

Operation regional harmony:
A study of defense communities implementing joint land use studies

by

Christopher Michael Clanahan

MRCP, Kansas State University, 2014

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Environmental Design and Planning
College of Architecture, Planning & Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2021

Abstract

Propelled in the United States during the 20th century, land use compatibility issues between military installations and neighboring communities amplified due to rapid population growth, sprawling regional development, and limited intergovernmental planning. The evolution, expansion, and densification of defense communities have resulted in many multilateral consequences often exacerbated or alleviated by institutional willingness to participate in cooperative regional planning. One federal response to these physical incompatibilities in defense communities is the Joint Land Use Study (JLUS) program. The JLUS program is an ideal candidate for study since it is implemented nationally, universally, and is multilaterally motivated. As deliberations concerning another Base Realignment and Closure (BRAC) round remain open, scholarship on defense communities and policy responses to physical incompatibilities remains critical for supporting the long-term compatibility between civilian development and military readiness. This cross-sectional study performs the first *ex-post* evaluation of the program by surveying military and civilian stakeholders from all 55 sites which conducted a JLUS between 2013 and 2017. The study also performs a pilot study on the policy Delphi to gauge its validity and suitability as a methodological instrument in planning policy research. Finally, interviews conducted with civilian planners with JLUS experience are used to assess the practicality of conducting joint studies in other contexts. The inferences from this study will aid planners, both military and civilian, to reflect on and compare their own regional planning efforts and outcomes to others potentially fostering the diffusion and adoption of more successful planning practices.

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Approved by:

Major Professor
Huston Gibson

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Abstract

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Table of Contents

Table of Contents	vi
List of Figures	ix
List of Tables	xi
Acknowledgements	xvii
Dedication	xviii
Chapter 1 - Introduction.....	1
Significance of Topic	1
Research Motivation and Practical Examples from JLUSs	6
Significance of Study	12
Abbreviated Research Design.....	24
Dissertation Structure.....	26
Chapter 2 - Literature Review.....	27
Theoretical Framework	28
The Pre-BRAC Era and Rise of Physical Incompatibilities	36
The Implications of BRAC on Defense Communities	43
Planning for a Post-BRAC Era	64
The Role of JLUSs in Modern Planning.....	90
Chapter 3 - Methodology	100
Phase One – Stakeholder Survey on JLUS Implementation.....	101
Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)	120
Phase Three – Interviews on JLUS Application Generalizability	128
Chapter 4 - Findings.....	132
Phase One – Stakeholder Survey on JLUS Implementation.....	132
Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)	205
Phase Three – Interviews on JLUS Application Generalizability	213
Chapter 5 - Analysis and Conclusions	235
Phase One – Stakeholder Survey on JLUS Implementation.....	235
Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)	260
Phase Three – Interviews on JLUS Application Generalizability	266

Concluding Remarks.....	276
References.....	277
Appendix A – Stakeholder Survey	289
Survey Introduction, Instructions, and Informed Consent.....	289
Background Information.....	291
JLUS Implementation & Familiarity	291
Democratic Participation	292
Intergovernmental Cooperation	293
Military Readiness	294
Civilian Development	295
Debriefing	296
Appendix B – Policy Delphi Survey.....	297
Survey Introduction, Instructions, and Informed Consent.....	297
Background Information.....	299
JLUS Implementation & Familiarity	299
Democratic Participation	299
Intergovernmental Cooperation	300
Military Readiness	301
Civilian Development	302
Debriefing	303
Appendix C – Interview Questions.....	304
Introduction, Instructions, and Informed Consent	304
General Questions.....	306
JLUS Program.....	306
JLUSs as an Intergovernmental Planning Tool	306
Debriefing	307
Appendix D – Stakeholder Survey Raw Data.....	308
Appendix E – Policy Delphi Raw Data	364
Control Survey	364
Treatment Survey.....	378
Appendix F – Interview Transcripts	392

General Questions	392
JLUS Program.....	394
JLUSs as an Intergovernmental Planning Tool	398
Glossary	420

List of Figures

Figure 1	<i>Recognized Encroachment Issues by Designated Incompatibility Type</i>	3
Figure 2	<i>Jurisdictional Motivations for Mitigating Physical Incompatibilities Regionally</i>	5
Figure 3	<i>Example of Proposed Development Conflict in Mountrail County, North Dakota</i>	8
Figure 4	<i>Identifying Potential Incompatibilities through Conflict Analysis</i>	9
Figure 5	<i>Existing Development Conflicts East of New Town, North Dakota</i>	10
Figure 6	<i>Civilian Planning Conflicting with Military Operations in Junction City, Kansas</i>	11
Figure 7	<i>Schematic Diagram of Conceptual Framework</i>	19
Figure 8	<i>Study Area Segmented into Assigned Geographic Regions.....</i>	22
Figure 9	<i>Abbreviated Research Design</i>	25
Figure 10	<i>Diagram of Literature Review Structure</i>	28
Figure 11	<i>Military Readiness and Local Land Use Planning Triaxial Spectrum.....</i>	29
Figure 12	<i>Key Legislations of the Pre-BRAC Era</i>	37
Figure 13	<i>Military Readiness and Local Land Use Planning: Pre-BRAC Era</i>	41
Figure 14	<i>BRAC Implementation by Year.....</i>	44
Figure 15	<i>Military Readiness and Local Land Use Planning: BRAC Era</i>	63
Figure 16	<i>Military Readiness and Local Land Use Planning: Post-BRAC Era.....</i>	65
Figure 17	<i>Standard JLUS Organization</i>	92
Figure 18	<i>Standard Process of Joint Land Use Study</i>	93
Figure 19	<i>Number of JLUSs by Year between 1985 and 2017</i>	94
Figure 20	<i>Proportion of Completed JLUSs by State between 1985 and 2017.....</i>	95
Figure 21	<i>JLUS application and Active Installations by Military Service Department</i>	96
Figure 22	<i>Research Design's Procedural and Substantive Criteria.....</i>	102
Figure 23	<i>Phase One's Data Collection Strategy.....</i>	116
Figure 24	<i>Rating Prospective Benefits of Joint Studies: Other Regional Contexts</i>	233
Figure 25	<i>Confidence Intervals by Democratic Participation Survey Questions</i>	239
Figure 26	<i>Confidence Intervals by Intergovernmental Cooperation Survey Questions</i>	240
Figure 27	<i>Confidence Intervals by Military Readiness Survey Questions.....</i>	242
Figure 28	<i>Confidence Intervals by Civilian Development Survey Questions</i>	243
Figure 29	<i>Confidence Intervals by Performance and Conformance Measures.....</i>	245

Figure 30	<i>JLUS Program on the Triaxial Spectrum</i>	246
Figure 31	<i>JLUS Program's Octant on the Theoretical Framework</i>	247
Figure 32	<i>Survey Comparison by Evaluation Criteria – Effect Questions</i>	261
Figure 33	<i>Survey Comparison by Evaluation Criteria – Relevancy Questions</i>	262
Figure 34	<i>Summary – Rating Joint Studies: Various Planning Contexts</i>	269

List of Tables

Table 1	<i>Discussion Prompted by the Primary Research Question and their Ideal Forum</i>	16
Table 2	<i>Federal Government Policy Toolbox</i>	67
Table 3	<i>State Government Policy Toolbox.....</i>	75
Table 4	<i>Local Government Policy Toolbox.....</i>	85
Table 5	<i>Installation, Defense Community, and OEA Roles in the JLUS Process</i>	91
Table 6	<i>Sampling Frame – Implementation of JLUSs between 2013 and 2017 by Installation</i>	104
Table 7	<i>Comparison of Target Population and Sampling Frame Distributions</i>	105
Table 8	<i>Core Survey Questions Assigned by Evaluation Criterion</i>	111
Table 9	<i>Supplementary Survey Questions Assigned by Stakeholder Characteristic</i>	114
Table 10	<i>Policy Delphi Survey Sampling Frame</i>	124
Table 11	<i>Sample Composition Comparison – Stakeholder Survey.....</i>	133
Table 12	<i>Confirmed Representation by JLUS Characteristics</i>	135
Table 13	<i>Stakeholder Survey Skip and Neutral Response Rates by Performance Measures ...</i>	136
Table 14	<i>Stakeholder Survey Skip and Neutral Response Rates by Conformance Measures...</i>	137
Table 15	<i>Stakeholder Survey Skip Rate and Neutral Response Rates by Characteristics</i>	138
Table 16	<i>Correlation Matrix from Stakeholder Survey</i>	141
Table 17	<i>Stakeholder Survey Exclusions</i>	142
Table 18	<i>Initial Results from a Factor Analysis on Stakeholder Survey</i>	143
Table 19	<i>Results from a Factor Analysis on Stakeholder Survey by Effect Survey Scheme</i>	145
Table 20	<i>Results from a Factor Analysis on Stakeholder Survey by Effect and Performance .</i>	146
Table 21	<i>Results from a Factor Analysis on Stakeholder Survey by Effect and Conformance</i>	146
Table 22	<i>Factor Analysis on Stakeholder Survey by Relevancy Survey Scheme</i>	147
Table 23	<i>Maximizing Internal Consistency Reliability for Stakeholder Survey</i>	149
Table 24	<i>Stakeholder Survey Question Internal Consistency Optimization</i>	150
Table 25	<i>Democratic Participation Results – Descriptive Statistics</i>	153
Table 26	<i>Democratic Participation – Hypothesis Testing.....</i>	154
Table 27	<i>Intergovernmental Cooperation Results – Descriptive Statistics</i>	155
Table 28	<i>Intergovernmental Cooperation – Hypothesis Testing</i>	156
Table 29	<i>Military Readiness Results – Descriptive Statistics</i>	157

Table 30	<i>Military Readiness – Hypothesis Testing</i>	158
Table 31	<i>Civilian Development Results – Descriptive Statistics</i>	160
Table 32	<i>Civilian Development – Hypothesis Testing</i>	161
Table 33	<i>Performance – Hypothesis Testing</i>	163
Table 34	<i>Conformance – Hypothesis Testing</i>	165
Table 35	<i>Democratic Participation Results by Military Status</i>	168
Table 36	<i>Intergovernmental Cooperation Results by Military Status</i>	169
Table 37	<i>Military Readiness Results by Military Status</i>	170
Table 38	<i>Civilian Development Results by Military Status</i>	171
Table 39	<i>Military Status – Hypothesis Testing Part I</i>	172
Table 40	<i>Military Status – Hypothesis Testing Part II</i>	173
Table 41	<i>Stakeholder Survey Results by Length of Residency Part I</i>	175
Table 42	<i>Stakeholder Survey Results by Length of Residency Part II</i>	176
Table 43	<i>Length of Residency – Hypothesis Testing Part I</i>	179
Table 44	<i>Length of Residency – Hypothesis Testing Part II</i>	180
Table 45	<i>Stakeholder Survey Results by Military Service Department Part I</i>	182
Table 46	<i>Stakeholder Survey Results by Military Service Department Part II</i>	183
Table 47	<i>Military Service Department – Hypothesis Testing Part I</i>	185
Table 48	<i>Military Service Department – Hypothesis Testing Part II</i>	186
Table 49	<i>Stakeholder Survey Results by Geography Part I</i>	188
Table 50	<i>Stakeholder Survey Results by Geography Part II</i>	189
Table 51	<i>Geography – Hypothesis Testing Part I</i>	191
Table 52	<i>Geography – Hypothesis Testing Part II</i>	192
Table 53	<i>Stakeholder Survey Results by Institutional Involvement Part I</i>	194
Table 54	<i>Stakeholder Survey Results by Institutional Involvement Part II</i>	195
Table 55	<i>Institutional Involvement – Hypothesis Testing Part I</i>	197
Table 56	<i>Institutional Involvement – Hypothesis Testing Part II</i>	198
Table 57	<i>Stakeholder Survey Results by Program/Study Familiarity Part I</i>	200
Table 58	<i>Stakeholder Survey Results by Program/Study Familiarity Part II</i>	201
Table 59	<i>Program/Study Familiarity – Hypothesis Testing Part I</i>	203
Table 60	<i>Program/Study Familiarity – Hypothesis Testing Part II</i>	204

Table 61	<i>Sample Composition Comparison – Policy Delphi.....</i>	205
Table 62	<i>Survey Positive Proportion Comparison – Part I.....</i>	207
Table 63	<i>Survey Positive Proportion Comparison – Part II.....</i>	208
Table 64	<i>Comparing Instrument Convergence – Part I.....</i>	209
Table 65	<i>Comparing Instrument Convergence – Part II</i>	210
Table 66	<i>Comparing Instrument Stability – Part I</i>	211
Table 67	<i>Comparing Instrument Stability – Part II</i>	212
Table 68	<i>What is Your Typical Role Related to Joint Land Use Studies?</i>	215
Table 69	<i>When was the Most Recent JLUS Adopted?</i>	216
Table 70	<i>How has the Program Changed Your Views and Approach Towards Planning?</i>	217
Table 71	<i>What Would Make the Program More Effective During Initial Production?</i>	218
Table 72	<i>What Would Make the Program More Effective for Long-Term Implementation? ...</i>	219
Table 73	<i>What are the Benefits, if any, for Communities to Produce and Implement a JLUS?</i>	221
Table 74	<i>What are the Major Challenges of Producing a JLUS?</i>	222
Table 75	<i>What are the Major Challenges of Implementing a JLUS?</i>	223
Table 76	<i>What makes a JLUS Strategy or Recommendation Effective?</i>	224
Table 77	<i>How Often Should a JLUS be Updated and Why?</i>	225
Table 78	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part I... ..</i>	227
Table 79	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part II .</i>	228
Table 80	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part III</i>	229
Table 81	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part IV</i>	230
Table 82	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part V .</i>	231
Table 83	<i>Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part VI</i>	232
Table 84	<i>Raking Prospective Benefits of Joint Studies: Other Regional Contexts</i>	234
Table 85	<i>Testing the Homogeneity of Stakeholder Assessments by Characteristics Part I.....</i>	249
Table 86	<i>Testing the Homogeneity of Stakeholder Assessments by Characteristics Part II.....</i>	250
Table 87	<i>Potential Research Questions for Future Studies – Part I.....</i>	259
Table 88	<i>Potential Research Questions for Future Studies – Part II</i>	265
Table 89	<i>Recommendations for More Effective Long-Term Implementation</i>	270
Table 90	<i>Recommendations for More Effective Plan Development</i>	272
Table 91	<i>Potential Research Questions for Future Studies – Part III</i>	275

