁸ Gregg Van Ryzin, "An Experimental Test of the Expectancy-Disconfirmation Theory of Citizen Satisfaction," *Journal of Policy Analysis and Marketing* 32, no. 3 (2013): 599.

⁴⁹ Joel N. Hansen, *The Impact of United States Investment for Civil Infrastructure in Developing Countries*, Master's Thesis (Wright Patterson AFB, OH: Air Force Institute of Technology, March 2015), 70-71.

⁵⁰ *Ibid.*, 61.