Table 92	<i>Stakeholder Survey Raw Data: Questions 1 – 3 Part I</i>	308
Table 93	<i>Stakeholder Survey Raw Data: Questions 1 – 3 Part II</i>	309
Table 94	<i>Stakeholder Survey Raw Data: Questions 1 – 3 Part III</i>	310
Table 95	<i>Stakeholder Survey Raw Data: Questions 1 – 3 Part IV</i>	311
Table 96	<i>Stakeholder Survey Raw Data: Questions 4 – 6 Part I</i>	312
Table 97	<i>Stakeholder Survey Raw Data: Questions 4 – 6 Part II</i>	313
Table 98	<i>Stakeholder Survey Raw Data: Questions 4 – 6 Part III</i>	314
Table 99	<i>Stakeholder Survey Raw Data: Questions 4 – 6 Part IV</i>	315
Table 100	<i>Stakeholder Survey Raw Data: Questions 7 and 8 Part I</i>	316
Table 101	<i>Stakeholder Survey Raw Data: Questions 7 and 8 Part II</i>	317
Table 102	<i>Stakeholder Survey Raw Data: Questions 7 and 8 Part III</i>	318
Table 103	<i>Stakeholder Survey Raw Data: Questions 7 and 8 Part IV</i>	319
Table 104	<i>Stakeholder Survey Raw Data: Questions 9 and 10 Part I</i>	320
Table 105	<i>Stakeholder Survey Raw Data: Questions 9 and 10 Part II</i>	321
Table 106	<i>Stakeholder Survey Raw Data: Questions 9 and 10 Part III</i>	322
Table 107	<i>Stakeholder Survey Raw Data: Questions 9 and 10 Part IV</i>	323
Table 108	<i>Stakeholder Survey Raw Data: Questions 11 and 12 Part I</i>	324
Table 109	<i>Stakeholder Survey Raw Data: Questions 11 and 12 Part II</i>	325
Table 110	<i>Stakeholder Survey Raw Data: Questions 11 and 12 Part III</i>	326
Table 111	<i>Stakeholder Survey Raw Data: Questions 11 and 12 Part IV</i>	327
Table 112	<i>Stakeholder Survey Raw Data: Questions 13 and 14 Part I</i>	328
Table 113	<i>Stakeholder Survey Raw Data: Questions 13 and 14 Part II</i>	329
Table 114	<i>Stakeholder Survey Raw Data: Questions 13 and 14 Part III</i>	330
Table 115	<i>Stakeholder Survey Raw Data: Questions 13 and 14 Part IV</i>	331
Table 116	<i>Stakeholder Survey Raw Data: Questions 15 and 16 Part I</i>	332
Table 117	<i>Stakeholder Survey Raw Data: Questions 15 and 16 Part II</i>	333
Table 118	<i>Stakeholder Survey Raw Data: Questions 15 and 16 Part III</i>	334
Table 119	<i>Stakeholder Survey Raw Data: Questions 15 and 16 Part IV</i>	335
Table 120	<i>Stakeholder Survey Raw Data: Questions 17 and 18 Part I</i>	336
Table 121	<i>Stakeholder Survey Raw Data: Questions 17 and 18 Part II</i>	337
Table 122	<i>Stakeholder Survey Raw Data: Questions 17 and 18 Part III</i>	338

Table 123	<i>Stakeholder Survey Raw Data: Questions 17 and 18 Part IV</i>	339
Table 124	<i>Stakeholder Survey Raw Data: Questions 19 and 20 Part I.....</i>	340
Table 125	<i>Stakeholder Survey Raw Data: Questions 19 and 20 Part II.....</i>	341
Table 126	<i>Stakeholder Survey Raw Data: Questions 19 and 20 Part III</i>	342
Table 127	<i>Stakeholder Survey Raw Data: Questions 19 and 20 Part IV</i>	343
Table 128	<i>Stakeholder Survey Raw Data: Questions 21 and 22 Part I.....</i>	344
Table 129	<i>Stakeholder Survey Raw Data: Questions 21 and 22 Part II.....</i>	345
Table 130	<i>Stakeholder Survey Raw Data: Questions 21 and 22 Part III</i>	346
Table 131	<i>Stakeholder Survey Raw Data: Questions 21 and 22 Part IV</i>	347
Table 132	<i>Stakeholder Survey Raw Data: Questions 23 and 24 Part I.....</i>	348
Table 133	<i>Stakeholder Survey Raw Data: Questions 23 and 24 Part II.....</i>	349
Table 134	<i>Stakeholder Survey Raw Data: Questions 23 and 24 Part III</i>	350
Table 135	<i>Stakeholder Survey Raw Data: Questions 23 and 24 Part IV</i>	351
Table 136	<i>Stakeholder Survey Raw Data: Questions 25 and 26 Part I.....</i>	352
Table 137	<i>Stakeholder Survey Raw Data: Questions 25 and 26 Part II.....</i>	353
Table 138	<i>Stakeholder Survey Raw Data: Questions 25 and 26 Part III</i>	354
Table 139	<i>Stakeholder Survey Raw Data: Questions 25 and 26 Part IV</i>	355
Table 140	<i>Stakeholder Survey Raw Data: Questions 27 and 28 Part I.....</i>	356
Table 141	<i>Stakeholder Survey Raw Data: Questions 27 and 28 Part II.....</i>	357
Table 142	<i>Stakeholder Survey Raw Data: Questions 27 and 28 Part III</i>	358
Table 143	<i>Stakeholder Survey Raw Data: Questions 27 and 28 Part IV</i>	359
Table 144	<i>Stakeholder Survey Raw Data: Questions 29 and 30 Part I.....</i>	360
Table 145	<i>Stakeholder Survey Raw Data: Questions 29 and 30 Part II.....</i>	361
Table 146	<i>Stakeholder Survey Raw Data: Questions 29 and 30 Part III</i>	362
Table 147	<i>Stakeholder Survey Raw Data: Questions 29 and 30 Part IV</i>	363
Table 148	<i>Control Survey Raw Data: Questions 1 and 2</i>	364
Table 149	<i>Control Survey Raw Data: Questions 3 and 4</i>	365
Table 150	<i>Control Survey Raw Data: Questions 5 and 6</i>	366
Table 151	<i>Control Survey Raw Data: Questions 7 and 8</i>	367
Table 152	<i>Control Survey Raw Data: Questions 9 and 10</i>	368
Table 153	<i>Control Survey Raw Data: Questions 11 and 12</i>	369

Table 154	<i>Control Survey Raw Data: Questions 13 and 14</i>	370
Table 155	<i>Control Survey Raw Data: Questions 15 and 16</i>	371
Table 156	<i>Control Survey Raw Data: Questions 17 and 18</i>	372
Table 157	<i>Control Survey Raw Data: Questions 19 and 20</i>	373
Table 158	<i>Control Survey Raw Data: Questions 21 and 22</i>	374
Table 159	<i>Control Survey Raw Data: Questions 23 and 24</i>	375
Table 160	<i>Control Survey Raw Data: Questions 25 and 26</i>	376
Table 161	<i>Control Survey Raw Data: Questions 27 and 28</i>	377
Table 162	<i>Treatment Survey Raw Data: Questions 1 and 2</i>	378
Table 163	<i>Treatment Survey Raw Data: Questions 3 and 4</i>	379
Table 164	<i>Treatment Survey Raw Data: Questions 5 and 6</i>	380
Table 165	<i>Treatment Survey Raw Data: Questions 7 and 8</i>	381
Table 166	<i>Treatment Survey Raw Data: Questions 9 and 10</i>	382
Table 167	<i>Treatment Survey Raw Data: Questions 11 and 12</i>	383
Table 168	<i>Treatment Survey Raw Data: Questions 13 and 14</i>	384
Table 169	<i>Treatment Survey Raw Data: Questions 15 and 16</i>	385
Table 170	<i>Treatment Survey Raw Data: Questions 17 and 18</i>	386
Table 171	<i>Treatment Survey Raw Data: Questions 19 and 20</i>	387
Table 172	<i>Treatment Survey Raw Data: Questions 21 and 22</i>	388
Table 173	<i>Treatment Survey Raw Data: Questions 23 and 24</i>	389
Table 174	<i>Treatment Survey Raw Data: Questions 25 and 26</i>	390
Table 175	<i>Treatment Survey Raw Data: Questions 27 and 28</i>	391

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Dedication

To my entire family, especially my wife Lillian, daughter Claire, mother Alison, father Charles, and sister Elizabeth for their continual love and support. I also want to dedicate this dissertation to my friends and colleagues who supported me throughout the development of this study and my tenure at Kansas State University.

Chapter 1 - Introduction

Significance of Topic

Population growth, sprawling regional development, technological advancement, and limited intergovernmental planning are just a few major variables contributing to the rise in land use, transportation, and other incompatibilities between **military installations** and their surrounding civilian communities (Association of Defense Communities, 2016; Appel & Smith, 2011; Dawson, 2005; Elwood, 2008; Lachman et al., 2007; Santicola, 2006; U.S. Army Corps of Engineers, 2017). When many domestic installations were originally constructed during the 20th century, they were often positioned in rural or remote sites (Appel & Smith, 2011; Cotter et al., 2005; Davenport, 2007; Gillman, 2011; International City/County Management Association & Metropolitan Institute at Virginia Tech, 2005; Knott & Natoli, 2004; Lachman et al., 2007; Lachman et al., 2013; Omans, 2002; Santicola, 2006; Schultz, 2016; Sorenson, 1998). The purpose for this systematic approach was to ensure an installation's mission did not conflict with civilian quality of life, the counter scenario, or both (Appel & Smith, 2011; Elwood, 2008; Omans, 2002; Santicola, 2006; Sorenson, 1998). Despite these progressive efforts, military installations remain vulnerable to encroachment from civilian urbanization due to the above-mentioned variables (Appel & Smith, 2011; Gillman, 2011; International City/County Management Association & Metropolitan Institute at Virginia Tech, 2005; Lachman et al., 2007; Lachman et al., 2013). For better or worse, a relentless century of this phenomenon fostered the evolution, expansion, and densification of defense communities throughout the United States (U.S.). Simply put, **defense communities** are local civilian communities adjacent to, dependent on, and/or directly impacted by active military installations. While the significance and depth of this study's research problem is vast, this study centers on a policy response to the multilateral consequences of encroachment which are directly linked to regional planning practices.

Despite evidence of civilian encroachment on military installations for nearly a century, it was not until 2002 that the U.S. federal government formally underscored the need for broader policy intervention (Holman, 2002; Santicola, 2006). In a report to Congress from the U.S. General Accounting Office, the following passage provides a revealing summary of the policy problem and its significance:

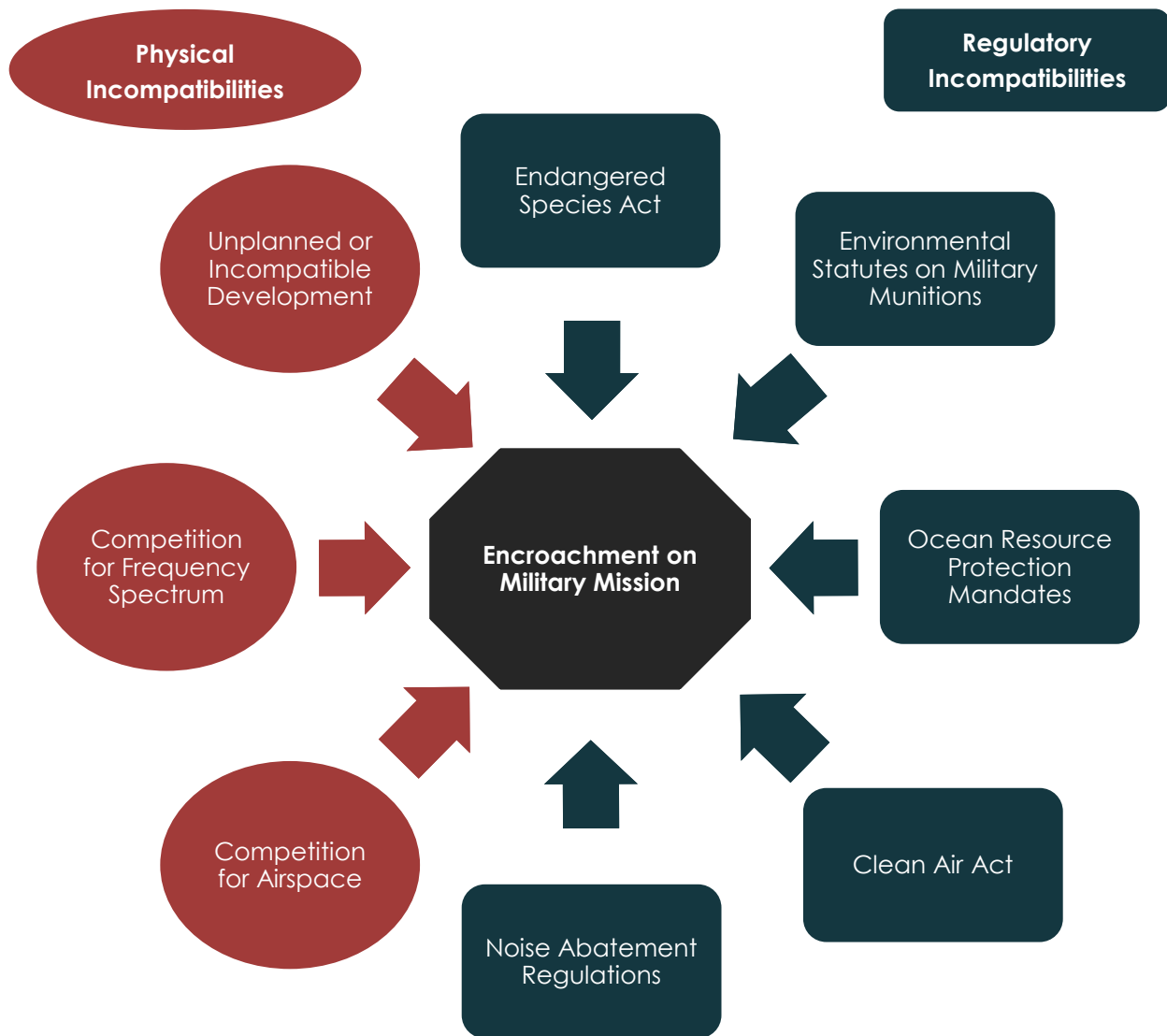
Over time, the impact of encroachment on training ranges has gradually increased. While the effect varies by service and individual installation, in general encroachment has limited the extent to which training ranges are available or the types of training that can be conducted. This limits units' ability to train as they would expect to fight and/or requires units to work around the problem. [...] Many encroachment issues result from or are exacerbated by population growth and urbanization. [The] DOD is particularly affected because urban growth near 80 percent of its installations exceeds the national average. According to DOD officials, new inhabitants near installations often view military activities as an infringement of their rights, and some groups have organized in an effort to reduce range operations such as aircraft and munitions training. These problems are expected to increase over time. (Holman, 2002, p. 9)

Not only does this passage demonstrate a recent acknowledgement that encroachment is widespread (i.e. both geographically and universally to all departments of the U.S. Armed Forces) but concedes that a status quo approach will only exacerbate the issue. Fortunately, since the publication of this report, literature reinforcing the significance of the issue and policy intervention from all levels of government have emerged (Appel & Smith, 2011; Santicola, 2006).

A visible challenge for readers of this literature however is an inclination by authors to apply the terms “encroachment issues” and “incompatibilities” interchangeably. To alleviate potential misinterpretation and accurately define the significance of this study’s topic, a refined distinction is applied. This study adopts the **U.S. Department of Defense (DoD)**’s definition for **encroachment issues** as “the cumulative result of any and all outside influences that inhibit normal military training and testing” (Santicola, 2006, p. 1; Antwerp, 2001; Holman, 2002; Lachman et al., 2007; McDuffie, 2009; Range Commanders Council, 2012; Schultz, 2016). As illustrated by Figure 1, the DoD supports their definition by identifying the eight encroachment issues they believe are obstructing military readiness (Gillman, 2011; Holman, 2002; McDuffie, 2009; Santicola, 2006). While this definition and list of encroachment issues provide a broad depiction of “what” adversely impacts installations, absent thorough context or considerations, they neglect to offer insight as to “why,” “where” such impacts originate from, and potentially most critical, “who” else may be impacted. This limitation is demonstrated in the current literature which visibly frames, highlights, and prioritizes unilateral (i.e. national security) interests and solutions over bilateral (i.e. national security and public). This oversight and combination of descriptive limitations is where this study desires to refine the distinction between encroachment issues and incompatibilities.

Figure 1

Recognized Encroachment Issues by Designated Incompatibility Type



Note. Adapted from encroachment variables recognized by Gillman (2011), Holman (2002), McDuffie (2009), and Santicola (2006).

Since this study is specifically interested in encroachment issues directly tied to the built environment and regional planning practices, evaluating a policy response to all eight encroachment issues was not only impractical but inappropriate for the objective of the study. By comparing all encroachment issues listed in Figure 1, the clear differences and similarities between them can be utilized to clarify and simplify the scope of the research topic. For this study, the term

incompatibilities is defined as a condition where two or more encroachment issues share comparable characteristics and sufficiently render the ability for stakeholders, policies, etc. to coexist immensely challenging or impractical. Expanding upon this definition and inspired by the U.S. Supreme Court’s approach to defining types of inverse condemnation (Whealdon, 2018), this study categorizes each encroachment issue as either a “physical” or “regulatory” incompatibility. **Physical incompatibilities** is defined here as encroachment issues which are primarily attributable to the negative externalities of regional development or growth, inflict multilateral consequences, and are highly driven or alleviated by the prominence of regional cooperation. In comparison, **regulatory incompatibilities** are encroachment issues which primarily result from intentional or unintentional consequences of government policy intervention, impose unilateral consequences, and are highly driven or alleviated by external governance (i.e. state or federal). Descriptions of each encroachment issue from current literature were considered and compared to these definitions when selecting appropriate categorizations as depicted in Figure 1 (Holman, 2002; Gillman, 2011; Santicola, 2006). This study acknowledges that physical and regulatory incompatibilities in some cases may not be mutually exclusive; however, the scope of these terms is intended to accurately reflect the scope of this study. More specifically, this study exclusively examines the influence of a federal program which attempts to prevent and mitigate the rise of *physical incompatibilities*, of which, both military and civilian planners play a vital role.

The significance of physical incompatibilities is rooted in its multilateral consequences. Some of the most notable examples derive from land use conflicts between military operations and civilian development such as the Lake Denmark Disaster of 1926, and more recently, when a F/A-18 Hornet combat jet crashed into a residential area near a Marine Corps Air Station in 2008 (Appel & Smith, 2011; Loomis, 1993; Roylance, 1968). While these are extreme examples of the potential consequences of physical incompatibilities, they illustrate how inadequate regional planning can amplify catastrophic events. By permitting civilian development near installations, defense communities throughout the country are essentially risking the preventable yet potential loss of life for the perceived economic, political, or other gains. As illustrated by Figure 2, military installations and defense communities hold multiple motivations for preventing and mitigating physical incompatibilities. When considering the motivations of military installations throughout the U.S. Armed Forces, Young (2008) underscores a distinction between operational and institutional missions promoted by the U.S. Army which can also be applied here. Installations

with sufficient **operational value** possess the capability of conducting their overarching missions and those with considerable **institutional value** retain the infrastructure required to implement their missions. Consequently, the motivations of military installations are interdependent and center on the specific missions of the installation. Motivations for defense communities diverge from military installations, as local governments function to serve the **public interest** (Appel & Smith, 2011). This responsibility includes ensuring the community's safety, that quality of life is maintained or enhanced, and that the economic benefits from military installations is sustained (Appel & Smith, 2011; Schultz, 2016). While national security interests and the public interest are by no means mutually exclusive, this study emphasizes the distinct prioritization of each jurisdiction. Overall, Figure 2 demonstrates that while their jurisdictional motivations may be dissimilar, cooperation is the fundamental catalyst towards alleviating physical incompatibilities. If military installations or defense communities focus independently rather than cooperatively on their issues and motivations, physical incompatibilities may exacerbate and lead to inclusion in a future Base Realignment and Closure (BRAC) round (i.e. the restructuring program supervised by the federal government to realign or close installations for the purpose of management efficiency) (Appel & Smith, 2011; Davenport, 2007; Gillman, 2011; McDuffie, 2009; Santicola, 2006). For that reason, BRAC can be another significant consequence of physical incompatibilities.

Figure 2

Jurisdictional Motivations for Mitigating Physical Incompatibilities Regionally



Note: Figure adapted from Appel & Smith (2011), Davenport (2007), McDuffie (2009), Schultz (2016) and Young (2008).

Collectively, while the significance of physical incompatibilities is now generally accepted among stakeholders of this policymaking arena, *how to respond* remains the element of division. Thus, a section of chapter two is specifically provided to demonstrate the various policies and programs established by local, state, and the federal government. Interested in performing an *ex-post* evaluation on a policy or program which responds specifically to the research problem, this study investigates the federal government's Joint Land Use Study (JLUS) Program. Authorized by Congress in 1985 (*Title 10 U.S.C. Section 2391*), the JLUS program offers grant assistance to states and defense communities for enhancing local planning efforts to prevent, mitigate, or eliminate physical incompatibilities (e.g. creating comprehensive plans; amending zoning ordinances, etc.) (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). Managed by the DoD's Office of Economic Adjustment (OEA), the JLUS program seeks to produce regional planning studies which: 1) encourage local governments to work cooperatively with military and other jurisdictions; 2) identify existing conflicts between military facilities, operations, and local communities; and 3) detect any potential future conflicts (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). The JLUS program was an ideal candidate to evaluate over other policy options since it is implemented both nationally and universally (i.e. paralleling the research problem) and the program employs cooperative regional planning strategies (i.e. it promotes multilateral interests). Other auxiliary benefits for its selection were the author's professional experience creating a JLUS (further discussed in the subsequent section) and the recognition that despite 30 years of implementation resulting in over 100 studies throughout the U.S., neither academia nor professional practice has yet to evaluate its conformance or performance. Ultimately, this study's topic provides an introductory yet significant platform to help inform future scholars, decision-makers, and most critically, military and civilian planners about physical incompatibilities and the implementation of JLUSs.

Research Motivation and Practical Examples from JLUSs

The initial inspiration for evaluating the implementation of Joint Land Use Studies (JLUSs) originates from my professional experience producing one. In the spring of 2014, the Souris Basin Planning Council of Minot, North Dakota (ND) selected my former place of employment and another consulting firm to produce a JLUS for Minot Air Force Base (AFB). The project's study area encompassed eight counties, one reservation, over 65 communities, and spanned approximately 8,500 square miles due to the nuclear missile complex positioned around Minot

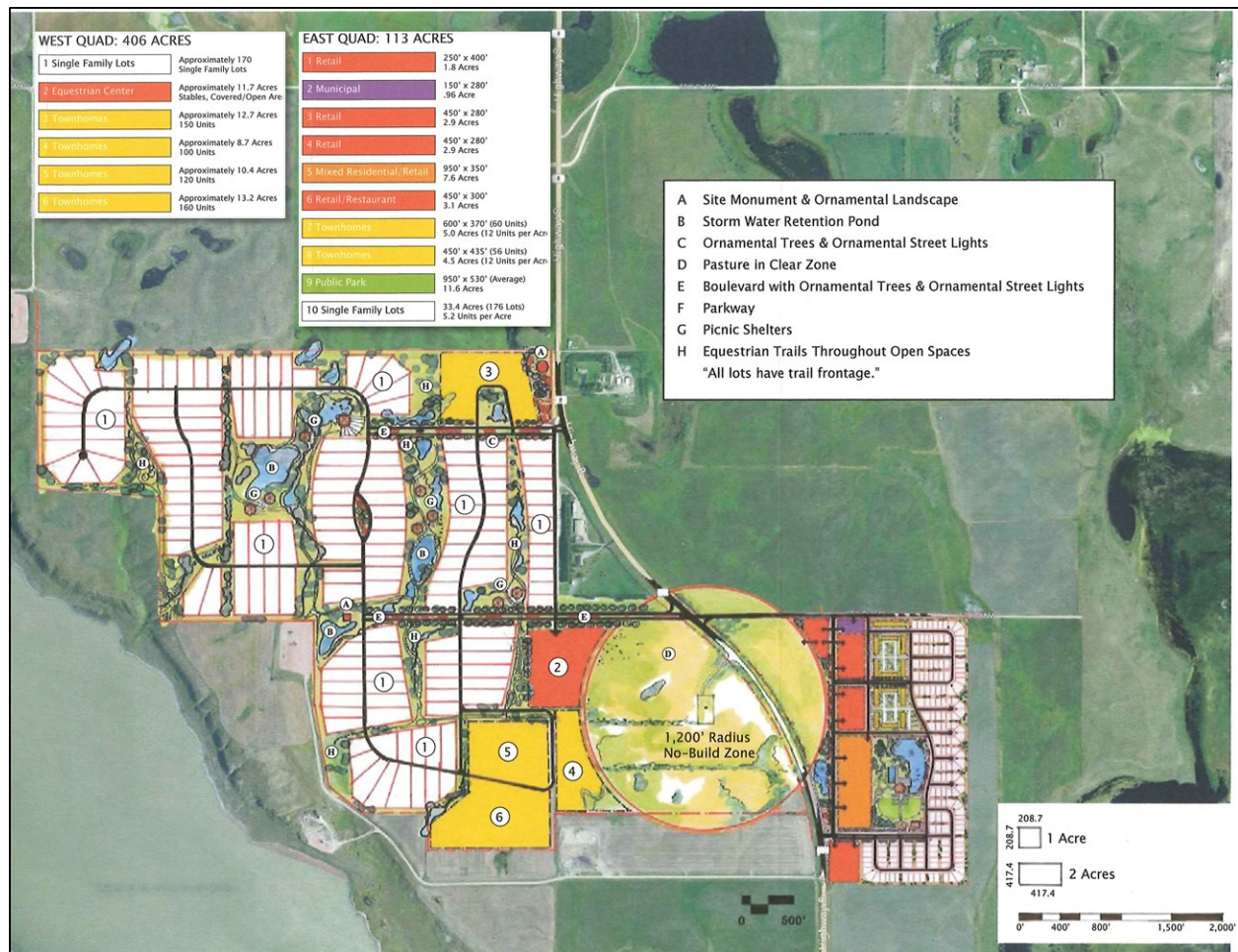
AFB (Souris Basin Planning Council, 2015). Of the 135 studies completed to date, Minot AFB's JLUS remains the country's 6th largest region to benefit from the JLUS program (REPI Interactive Map, 2018). As with any JLUS, the purpose for the study was to identify existing and potential incompatibilities between Minot AFB's military operations and local development activities. In addition, we were tasked with proposing policy recommendations that would result in planning actions that were reasonable for both private sector development and military readiness. By introducing examples from this JLUS, I believe it can be helpful for demonstrating: 1) how regional planning practices can ultimately mitigate or permit physical incompatibilities; and 2) how the program can have an early positive impact.

Originally presented by a planner from Mountrail County, ND, Figure 3 illustrates an example of an upcoming development proposal which sought to develop around one of Minot AFB's missile launch facilities (Souris Basin Planning Council, 2015). While the developer acknowledged the Air Force's 1,200' no-build easement around the missile launch facility by retaining it as open space, there had been no contact with the installation up to this point (Souris Basin Planning Council, 2015). Once informed of this proposal during the early stages of the JLUS's production, military personnel emphasized and recommended to the planner that the no-build easement alone was insufficient to avoid loss of life in the rare event a missile was ever launched (Souris Basin Planning Council, 2015). As Figure 4 depicts, the Air Force recommended that civilian development near any missile launch facility be planned no closer than two miles (Souris Basin Planning Council, 2015). By comparing the 1,200' no-build easements illustrated on both figures, there is clear evidence that the entire proposed development would have been exposed to this potential risk. Findings from the Minot JLUS not only found other *potential* conflicts but many *existing* conflicts as well. For example, Figure 5 demonstrates how the lack of communication during the planning process can lead to multiple instances of physical incompatibilities (Souris Basin Planning Council, 2015). Not only were developers permitted to encroach on the missile launch facility but ultimately built on the Air Force's no-build easement (Souris Basin Planning Council, 2015). Communication issues were not only limited to local governments, as it was discovered that the state's Department of Transportation (DOT) often did not coordinate with the installation regarding planned road constructions (Souris Basin Planning Council, 2015). This led to numerous cases where support operations to the missile launch

facilities via the Air Force's designated transporter erector routes were obstructed by unanticipated civilian road construction (Souris Basin Planning Council, 2015).

Figure 3

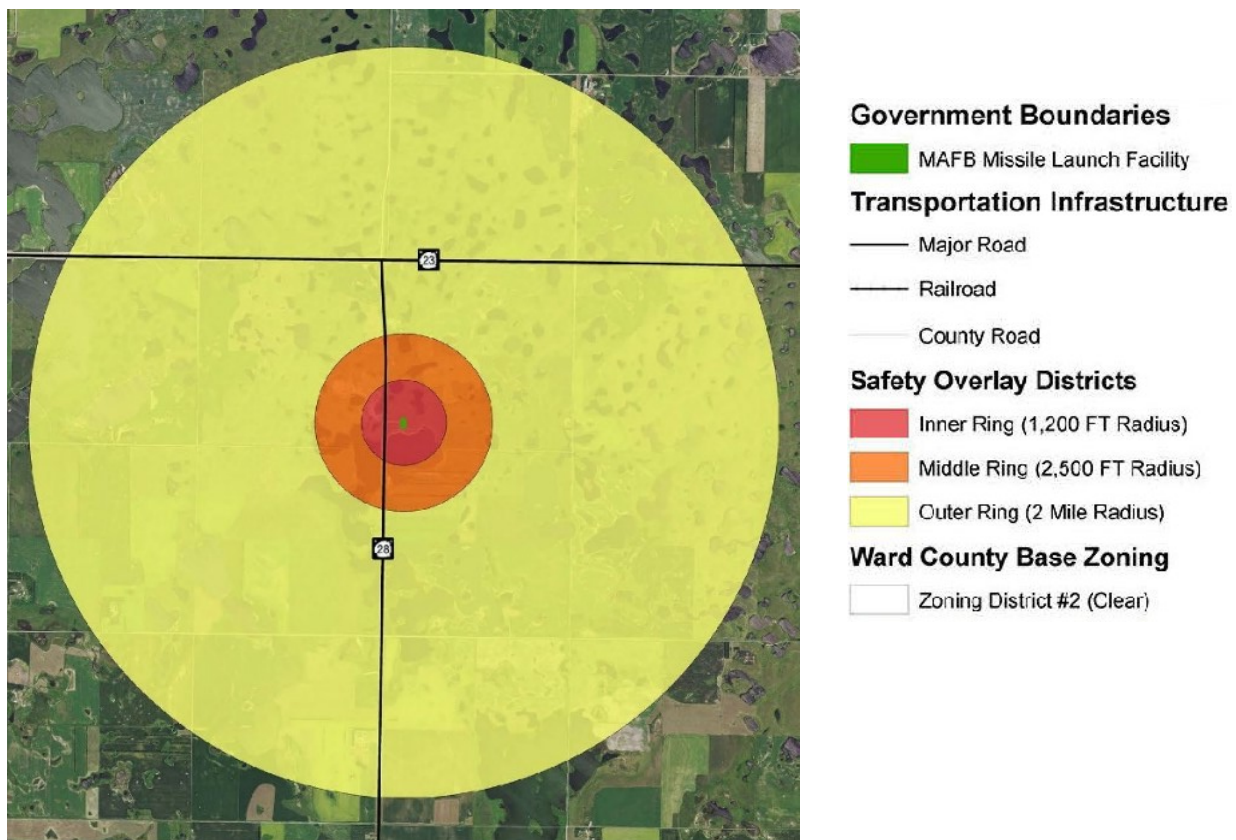
Example of Proposed Development Conflict in Mountrail County, North Dakota



Source. (Souris Basin Planning Council, 2015, p. 69).

Figure 4

Identifying Potential Incompatibilities through Conflict Analysis



Source. (Souris Basin Planning Council, 2015, p. 157).

Figure 5

Existing Development Conflicts East of New Town, North Dakota



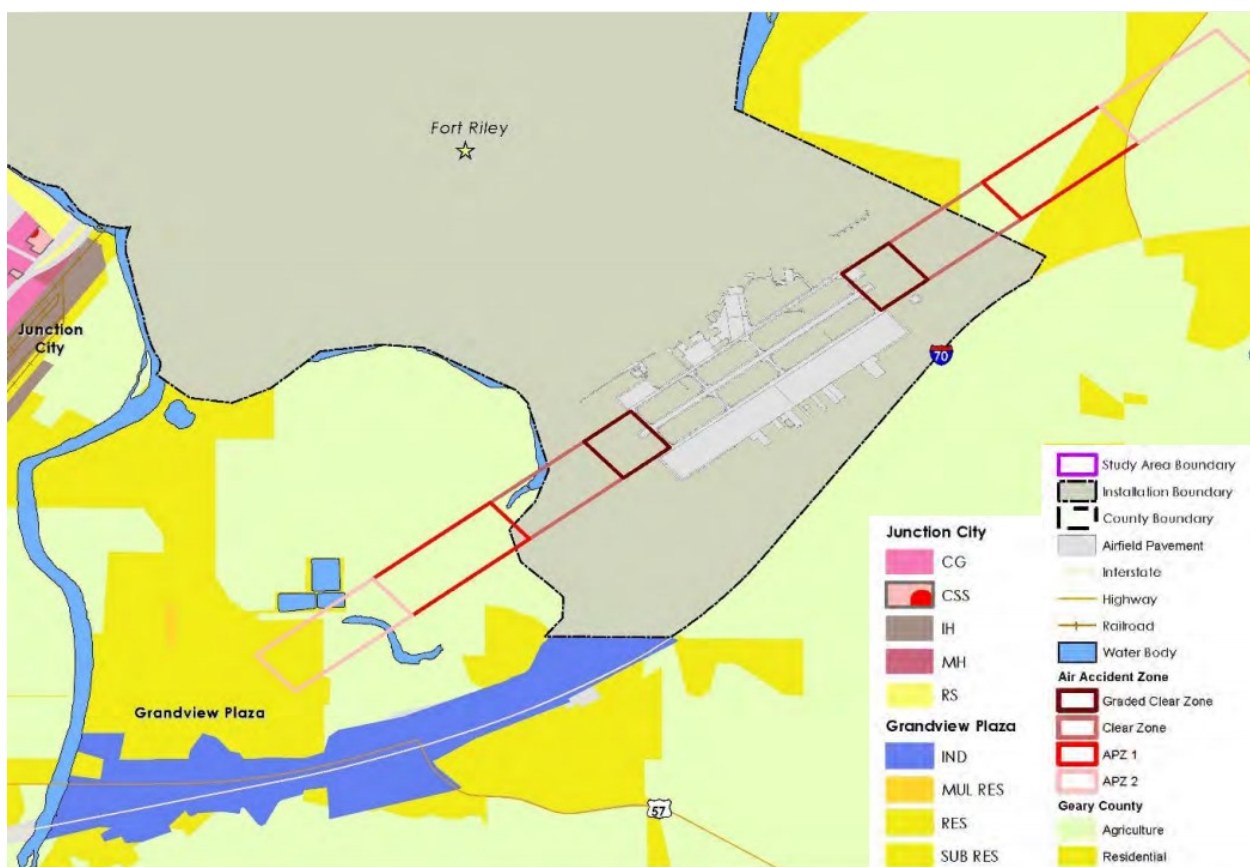
Source. (Souris Basin Planning Council, 2015).

Physical incompatibilities linked to regional planning practices are not only evident in Minot, ND but throughout the country. Figure 6 illustrates a local example where planning efforts clearly did not consider or coordinate with Fort Riley when they zoned for residential development in the installation's air accident zones (Flint Hills Regional Council, 2017). With over 800 active military installations located throughout the country, the JLUS program has only covered about 15 percent of the DoD's installations since its inception in 1985 (U.S. Department of Defense, 2017). Although few, the examples offered here provide a practical depiction of the many physical incompatibilities that remain unattended throughout the country. While my own experiences suggest the JLUS program is generally producing the change it seeks to foster, there remains no reliable evidence to date that can confirm if this holds true in most defense communities. Some other motivations for evaluating planning initiatives such as JLUSs include: 1) enhancing the credibility/legitimacy of planning efforts; 2) being able to distinguish between "good" and "bad"

plans; 3) avoiding future damage to political and professional reputations; 4) preventing the misallocation of future resources; 5) improving future planning endeavors; and 6) increasing procedural efficiency (Oliveira & Pinho, 2010; Seasons, 2003; Waldner, 2004). Ultimately, so long as the limitations and shortfalls of the program remain unexplored, many of the planning goals, objectives, and strategies in JLUSs may not reach their full potential or may even be entirely unproductive.

Figure 6

Civilian Planning Conflicting with Military Operations in Junction City, Kansas



Source. (Flint Hills Regional Council, 2017, p. 87).

Significance of Study

Primary Research

After identifying and reviewing literature pertinent to the research topic, evidence of disproportionalities and gaps in knowledge were found to be extensive, particularly from the position of program evaluation. Currently, established government practice has neglected to identify any possible deficiencies with the Joint Land Use Study (JLUS) program (some of which may be amendable) opting instead for retaining an unchecked formula and applying it to the next defense community. While this study recognizes the extensive efforts taken by the federal government to customize JLUSs for each local region, there is a clear imbalance between *ex-ante* and *ex-post* efforts to ensure implementation success is as universal as possible. In the absence of a structured accountability system, the JLUS program's long-term implementation potentially remains exposed to perpetual limitations (i.e. process) and shortfalls (i.e. goals). To overcome this deficiency, this study applies the *performance* and *conformance*-based approaches to planning evaluation which are both interested in assessing whether planning endeavors were successful (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). Whereas the **performance-based approach** judges success based on a plan's usefulness as a decision-making tool, the **conformance-based approach** judges success by comparing the plan's goals to material development (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). Rather than choosing one or the other, this study offers a unique opportunity to assess implementation under both approaches due to the evaluation criteria ultimately selected. Since this study aims to address this and other gaps within the discourse, multiple research questions were posed. The first and *primary* research question of this study consists of the following:

- *How do local stakeholders assess the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; and (d) civilian development?*

Three critical components of this research question include the target population (i.e. local stakeholders), the unit of analysis (i.e. their assessment of the program), and the evaluation criteria (i.e. items *a* through *d*). For clarity, **stakeholders** is defined here as individuals "who have decision authority over the program, including other policy makers, funders, and advisory boards; [and]

people who have direct responsibility for the program, including program developers, administrators in the organization implementing the program, program managers, and direct service staff” (as cited in Patton, 2008, p. 61). This study engaged these individuals because they are *directly* involved in, affected by, and are knowledgeable of the program’s implementation locally. Consequently, the scope of the primary research question’s target population does not extend beyond the *local* level. To ensure the tractability of the study and the acquisition of pertinent responses, questions posed to the stakeholders were strategically assigned to the evaluation criteria. Selection of the evaluation criteria stemmed from multiple motivations. First and most critically, these constructs encompass the core objectives of the JLUS program (Cotter et al., 2005; Eitler, 2017; O’Brien, 2006). Second, the evaluation criteria parallel the key paradigm shifts observed in this study’s theoretical framework (see chapter two). Finally, since the research problem is an amalgamation of planning, intergovernmental, and security policy issues, the evaluation criteria reflect these characteristics to enhance overall generalizability and validity.

To reasonably assess the JLUS program’s influence on the established evaluation criteria, this study’s unit of analysis examines what Mazmanian and Sabatier classify as the fourth stage of the implementation process, the “perceived impacts of policy outcomes” (1989, p. 38; Sabatier & Mazmanian, 1980). While assessing *actual* impacts to the evaluation criteria is ideal, this study’s unit of analysis examines *perceived* outcomes for multiple reasons. First, Mazmanian and Sabatier’s conclusion that actual outcomes can “often be very difficult to measure in a comprehensive and systematic fashion” is highly applicable for this study (1989, p. 38). The national and intergovernmental scope of this study render it exceptionally challenging to accurately measure and provide findings that are generalizable for *actual* outcomes. For example, how to define “success” often varies drastically from case to case. Succeeding this factor, this study adopts Mazmanian and Sabatier’s “contention that perceived impacts will be a function of actual outcomes as mediated by the values of the perceiver[s]” (1989, p. 38). Thirdly, examination of perceived outcomes correlates with the bottom-up approach (i.e. start by analyzing the variety of actors interacting at the local level) which is more appropriate for this study (Sabatier & Mazmanian, 1986). Sabatier and Mazmanian specifically recommend the bottom-up approach when the primary interest is the “dynamics of different local situations,” which is the case here (1986, p. 37). Finally, also emphasized by Sabatier and Mazmanian, perceived outcomes still hold the potential for encouraging or discouraging policy changes (1989).

Despite being multipart, the primary research question was considered tractable since the evaluation criteria complement one another and they can be tested comprehensively via a simple stakeholder survey. Results from the stakeholder survey were measured to reject or fail to reject the primary research question's null hypothesis. The tested *null* hypothesis for the primary research question was:

- Less than or equal to half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment regarding the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_0: } p_a \leq 0.5 \text{ and/or } p_b \leq 0.5 \text{ and/or } p_c \leq 0.5 \text{ and/or } p_d \leq 0.5$$

$$H_0: \textit{JLUS Proportion of Positive Assessments(Evaluation Criteria)} \leq 0.5 \text{ or } 50\%$$

The *alterative* hypothesis tested for the primary research questions is:

- Greater than half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment that the JLUS program progresses a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_A: } p_a > 0.5 \text{ and/or } p_b > 0.5 \text{ and/or } p_c > 0.5 \text{ and/or } p_d > 0.5$$

$$H_1: \textit{JLUS Proportion of Positive Assessments(Evaluation Criteria)} > 0.5 \text{ or } 50\%$$

For each evaluation criterion, the study hypothesizes that more than half of local stakeholders will offer a positive assessment of the JLUS program. In the event the study sufficiently rejects the null hypothesis (i.e. less than half are positive), the findings will pinpoint where the program *is* performing (i.e. *a* and *b*) or conforming (i.e. *c* and *d*). Alternatively, in the event the study fails to reject the null hypothesis, the findings will pinpoint where the program *is not* performing or conforming. Two critical components of the *alternative* hypothesis are the hypothesized proportion (i.e. more than half) and direction (i.e. positive). Faced with an absence of empirical literature regarding the program's capabilities, the study follows the guidance of statistical literature by applying the most conservative standard (i.e. half of the sampled proportion) (Ott and Longnecker, 2004; Agresti & Finlay 2009). Similarly, with no preceding literature to confirm the anticipated direction, the study's positive hypothesis relied on the following inductive reasoning: 1) the program has persisted for over 30 years (Eitler, 2017); 2) application of the program has increased rapidly in the last decade (REPI Interactive Map, 2018); 3) production of a JLUS can

foster further grant assistance from other programs (Cotter et al., 2005; O'Brien, 2006); and 4) JLUSs are strategically customized to be applicable to local military operations and civilian interests (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006).

To effectively summarize how testing of the primary research question fosters contributions to academia and civilian and military actors, it is beneficial to first clarify what discussions are generated by the question (see Chapter 5) and where they are likely to be addressed (i.e. this study vs. a subsequent study). An outline of this information is provided in Table 1. As demonstrated by the table, beyond providing a means to explore a subject that remains visibly absent in planning scholarship, the primary research question: 1) fosters the construction and application of a theoretical framework which can aid future scholars to conduct empirical comparisons of policy alternatives related to this arena; 2) offers the necessary contextual information for generating other compelling research questions such as “why do we see this” which may have otherwise remained neglected; 3) presents a rather unique opportunity to assess a nationwide planning program from both the performance and conformance-based approaches; and 4) presents an opportunity to experiment with a rare methodological instrument in planning scholarship whereby the integration of stakeholders is applied via a policy Delphi.

Table 1*Discussion Prompted by the Primary Research Question and their Ideal Forum*

Discussion Questions	Dissertation	Subsequent Study
▪ Do local stakeholders believe JLUSs conform and perform sufficiently (i.e. achieve its goals and improve the decision-making process)? ○ Why do local stakeholders believe the JLUS program conforms <i>and</i> performs sufficiently; or ○ Why do local stakeholders believe the JLUS program is not conforming <i>and</i> performing sufficiently?	✓	✓
▪ How does national performance and conformance of the JLUS program differ if at all?	✓	
▪ To what extent, if at all, is the JLUS program conforming sufficiently (e.g. military readiness and civilian development) and are their indications that some goals are conforming more than the others? ○ Why do local stakeholders believe the JLUS program <i>is</i> conforming sufficiently (e.g. military readiness and civilian development); or ○ Why do local stakeholders believe the JLUS program <i>is not</i> conforming sufficiently (e.g. military readiness and civilian development)? ○ Why do local stakeholders perceive some goals being conformed more than others?	✓	✓
▪ To what extent, if at all, is the JLUS program performing sufficiently (i.e. democratic participation and intergovernmental cooperation) and are their indications that some goals are performing more than others? ○ Why do local stakeholders believe the JLUS program <i>is</i> performing sufficiently (i.e. democratic participation and intergovernmental cooperation); or ○ Why do local stakeholder believe the JLUS program <i>is not</i> performing sufficiently (i.e. democratic participation and intergovernmental cooperation)? ○ Why do local stakeholders perceive some goals are performing more than others?	✓	✓
▪ What octant of the triaxial spectrum (see chapter 2) is most representative of the JLUS program and why?	✓	
▪ How do other policies and programs of the policymaking arena compare to the JLUS program on the triaxial spectrum?	✓	✓
▪ What program/policy changes might be recommended from the findings to enhance performance?	✓	✓
▪ What program/policy changes might be recommended from the findings to enhance conformance?	✓	✓

While civilian and military actors may not value the same contributions as academics, the primary research question will also foster contributions that are more pertinent to those in professional practice and decision-making roles. Perhaps one of the main contributions to civilian and military stakeholders is the question's attempt at overcoming the inherent challenge of planning evaluation. Evident from many programs, plans, policies, and studies in the field of planning, evaluation is recognized as a deficient, if not the most deficient phase of the planning process (Oliveira & Pinho, 2010; Seasons, 2003; Talen, 1997; Waldner, 2004). Recognizing the complete absence of evaluation literature related to the JLUS program demonstrates that this program is clearly no exception. Therefore, a broader contribution of this study is the designed methodological strategy to overcome the barriers which have likely forestalled such action (e.g. disagreements on when to evaluate, the evaluation criteria; what is success, etc.) (Brody & Highfield, 2005; Oliveira & Pinho, 2010).

Following the contribution of simply conducting an evaluation, civilian and military actors benefit in several ways as discussed in the research motivation section (i.e. enhancing credibility of planning efforts, avoiding damages to political and professional reputations, etc.). In the event the study finds the program is performing and conforming, civilian and military actors may become more confident in the implementation of their own JLUSs and those currently without one might start to consider it. Alternatively, in the event the study finds areas where the program is underperforming or not conforming, civilian and military actors will be able to reflect on and compare their own practices to the findings, identify where more prioritization is needed, and future JLUSs can be modified to avoid such limitations and shortfalls. The policy implications of the primary research question not only apply to local and military actors in defense communities but to state and federal policymakers as well. For some states (e.g. California, Arizona, etc.), military installations are viewed so critical to the state's overall assets that they conduct statewide JLUSs and reinforce it with state statutes (REPI Interactive Map, 2018). While on their own statewide JLUSs lack the customization of local JLUSs, statewide JLUSs can complement and further support the credibility, legitimacy, and significance of local JLUSs. The findings from this study may not only encourage other states to be more involved in the production and implementation of local JLUSs but encourage them to be advocates for broader policy intervention whether federal or state sponsored. The most notable contribution however will be to the DoD's Office of Economic Adjustment (OEA) which will finally possess the necessary evidence to

promote further financial, administrative, or other forms of support for the program whether it be for additional application or targeted adjustments.

Supplementary Research

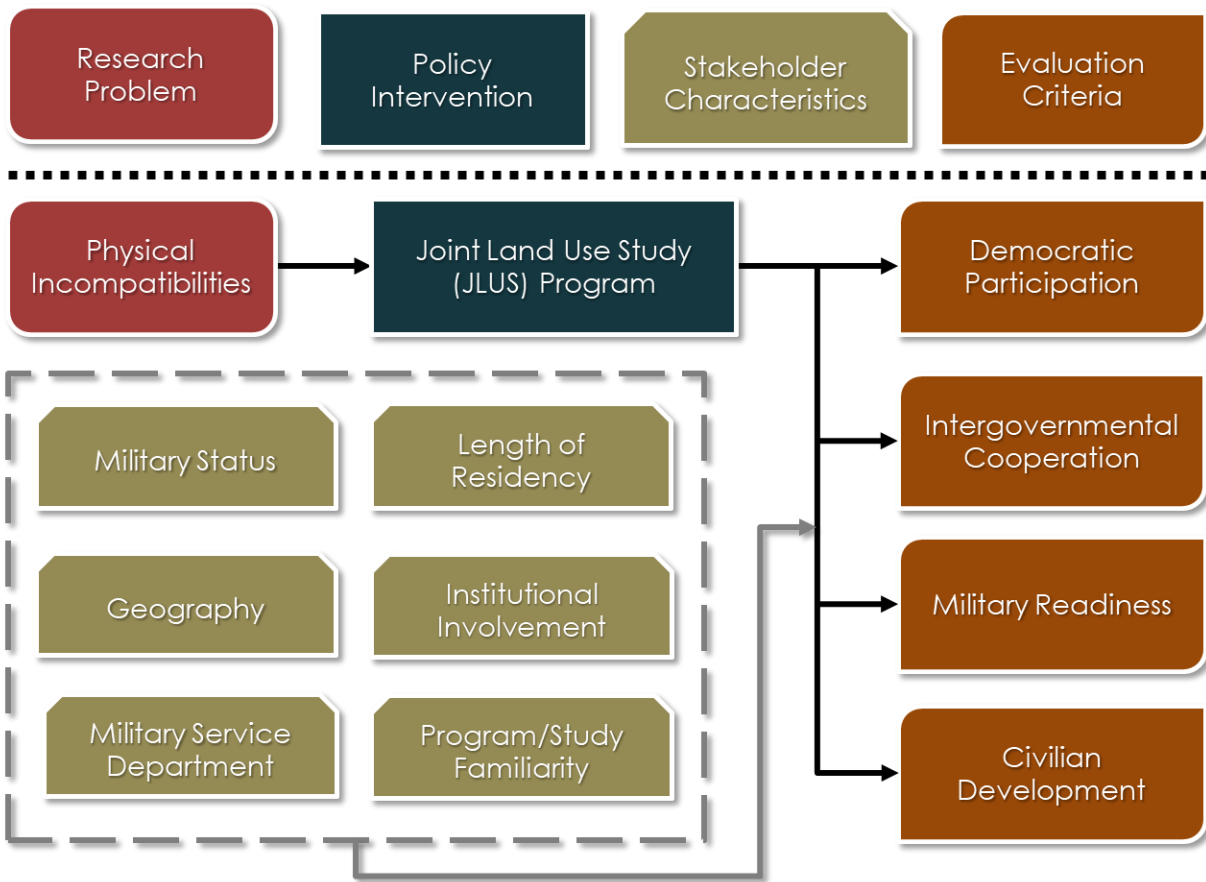
Since the 1980s, scholars of evaluation theory have emphasized the participation of stakeholders in the “designing and execution of evaluation” (Patton et al., 2016, p. 349; Guba & Lincoln, 1989; Oliveira & Pinho, 2010). This study adopts this position and other key motivations for engaging local stakeholders in evaluation research. These include: 1) “develop[ing] an understanding of what is valued by participants;” 2) “present[ing] the diverse views of involved parties;” and 3) “acquir[ing], to the extent possible, an understanding of the community system prior to, during, and after program intervention” (Patton et al., 2016, p. 348). Recognizing that stakeholder groups can offer different opinions (Rossi et al., 2019), prioritize their self-interest (Weimer and Vining, 2017), and influence policy implementation (Mazmanian and Sabatier, 1989), it is critical that the study be “concerned with fairness [and] equity so that no group is given an unfair preference in the evaluation” (Patton et al., 2016, p. 349). Since testing differences and similarities among all stakeholder groups was unfeasible, prioritization was devoted to characteristics which apply to all cases and enhance the prospect of future research. The stakeholder characteristics chosen based upon these considerations include: 1) military status (i.e. civilian vs. military employment); 2) length of residency; 3) military service department (i.e. Army, Navy, etc.); 4) geography; 5) institutional involvement; and 6) program/study familiarity. Since these stakeholder characteristics are *not* mutually exclusive, the supplementary research question is multipart and consists of the following:

- *How, if at all, does the following stakeholder characteristics influence differences in local assessments of the JLUS program:*
 - i. *Military Status;*
 - ii. *Length of Residency;*
 - iii. *Military Service Department;*
 - iv. *Geography;*
 - v. *Institutional Involvement; and*
 - vi. *Program/Study Familiarity.*

Given that differences and similarities among stakeholder perceptions are supplementary to the primary research question, this research question and corresponding hypothesis is deliberately structured to be foundational. A schematic diagram of the supplementary research question’s conceptual framework is provided in Figure 7 for additional reference.

Figure 7

Schematic Diagram of Conceptual Framework



The integral components of the supplementary research question are the stakeholder characteristics, the various groups within these characteristics, and how these groups comparatively assess this study's evaluation criteria. By integrating the evaluation criteria from the primary research question into this supplementary question, this study can gauge whether stakeholders concur or deviate in their assessment of the JLUS program. Results from the same stakeholder survey are measured to reject or fail to reject this supplementary research question's null hypothesis. The tested *null* hypothesis consists of the following:

H₀#: *Distributions from the stakeholder characteristic will be homogeneous.*

The *alterative* hypothesis tested for this supplementary research questions is:

H_a#: *Distributions from the stakeholder characteristic will not be homogeneous.*

For each evaluation criterion, the study hypothesizes that stakeholder groups from each characteristic will offer different assessments of the JLUS program. In the event the study can sufficiently reject the null hypothesis (i.e. differences are present), the findings will not only pinpoint where dissent, at least partially, originates from (i.e. via the evaluation criteria) but foster further empirical study on the dissents' source(s) and program adjustments that are targeted more accurately. Alternatively, in the event the study cannot reject the null hypothesis, the findings will further confirm the results of the primary research question and suggest that any assessment variability originates from some combination of the stakeholder characteristics and other extraneous variables.

The first stakeholder characteristic of interest is *military status*. **Military status** is defined in this study as a stakeholder characteristic which discerns whether participants' employment originates from a military (e.g. Air Force, Army, etc.) or civilian institution (private or public sector). Based on this definition, the stakeholder *groups* of interest for this characteristic include *military* and *civilian* stakeholders. To date, Cloutier's (2020) qualitative study on the Puget Sound Region remains the only published study to assess how military and civilian stakeholders may differ in their views of planning efficacy in defense communities. Cloutier found that military and civilian partners across the study's region experienced "consistent levels of efficacy" (2020, p. 127). In the absence of additional empirical studies to inform the hypothesis, this study applies healthy empirical skepticism to see if the findings are consistent under a national scope and apply, in this case, to the JLUS program specifically. The expectation that civilian and military stakeholders may offer measurably different assessments of the program relies on the following inductive reasoning: 1) military stakeholders are inherently more transient than civilian stakeholders (Thanner & Segal, 2008); 2) their motivations for mitigating physical incompatibilities are visibly dissimilar (Appel & Smith, 2011; Davenport, 2007; McDuffie, 2009; Schultz, 2016; Young, 2008); and 3) the experiences, training, education, and professional backgrounds of military and civilian stakeholders are often distinct (Cotter et al., 2005; O'Brien, 2006).

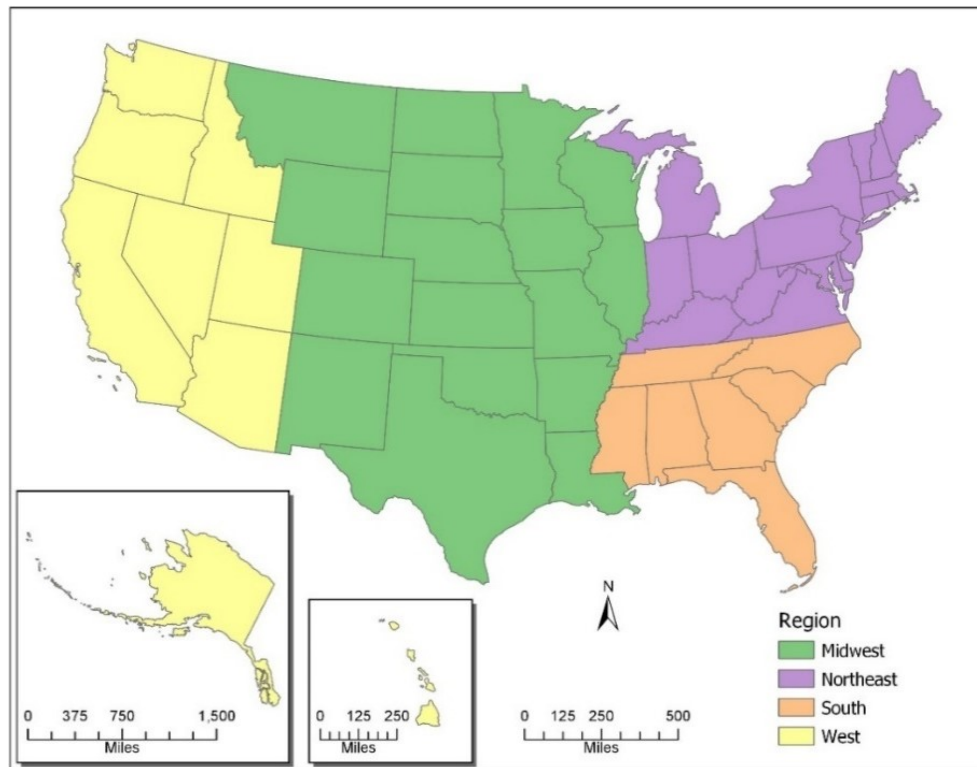
The second stakeholder characteristic, *length of residency*, is vital to account for when studying defense communities since both civilian and military stakeholders are regularly moving due to change of station policies. **Length of residency** is defined in this study as a stakeholder characteristic which discerns the approximate length of time in which a stakeholder has lived

within a respective defense community. Anticipating lower lengths of residency, this study applied the following intervals: less than one year; between one and three years; between four and ten years; and greater than 10 years. In the absence of relevant empirical studies to inform the hypothesis, the expectation that length of residency may offer measurably different assessments of the program relies on the aforementioned reasoning.

The third and fourth stakeholder characteristics of interest are *military service department* and *geography* respectively. **Military service department** is defined in this study as a stakeholder characteristic which discerns which branch of the U.S. Armed Forces the participants' local installation is managed by. Based on what is known from implemented JLUSs, the stakeholder *groups* of interest for this characteristic include *Air Force*, *Army*, *Marine Corps*, *Navy*, and *Joint Bases*. In addition, **geography** in this study refers to a stakeholder characteristic which discerns the geographic region of the participants' local military installation and residence. Figure 8 illustrates the assigned geographic regions (i.e. West, Midwest, Northeast, and South) from which participants can select. Establishing these geographic regions were based on state continuity, topographical similarities, and reflecting a relative balance between regions based upon JLUS implementation. This design is intended to ensure the principle of anonymity is maintained for states with lower JLUS implementation. Comparing assessments from these stakeholder characteristics is vital for this study since military institutions are geographically positioned to conduct unique operations which are ultimately impacted by physical incompatibilities in different ways. With an absence of preceding literature to inform this study's hypothesis, the expectation that stakeholders within these characteristics will offer measurably different assessments of the program relies on the following inductive reasoning: 1) some states create legislation to complement JLUS implementation which may influence a participant's assessment (Butler, 2004; Butler, 2006; Cotter et al., 2005; O'Brien, 2006; Santicola, 2006); 2) operational motivations for mitigating physical incompatibilities are visibly dissimilar (Appel & Smith, 2011; Davenport, 2007; McDuffie, 2009; Schultz, 2016; Young, 2008); and 3) the experiences, training, education, and professional backgrounds these stakeholders are often diverse (Cotter et al., 2005; O'Brien, 2006).

Figure 8

Study Area Segmented into Assigned Geographic Regions



The fifth and sixth stakeholder characteristics of interest are *institutional involvement* and *program/study familiarity*. **Institutional involvement** is defined in this study as a stakeholder characteristic which discerns the extent to which a stakeholder's institution is actively engaged in the implementation of a JLUS. Based on a simple Likert scale, stakeholders self-identified into one of the following groups: *not involved*, *rarely involved*, *somewhat involved*, or *heavily involved*. In addition, **program/study familiarity** in this study refers to a stakeholder characteristic which discerns the extent to which the stakeholder is familiar with their region's respective JLUS. Comparable to institutional involvement, program/study familiarity was measured via a similar Likert scale where stakeholders self-identified into one of the following groups: *not at all familiar*, *slightly familiar*, *moderately familiar*, or *extremely familiar*. Analyzing potential differences with these stakeholder characteristics will further aid the discourse gauge whether they influence assessments of JLUS program efficacy. These characteristics also serve as a means for quality control. While the study aimed for diversity in its participation by stakeholders with pertinent knowledge, individuals self-reporting with greater institutional involvement and program/study

familiarity were ideal since they best match the background and experiences expected of the target population. Comparable to military status, Cloutier's (2020) study remains the only publication to date to examine whether familiarity effects stakeholder perceptions of efficacy related to planning efforts in defense communities. Cloutier found "a positive relationship between efficacy and stakeholder familiarity with compatibility issues, processes, and tools" (2020, p. 132). In the absence of additional empirical studies to inform the hypothesis, this study applies healthy empirical skepticism to see if the findings are consistent under a national scope and apply, in this case, to the JLUS program specifically.

Transitioning from motivations to anticipated contributions, the supplementary research question benefits academia by: 1) offering the necessary contextual information for generating other compelling research questions such as "why do we see similarities or differences;" 2) presenting a unique opportunity to assess variances in implementation success nationwide; and 3) filling a visible gap in knowledge. While civilian and military actors may not value the same contributions as academics, the supplementary research question will also prove beneficial to those in professional practice and decision-making roles. For example, by identifying where stakeholder groups agree or disagree, civilian and military actors will be able to reflect on and compare their own practices and outcomes to others, adopt policies or procedures that have been successful for others, and address any contradictions between stakeholder groups. The findings from the supplementary research question may also prove enlightening for the federal government. Understanding how various stakeholders assess the program's performance and conformance can help the federal government formulate targeted program adjustments.

Secondary Research

Finally, in addition to the primary and supplementary research questions, this study offered a *secondary* research question consisting of the following:

- *How can the democratic, cooperative, and regional characteristics of the JLUS program extend beyond its current application to other forms of regional and intergovernmental planning?*

This secondary research question was designed to expand the discourse and qualitatively test the potential for replicating the methodological characteristics established in the JLUS program to other forms of intergovernmental planning beyond defense communities. Some preceding authors,

such as Young (2008), have acknowledged that military-community relations exhibit similarities to other intergovernmental or inter-organizational relations. This study develops this concept further by interviewing civilian planners with experience creating and implementing JLUSs to determine what circumstances they believe are most conducive for joint planning endeavors. Findings from the secondary research question benefit academia by: 1) filling a visible gap in knowledge; 2) reintroducing defense communities as a significant setting of regional planning; and 3) offering the necessary contextual information for generating other compelling research questions related to the application of joint studies such as “how do other joint studies compare.” Since the motivation behind the secondary research question is to gauge the appropriateness of joint studies in other contexts, the contributions are aimed more towards civilian actors than military. The findings from this question may encourage civilian actors to: 1) reflect on and compare their own practices to the prospective benefits of applying joint studies; 2) adopt policies or procedures of successfully implemented joint studies; and 3) implement joint studies to mitigate regional incompatibility issues. Contrasting the supplementary question, the secondary question may have more policy implications for state policies than federal, as states have a direct vested interest in ensuring their regional assets are not detrimental to one another.

Synopsis

Collectively, this study’s research questions were strategically designed to augment the limited literature on defense communities while providing inferences that can contribute to a variety of civilian, military, state, and federal actors. The research questions’ findings are not only relevant to government policymaking but are directly linked to regional planning practices. Findings from this study encourages both military and civilian planners to reflect on the effectiveness of their own regional planning strategies or recognize the need for improving their own cooperative and participatory planning methods. Lastly, by introducing this study’s research questions to the academic planning discourse, it will likely foster future research beyond the goals and objectives delineated for this study that may otherwise remain neglected.

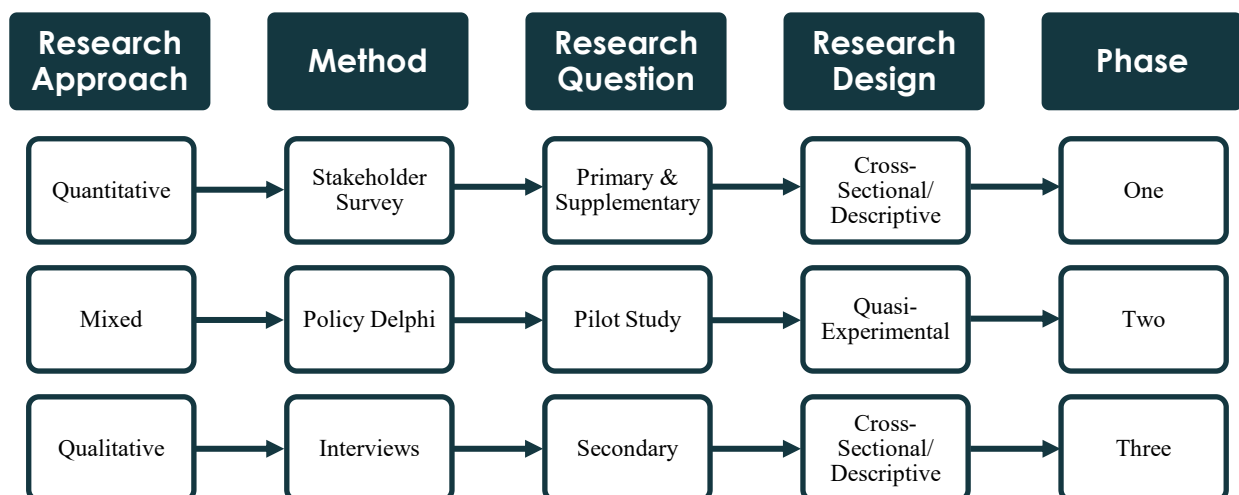
Abbreviated Research Design

The research design of this study was a multi-phased, mixed method approach (see Figure 9). The first phase and method consisted of constructing, disseminating, and analyzing the results of a stakeholder survey. Results from the survey address each component of the *primary* and

supplementary research questions. The target population for the stakeholder survey was local stakeholders (i.e. civilian and military) experienced with implementing recommendations from Joint Land Use Studies (JLUSs). The unit of analysis was the collective and stakeholder group assessments of the JLUS program's ability to progress the evaluation criteria. The sample was extracted from all JLUS sites between 2013 and 2017 (i.e. 55 sites throughout United States) ($N = 156$). Similarly, the second phase and method consisted of constructing, disseminating, and analyzing two additional stakeholder surveys (i.e. one control and one treatment). The purpose for this pilot study is to assess the validity of the policy Delphi as a methodological instrument in planning policy research (see Chapter 3). The target population and unit of analysis for phase two remains the same as phase one. The samples were extracted from two similarly situated groups of defense communities to assess the influence of the instrument via a control and treatment approach ($N = 51$). Finally, since the *secondary* research question is qualitative in nature, the study applied interviews for its final phase and method. The target population for the interviews was civilian planners with experience conducting and/or implementing a JLUS. The unit of analysis was the unique opinions and perceptions of these experienced planners. The study targeted a sample size of 12 interviews which was successfully met. Conducting the interviews not only provided an initial gauge of the appropriateness of joint studies under various contexts but also offers additional insight related to the primary research question.

Figure 9

Abbreviated Research Design



Dissertation Structure

Preceding literature examining the rise of physical incompatibilities, policy responses, and this study's theoretical framework are comprehensively provided in Chapter Two. Descriptions of executed methods and how they were conducted for this study are detailed in Chapter Three. Findings from the methods are presented in Chapter Four. Finally, Chapter Five provides a synopsis of key findings, descriptions of practical implications, and reflections on the research limitations and recommendations for future research.

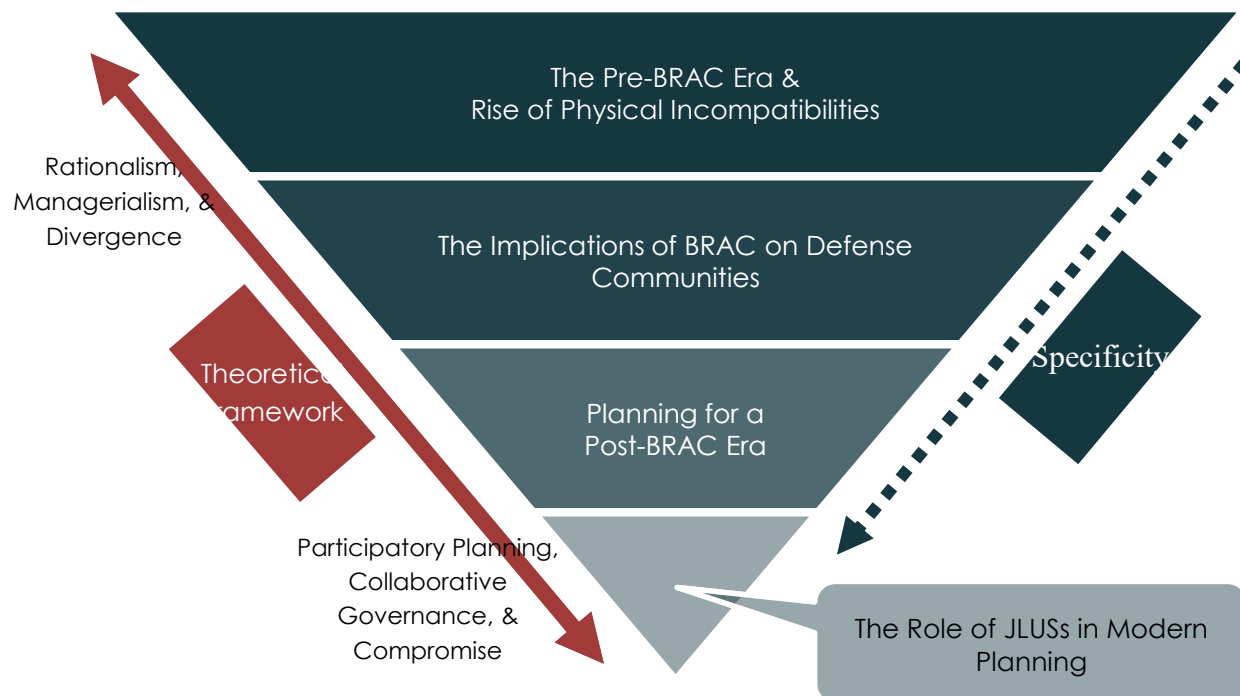
Chapter 2 - Literature Review

In order to construct a reliable theoretical framework and methodological foundation, it was necessary to review reputable and relevant sources concerning the rise of physical incompatibilities in defense communities. Such sources include various governmental, academic, and professional journal articles, books, records, and reports. This literature review serves three main objectives. First, to disclose what has already been established within the planning discourse both empirically and methodologically. Second, to identify any consistencies and contradictions found within the current discourse. Lastly, to provide the necessary foundation for generating greater dialog surrounding physical incompatibilities in defense communities, the planning actions available, and the potential implications of said actions.

After introducing this study's theoretical framework, this chapter's content is strategically organized and presented in a chronological manner as follows: 1) The Pre-BRAC Era & Rise of Physical Incompatibilities; 2) The Implications of BRAC on Defense Communities; 3) Planning for a Post-BRAC Era; and 4) The Role of JLUSs in Modern Planning. The first section examines the U.S. federal government's historical procedure for designating and expanding land for military operations until the inaugural round of Base Realignment and Closure (BRAC) in 1988. The second section reviews the observed implications of BRAC on defense community capitals (i.e. built, natural, etc.) and how it fundamentally changed stakeholder perceptions towards physical incompatibilities. The third section provides an overview of the diverse policy alternatives currently implemented across the country and how such methods are perceived within existing literature. The final section summarizes the purpose, process, progress, and the Joint Land Use Study (JLUS) program's potential for external diffusion. To illustrate the structure of this literature review, Figure 10 is provided.

Figure 10

Diagram of Literature Review Structure



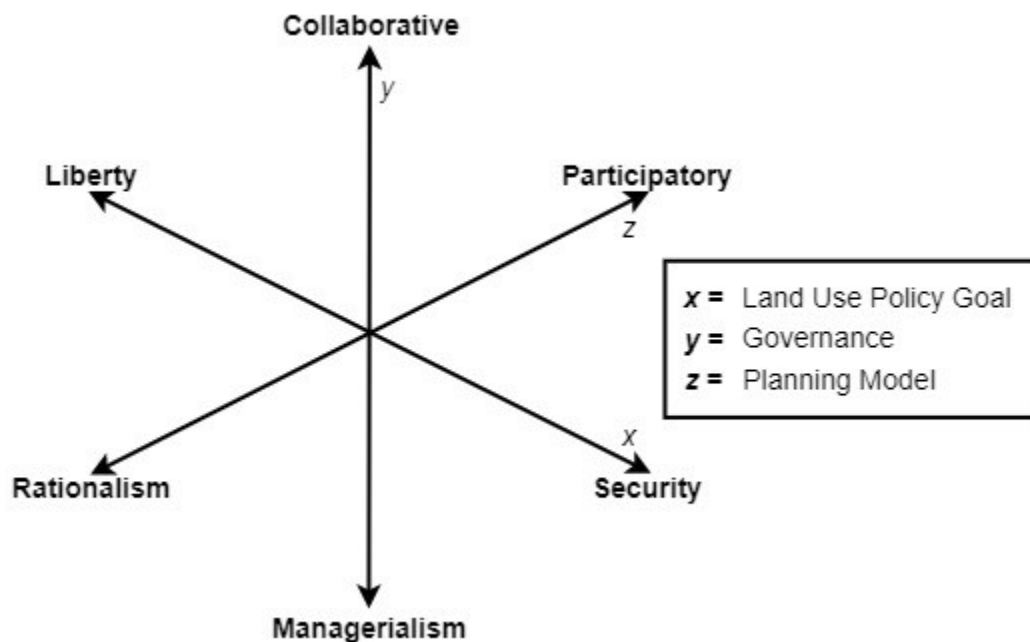
Theoretical Framework

The literary evidence presented in this review reveals that no single theory can sufficiently explain the rise and persistence of physical incompatibilities and the historical responses by institutions. For the purposes of this study, theories pertinent to the experiences of communities within the United States and the regulatory failures and actions which shaped what planners in defense communities face today are examined. This framework does not seek to minimize the significant roles geopolitics and economic factors have and continue to play in the positioning, organization, and development of military installations and civilian development, but rather focus on an undeveloped segment of planning history. To construct a theoretical framework capable of defining, identifying, and visualizing historic policy change, it was necessary to consolidate topical theories on land use policy goals, governance, and planning. This review introduces a military readiness and local land use planning triaxial spectrum as its theoretical framework (see Figure 11). The three axes of the diagram include a land use policy goal, governance, and planning model spectrum. This framework is not intended to serve as a comprehensive representation of all causal mechanisms. Instead, the framework is specifically designed to illustrate historical shifts in

policies, politics, and planning actions which surround physical incompatibilities between military installations and defense communities in the United States. While it is certainly possible that the framework may also apply to defense communities internationally, further study is needed to confirm.

Figure 11

Military Readiness and Local Land Use Planning Triaxial Spectrum



The framework is also used in this study to investigate the relationship between the JLUS program's performance and conformance to the land use policy goals, governance, and planning actions that originally shaped the program. Doing so is intended to enlighten future policymaking. The theoretical framework not only seeks to enhance our understanding of the policy problem but encourage planning scholars to critically examine and debate the merits of policy actions aimed at combatting incompatibilities in defense communities. In addition to informing and fostering debate among planning scholars, the prospects of this theoretical framework can extend beyond this study's research questions. Some examples of alternative application may include comparing individual policy alternatives, vertical policymaking, or more easily describing the functional mechanisms and motivations of past policy actions. The remainder of this section provides brief descriptions of each spectrum and distinguishes how each are linked to the primary research question.

Land Use Policy Goal

The first axis of the triaxial spectrum considers the land use policy goal. Military and civilian decision-makers do not always share the same policy motivations, and the prevention and mitigation of physical incompatibilities is no different. Naturally, the goals of military decision-makers are aimed towards the specific missions of their installation while local decision-makers function to serve the public interest. Despite these differences, their interests are by no means mutually exclusive. Current policy efforts such as the JLUS program suggest a compromise of land use policy goals has become essential for alleviating incompatibilities in defense communities. If decision-makers focus solely on their own land use policy goals as they have in the past, incompatibilities in defense communities will likely exacerbate and the likelihood of their installation being included in a future Base Realignment and Closure (BRAC) round will only increase (Appel & Smith, 2011; Davenport, 2007; McDuffie, 2009).

Due to the complex mix of national decision-makers within this policymaking arena, recognition of the key decision-making groups and their land use policy goals is essential. This review identifies three main decision-making groups including: *military* (e.g. military personnel, Department of Defense officials (DoD), etc.), *defense community* (e.g. public, local governments, etc.), and *oversight* (e.g. Congress and state governments). Inherent to their profession, military decision-makers are motivated by their duty to sustain the operational (i.e. capacity to conduct their overarching missions) and institutional (i.e. retaining the infrastructure required to implement their missions) values of their installation. The land use policy goal which best reflects this motivation is security. Defense community decision-makers diverge from the military since their function is to directly serve the public interest beyond solely security. This responsibility includes ensuring the community's safety, that quality of life is maintained or enhanced, and that the economic benefits from military installations is sustained (Appel & Smith, 2011; Schultz, 2016). These motivations prioritize other land use policy goals such as liberty and welfare. Finally, oversight decision-makers comprise of federal and state government officials responsible for ensuring both military readiness and maintaining the general welfare of the public. Decision-makers with an oversight motivation exhibit various land use policy goals including equity, security, welfare, and liberty. This review concedes that political motivations and land use policy goals vary from place to place and person to person. However, the intent for this assessment is to

highlight the existing literature's recognition of the general differences between these core decision-making groups.

Literary evidence suggests governments within the United States were voluntarily or involuntarily passive towards physical incompatibilities in defense communities historically. One plausible explanation for this inaction was a reluctance by governments and planners to confront the "liberty-security trade-off," particularly when considering the dilemma of "paternalism" (i.e. "should government prevent people from acting voluntarily in ways that harm themselves") (Stone, 2001, p. 123). Land use policies which prioritize **liberty**, the first boundary of this spectrum, encourage local civilian control and development of land with limited to no federal intervention. While this framework's scope is centered solely around policy change, any rationalization of liberty as a boundary requires the identification of indicators which are largely tied to the market. The most apparent indicators that land use policies in defense communities prioritized liberty are **information asymmetry** and **negative externalities**. As market-driven developers and local military personnel did not have adequate access to relevant planning information, civilian development often proceeded without appropriate deliberations (Woodward, 2004). The negative externalities from such development compounded into the many incompatibilities defense communities face today. The debate between planning and liberty is by no means new, and planners of defense communities will likely be confronted with this dilemma especially as local governments are expected to be more proactive in their planning and policymaking.

The other end of this spectrum is designed to reflect the land use policies in defense communities which prioritize **security**. For the purposes of this review, security refers to the promotion of military readiness and the military's control of land. In order to successfully determine whether past or existing policies prioritized security, descriptive indicators were needed. The indicators applied for this review include: the glorification of the military; "high military expenditures and preferential treatment," "military build-up" and applying it as an "instrument of politics;" and "military interference in shaping socio-economic goals and policies;" (Thee, 1977, p. 299). Any policy which extensively displays or promotes these characteristics within the discourse are realistically closer to the security boundary of this spectrum. This review positions liberty and security at the opposite ends of the spectrum since there are many policies throughout history which do not exhibit strong features of either but fall in between. The most apparent

example, discussed momentarily, is the early twentieth century where local policies remained largely passive towards civilian development encroaching upon installations. During the same period, the U.S. federal government was confronted with two world wars, the Korean war, and the Vietnam war. These conflicts fostered prolific defense spending and land expansion which inherently prioritized security as their primary land use policy goal. These boundaries are not intended to imply one goal is more important than the other or that a policy cannot be a mixture of both. In fact, as will be shown shortly, many of the collaborative land use policies in defense communities today fall somewhere in the middle. Linked to the land use policy goal spectrum, parts “c” and “d” of the primary research question invited stakeholders to assess the JLUS program’s ability to progress a region’s military readiness and civilian development respectively. The *land use policy goal spectrum* offers a conceptualized method for measuring where the implementation of JLUSs fits between the land use policy goals of security and liberty.

Governance

The second axis of the triaxial spectrum centers on **governance** defined here as “the processes by which public policy decisions are made and implemented” (Touchton & Ashley, 2019, p. 6). As Congress, scholars, and the public became more concerned with the military’s control of land, the significance of governance also intensified. Touchton and Ashley have described governance in the context of defense communities as the “evolving and adapting interactions, relationships, and networks among governments, public, private, and civil society actors and the institutional structure that frame these relationships” (2019, p. 6). Evident by these definitions is the significance of intergovernmental and civil-military relations. However, political favorability towards interjurisdictional cooperation remains mixed for many planning issues and the political history of land use incompatibilities in defense communities is no exception. Since incompatibilities in defense communities is an inherently intergovernmental policy issue, critical examination of past and current governance is critical for identifying any historic policy change.

The first boundary assigned to this spectrum is **managerialism**. Ansell and Gash describe managerialism as a mode of policymaking and implementation in which “public agencies make decisions unilaterally or through closed decision processes, typically relying on agency experts to make decisions” (Ansell & Gash, 2008, p. 547; Futrell, 2003). While Ansell and Gash concede that managerialism may account for or directly consult with stakeholders at times, this form of governance offers limited or no guarantees that stakeholders are “included in the decision-making

process” (2008, p. 547). In order to successfully gauge whether past or existing policies aimed at land use decisions in defense communities originate from managerialism, descriptive indicators were needed. The indicators applied for this review were the extent to which **separatism** and **localism** influence political relations in the policymaking process. Separatists believe in an administrative and political division between civilian and military institutions (Hooker, 2003; Schiff, 1995; Schiff, 1996). They argue that “politics is beyond the scope of military competence, and the participation of military officers in politics undermines their professionalism” (as cited by Hooker, 2003, p. 8). While there may be some merit to these claims, criticisms of separatism in defense communities have amplified. The most alarming consequence of separatism in defense communities is evident by the persistent rate at which military installations are frequently neglected by community plans “as if there were no people, buildings, roads, utilities, schools, churches, stores, or offices inside the fence” (Association of Defense Communities, 2016, p. 3). Shifting from civil-military to civilian intergovernmental relations, localists’ views prioritize “the legal and political empowerment of local areas” (Briffault, 2000, p. 2). Consequently, the practice of localism can promote regional conflict and competition, exacerbate political divisions within a region, and deter regional cooperation (Briffault, 2000; Foster, 2001). Since incompatibilities affecting military installations often originate from the urbanization of multiple civilian jurisdictions, localist positions in the community planning not only perpetuate the problem but can hinder compatibility efforts. Any policy which considerably displays characteristics of separatism or localism in the discourse are considered here to be indicative of the managerialism as previously defined.

Policies in defense communities shaped by managerialism are in decline as the discourse continues to shift its support towards joint planning strategies or **collaborative** governance (Association of Defense Communities, 2016; Cotter et al., 2005; Touchton & Ashley, 2019). At the opposite end of this spectrum, collaborative governance is defined here as “a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets” (Ansell & Gash, 2008, p. 546; Touchton & Ashley, 2019). In order to assess whether past or existing policies aimed at land use decisions in defense communities originate from collaborative governance, descriptive indicators were also needed. The indicators applied for this review were the extent to which

concordance and **regionalism** influenced political relations in the policymaking process. Contrasting separatism, Rebecca Schiff introduced an alternative theory of civil-military relations called the theory of concordance (1995; Schiff, 1996). According to Schiff, concordance theory greatly supports cooperative relationships between the military, political leaders, and the public without requiring it outright (1995; Schiff, 1996). When scaling Schiff's theory to the level of local defense communities, the relevance is compelling. In 2011, Appel and Smith recognized that "despite the best intentions of the military and local government[s], institutional and cultural differences" often inhibit civil-military relations (p. 7). To overcome this deficiency and effectively combat land use incompatibilities, Appel and Smith emphasized the need for both civilian and military parties to take the necessary time during policy formulation to recognize each other's interests, learn how the other operates, and establish formal relationships (2011). Collaborative governance in defense communities also benefits from the practice of regionalism. Regionalism is described here as the coordination of local authorities through "partnerships and agreements, processes and practices, or simply as cultural expressions" (Foster, 2001, p. 7). As previously noted, many incompatibilities affecting military installations often originate from multiple civilian jurisdictions. While it is certainly possible for the military to coordinate with each defense community individually to overcome regional challenges, history has shown that taking a regional approach is both more efficient and effective. For example, when military installations are closed and redeveloped, Touchton and Ashley acknowledge that the "important differences in territory [...] and scale require communities to extend the governance arrangements to the regional level to meet the military redevelopment needs (2019, p. 119). Essentially, land use policies shaped by regionalism are ones in which the surrounding civilian defense communities take a collective approach towards policy formulation and implementation. Any policy which considerably displays characteristics of concordance or regionalism within the discourse are considered here to be more indicative of collaborative governance as previously defined.

This review positions managerialism and collaborative governance at the opposite ends of this spectrum since there are many policies throughout history which do not exhibit strong features of either but fall in between. Perhaps the most consequential land use policy to affect defense communities in the past were the BRACs between 1988 and 2005. The BRAC process was not only shaped by managerialism but it fostered a desire to move beyond the top-down policymaking approach in defense communities (Touchton & Ashley, 2019; Sorenson, 1998). Since that time,

the federal government and local defense communities have steadily recognized the benefits of practicing collaborative governance to combat incompatibilities. While collaborative governance does face challenges with time commitments, trust, and interdependence, political support towards applying this style of policymaking continues to grow in defense communities. As Ansell and Gash plainly note, “if one stakeholder is threatening to defect from collaboration, the commitment of all stakeholders is likely to suffer, and it will be difficult to develop a sense of ownership, understanding, and trust” (2008, p. 563). Linked to the governance spectrum, part “*b*” of this study’s primary research question investigates stakeholder assessments of the JLUS program’s ability to progress a region’s intergovernmental cooperation. The *governance spectrum* offers a conceptualized method for measuring whether the implementation of JLUSs reflect the principals and practices of managerialism or collaborative governance.

Planning Model

The final axis of the triaxial spectrum is the planning model. To date, David Loomis (1993) and Rumanda Young (2008) remain the core authors who have extensively recognized a shift in the planning models applied by defense communities and military installations from **rationalism** to **participatory planning**. When comparing the preferred models of civilian and military planners, Loomis emphasizes how civilian planners typically employ “open rational-comprehensive planning models” with “up-front citizen participation” (1993, 109). Conversely, he describes the military’s historical planning model as a “closed rational-comprehensive tradition,” a “process characterized by faith in technological solutions to land use issues” (1993, 109; Young 2008). Loomis primarily accredits the NEPA for starting the transition away from pure rational planning by mandating public involvement in some military planning issues (1993). Alternatively, Young asserts that BRAC implementation is a prominent causal mechanism for the military’s shift away from rational planning (2008). The relevance and significance of this literature to this review is less about why the change transpired but recognizing that a change has occurred.

From his case study, Loomis found that military planners are “getting the message about public involvement in a democratic society” and beginning to recognize that they are “part of a larger community” (1993, 112). Although skeptical that participatory planning in defense communities will occur rapidly or beyond what had already transpired, Loomis remained convinced that public participation will be an essential component of future planning (1993). With

the establishment of programs such as the Compatible Use Program and the Readiness and Environmental Protection Initiative (REPI) since Loomis' publication, this conclusion appears to hold true. Publications such as Gillman (2011), the Range Commanders Council (2012), and Cloutier (2020) reaffirm the significance of community involvement in defense communities for modern planning models. As before, this review positions these models at the ends of the spectrum since there are many policies which do not exhibit strong features of either but fall in between. Linked to the planning model spectrum, part "a" of this study's primary research question invited stakeholders to assess the JLUS program's ability to progress a region's democratic participation. This spectrum offers a conceptualized method for measuring if the implementation of JLUSs encourages regional planning efforts to be more participatory or rationalistic.

The Pre-BRAC Era and Rise of Physical Incompatibilities

Physical incompatibilities between military installations and defense communities is not a policy issue which transpired overnight. The United States (U.S.) throughout history has strategically positioned and constructed their domestic installations in unpopulated and undeveloped areas to safeguard them from civilian obstruction (Appel & Smith, 2011; Cotter et al., 2005; Davenport, 2007; Gillman, 2011; ICMA & MIVT, 2005; Knott & Natoli, 2004; Lachman et al., 2007; Lachman et al., 2013; Omans, 2002; Santicola, 2006; Schultz, 2016). In addition, rural areas granted optimal conditions due to the surplus of open space typically desired for conducting defense training and mission operations (Appel & Smith, 2011; Santicola, 2006). Despite these progressive efforts, domestic installations remained exposed to encroachment by civilian development due to population growth, sprawling regional development, technological advancements, and the economic and developmental opportunities derived from the military's presence (Appel & Smith, 2011; Gillman, 2011; Santicola, 2006; U.S. Army Corps of Engineers, 2017). This section examines the U.S. federal government's historical procedure for designating and expanding land for military operations until the inaugural round of Base Realignment and Closure (BRAC) in 1988. Figure 12 outlines the key federal legislations presented in this section.

Figure 12

Key Legislations of the Pre-BRAC Era



Quantity-Distance Standards

Prior to the 20th century, the potential for accidental high explosive detonations was the leading compatibility conflict recognized by the U.S. government (Roylance, 1968). However, efforts to prevent such disasters remained somewhat “hit-or-miss” as “little was known about the scientific and theoretical aspects of the phenomena” (Roylance, 1968, p. 11). By 1909, a special committee was established with the objective of recommending suitable distances between explosive magazines and inhabited buildings, public railways, and later public highways in 1914 (Lahoud & Zehrt, 1992; Roylance, 1968). The committee’s proposed standards became known as the American Table of Distances or more commonly referred to today as the Department of Defense’s (DoD) Ammunition and Explosives Safety Standards (Lahoud & Zehrt, 1992; Roylance, 1968). For adjacent civilian properties, the assumption of the table was that adequate barriers, either natural or artificial, be present; otherwise, the distances were doubled (Lahoud & Zehrt, 1992; Roylance, 1968). While some experts of the time recognized flaws between the quantifiable assumptions of barricades, distances, and number of explosions, the debate on physical incompatibilities remained limited until the first accredited catastrophe in 1926 (Lahoud & Zehrt, 1992; Roylance, 1968).

Due to the inherent significance of catastrophic events, this point in time is where the literature begins to expand. Presently, the foremost author to examine and document the Pre-

BRAC era both within a planning context and systematically is David Loomis (1993). While Loomis' book primarily focuses on the acquisition of land and compatibility issues found within Nevada, most of his dialog can also be applied nationally. Both Loomis (1993) and Roylance (1968) reference the same historical example of how neglecting physical incompatibilities can lead to catastrophic results (i.e. one of the earliest symptoms of this policy problem). Labeled as the Lake Denmark Disaster, on July 1926 an explosion at a Navy ammunition depot killed and injured many individuals including civilians in Morris County, New Jersey (Loomis, 1993; Roylance, 1968). This disaster was particularly unique since it impacted civilian quality of life in two meaningful ways. First, and most apparent, was the extensive damage which extended beyond the borders of the naval reservation (Roylance, 1968). Secondly, the U.S. government and military needed to prevent further public criticism of the "real or imagined failure to provide adequate safeguards to the property and persons of the public in the vicinity of military installations" (Roylance, 1968, p. 12). Justifiably, these impacts did not get overlooked by the public and required a response from the federal government which received the most criticism.

To survey the results of the disaster, Congress instructed the Secretary of War and Secretary of the Navy to commission a board and return with the findings by March of 1928 (Lahoud & Zehrt, 1992; Roylance, 1968). The board determined that the implemented safety standards were "minima;" however, they noted that the "separation of distances [were] not absolute safe distances, but [were] distances of relative protection (Roylance, 1968, p. 13). Lastly, the board emphasized their concurrence that achieving absolute safety is impractical due to the abundant financial resources required for land and construction in addition to the potential restrictions which may impede military operations and production (Roylance, 1968). Following the submission of the report, Congress and the military responded in two ways. First, after some lengthy political maneuvering, the ammunition depot was relocated to Mineral County, Nevada where enough land was available to prevent a repeated incidence (Elliott, 1973; Loomis, 1993). Secondly, Congress passed enabling legislation which formed the permanent establishment of the Armed Services Explosives Safety Board (Lahoud & Zehrt, 1992; Roylance, 1968). The objective of this board is to ensure "supplies [are] properly dispersed and stored" and to prevent "hazardous conditions from arising to endanger life and property" (Roylance, 1968, p. 14). This includes amending the Quantity-Distance Standards as technology for explosives and safety measures improve (Lahoud & Zehrt, 1992; Roylance, 1968). While the significance of this compatibility

issue continues to be at the forefront for many installations today, the escalation of World War II led to many new and rising incompatibilities (Schultz, 2016).

Engle Act

Scholars have described World War II as the impetus for “the most significant expansion of military land use to date” (Loomis, 1993, p. 107; Elwood, 2008; Markusen et al., 1991; Meinig, 2010; O’Mara, 2015; Sorenson, 1998; Stark, 2016). By the 1950s, Congress became increasingly concerned with the extent of domestic military expansion (Elwood, 2008; Loomis, 1993; Stark, 2016). Consequently, in 1958 Congress adopted Public Law 85-337 commonly identified as the Engle Act (proposed by Representative Clair Engle of California) (Elwood, 2008; Kuhn & Duane, 2015; Loomis, 1993; Stark, 2016). The act requires congressional approval for any military withdrawals (i.e. acquisition of federal land for military use) over 5,000 acres (Elwood, 2008; Kuhn & Duane, 2015; Loomis, 1993; Stark, 2016). Prior to the Engle Act, Presidents Roosevelt and Truman delegated the authority of withdrawal to their Department of Interior (DoI) which consistently approved requests by the Department of Defense (DoD) (Elwood, 2008; Loomis, 1993). The objective of the Engle Act was to reaffirm Congress’ constitutional authority to manage federal land as outlined in Article IV, Section 3, Clause 2 of the U.S. Constitution (Kuhn & Duane, 2015; Loomis, 1993). Under the Engle Act, Congress’ responsibility was to “set the terms and conditions of each specific withdrawal after seeking the advice and assistance of the public” (Loomis, 1993, p. 35). A rather unique claim by Loomis is that beyond the typical political concerns of expanding military withdrawals, congressional action may not have been as effective “had it not been for the concern of hunters over military restrictions to hunting areas” (1993, p. 34; Elwood, 2008; Stark, 2016). Inclusively, although the act allowed the process to become more structured, the impacts of the Engle Act on defense communities and the environment were not addressed for another decade.

NEPA & FLPMA

Commonly cited limitations of the Engle Act were its limited concerns for integrating citizen participation, insufficient reduction of executive power in military land withdrawals, and its neglect of environmental impacts (Kuhn & Duane, 2015; Loomis, 1993). The federal government indirectly responded to these concerns with the enactment of the National Environmental Policy Act (NEPA) in 1969 (Ichter, 1984; Loomis, 1993; Squillace, 2019). NEPA

is a national policy designed to prevent, mitigate, and eliminate damage to the environment. NEPA now requires “the preparation of environmental impact statements (EIS) for federal action that could have significant impact on the environment” (Loomis, 1993, p. 36; Ichter, 1984; Squillace, 2019). In addition to addressing the environmental concerns, the EIS process also grants citizens the opportunity to participate in the review process and even sue the federal government if compliance to NEPA is not fulfilled (Ichter, 1984; Loomis, 1993). Despite a step in the right direction, it has been argued a major drawback of NEPA was the absence of *mandatory* public engagement at the forefront of a proposal (Loomis, 1993). Congress evidently recognized this sentiment by 1976 when they enacted the Federal Land Policy and Management Act (FLPMA) which now mandates land withdrawals to include a statement on public consultation among many other beneficial requirements (Loomis, 1993; Squillace, 2019). The following bullets outline Loomis’ summary of the expectations defined in FLPMA’s Section 204 (1993):

- Inventory and evaluate existing natural resources, values, and anticipated impacts;
- Conduct economic analysis of existing uses;
- Perform analysis of proposed land uses;
- Document consideration of alternative sites;
- Provide statement on public consultation;
- Record effect on state and local government and regional economy;
- Publish location of withdrawal records; and
- Report on existing and future mining conditions.

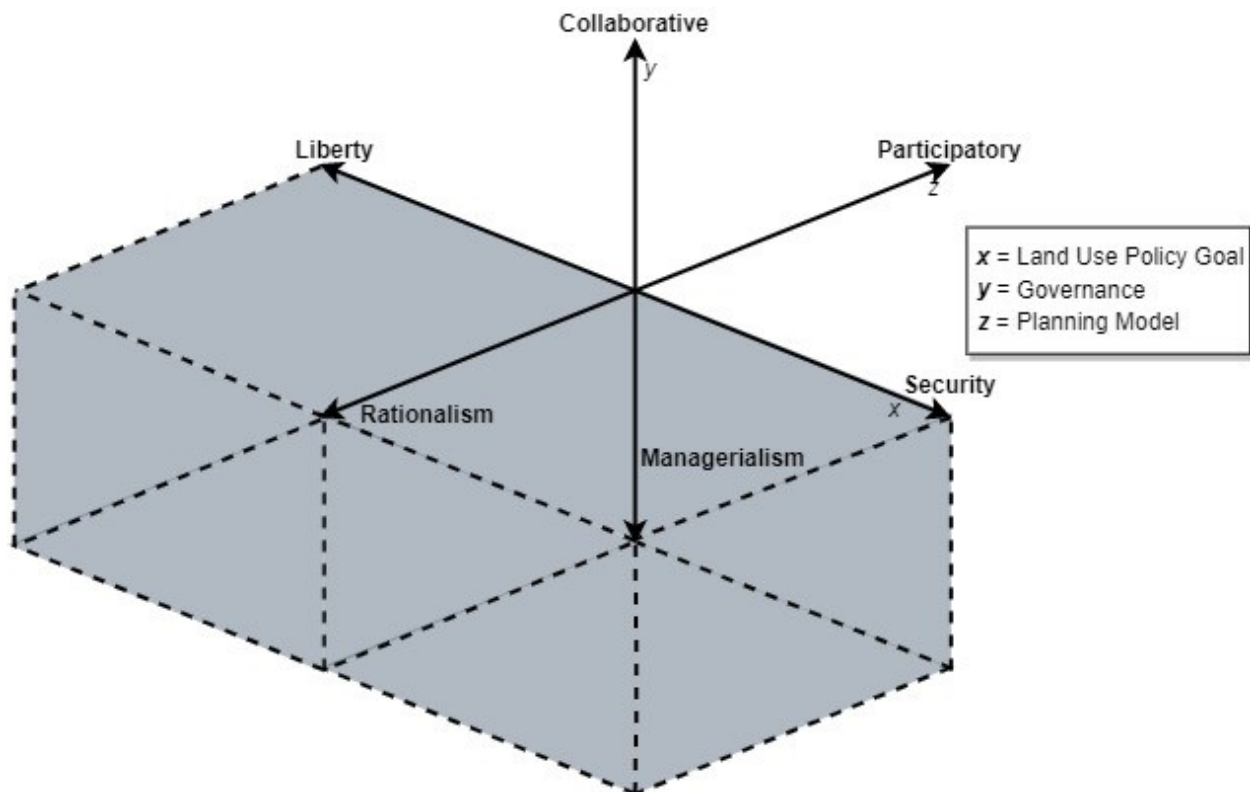
Military Land Withdrawal Act & Conclusion of the Pre-BRAC Era

Coupled with land withdrawals, prolific defense spending during the Cold War encouraged people and industries to migrate near military installations (Markusen et al., 1991; O’Mara, 2015). This fostered many of the urban defense communities of today. The policies, politics, and planning practices of this era expanded the country’s military infrastructure in a rational yet expedient manner, often at the cost of minimal local participation and passive local governance. To illustrate this review’s understanding of the policy goals, governance, and planning models which shaped land use policies in defense communities during this era, Figure 13 is provided. Based on the literary evidence discussed, this review strengthens the position that this era’s land use policies were predominately shaped by managerialism and rationalism. Land use policy decisions of this

era have been regularly criticized for being unilateral and formulated through closed decision-making processes. This review finds no evidence which substantially counters these interpretations. When the policy goals of this period are examined closer, the literary evidence, albeit limited from the local perspective, exhibits a divergence in vertical policymaking. For military and oversight decision-makers, security was the primary land use policy goal of this era. In comparison, the passive nature of local governance to permit the expansion and encroachment of civilian development towards installations exhibits a clear prioritization of liberty in land use decision-making.

Figure 13

Military Readiness and Local Land Use Planning: Pre-BRAC Era



While examples of realignment and closures did occur prior to 1988 (e.g. following the Civil War, the Spanish-American War, both World Wars, and the Vietnam War (Sorenson, 1998; Touchton & Ashley, 2019)), the legislative debate on *expansion* changed considerably to *restructuring* two years later with the enactment of the BRAC process. Initial recognition of this legislative shift appears to show a rapid change likely attributable to the dissolution of the Soviet Union (Lockwood & Siehl, 2004; Sorenson, 1998; Touchton & Ashley, 2019). However, there

was some earlier inclination of this ideological shift in 1977 when Congress enacted 10 U.S.C. § 2687, considered a constrained predecessor of BRAC (Lockwood & Siehl, 2004; Schlossberg, 2012). By 1988, Congress enacted the Defense Authorization Amendments and Base Closure Realignment Act considered by this review as the first major paradigm shift in land use policymaking for defense communities and military installations.

Critical Inquiry on the Pre-BRAC Era

As evident by this section, empirical study regarding the rise of physical incompatibilities during the Pre-BRAC era is vastly limited and focuses primarily on the federal government's policy responses. David Loomis' book, *Combat Zoning: Military Land-Use Planning in Nevada*, is the most prominent model of exploratory research which critically and systematically examines military land use planning of this period (1993). Recognition of the historical conditions which led to the rise of incompatibilities not only frameworks Loomis' case study but may reveal signs as to why similar research is grossly deficient. Loomis' case study examines the development of the withdrawal proposal and public involvement process for the Navy's Fallon Master Land withdrawal (1993). His reasoning for selecting this case was because he considers it an effective representation of the "current military land use planning process" (Loomis, 1993). In 1979, the Navy determined that potential compatibility issues may arise at Fallon Naval Air Station due to interests by developers for geothermal operations (Loomis, 1993). The Navy responded with a proposal to withdrawal over 180,000 acres of land later confirmed in 1982 by the Navy's Range Air Installation Compatibility Use Zone (RAICUZ) study (Loomis, 1993). Loomis discovered that formal public participation opportunities were not provided until 1983, or four years after the withdrawal proposal was developed and the EIS process was initiated. At the time when Loomis completed his book, more than ten years since the process started, "the master land withdrawal [was] still in a preliminary review phase" (1993, p. 108). Collectively, Loomis concludes that the major legislations of the Pre-BRAC era "empowered the state and the public with a significant level of influence over military land use decisions" thus becoming more "open[ly] democratic" (1993, p. 109 & 111).

Research concerning this era and the rise physical incompatibilities, including Loomis' book (1993), reveal a methodological consistency of applying qualitative approaches such as historical writing and case studies. To enhance our perception of reliability and validity, it is imperative to recognize the limitations of these methods. McCullagh (2000) identifies "four

common ways in which historical writing can be biased” (p. 40). First, there is a potential for sources to misinterpret historical evidence which they rely upon to justify their conclusions (McCullagh, 2000). Second, when there is an abundance of available information, sources may “omit significant facts about the subject so that it is unbalanced or [...] unfair” (McCullagh, 2000, p. 40). The third potential bias is when a broad description is used to imply facts which are otherwise recognized to be inaccurate (McCullagh, 2000). Finally, McCullagh suggests sources may offer “causal explanations of historical events when some but not all of the important causes are mentioned” which may mislead the reader (2000, p. 40). Since the scope of qualitative research is narrowly fixed within a controlled range of cases, their generalizability is frequently considered to be inherently limited. Despite these potential limitations, the qualitative and historical sources referenced throughout this section align with McCullagh’s (2000) conclusion that “history should be viewed as a cooperative enterprise” (p. 66). Although not abundant, when the literature does extend into similar applicable topics, there does appear to be clear evidence of consensus. Therefore, while the current literature may not be heavily generalizable quantitatively, the qualitative literature has begun to shape our theoretical understanding of the rise of physical incompatibilities.

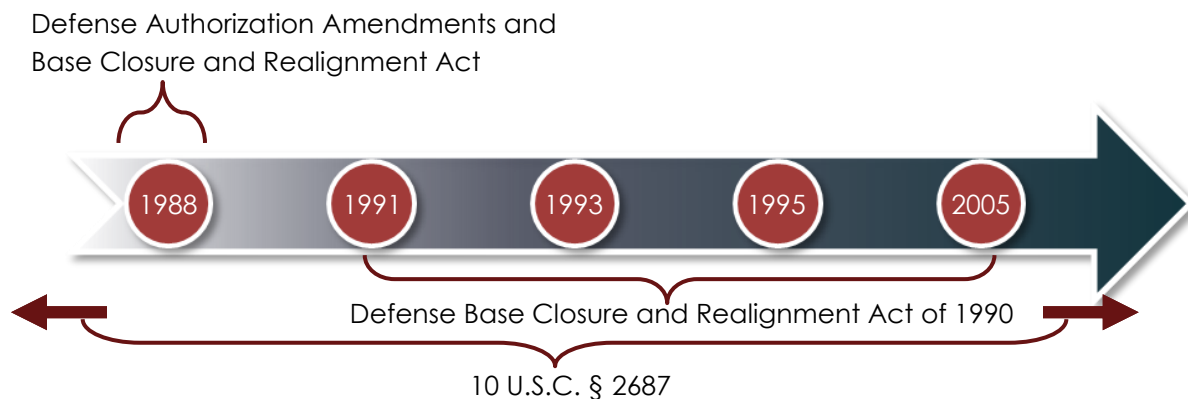
The Implications of BRAC on Defense Communities

Authorization & Implementation

The introduction of BRAC not only sparked a change in land use policymaking in the defense communities affected but also underscored the need for other defense communities to combat existing incompatibilities. Since the inaugural round in 1988, BRAC has been implemented in four other occasions (see Figure 14). The total number of installations closed from each BRAC has varied from as little as 13 and to at most 32 (Ashley & Touchton, 2015). While there are many procedural differences between each round, existing literature emphasizes that the major differences emerged during the 1991 and 2005 BRAC rounds. For example, compared to the 1988 BRAC, the 1991 BRAC required the initial recommendations for base closures to derive from the Secretary of Defense rather than the BRAC Commission thus granting more power to the executive branch (Lockwood & Siehl, 2004). Some notable changes from the 2005 BRAC were increasing the number of commissioners, requiring commissioners to visit recommended sites, and implementing rules to avoid conflicts between the Commission’s recommended areas and the secretary’s infrastructure plans (Ashley & Touchton, 2015; Schlossberg, 2012).

Figure 14

BRAC Implementation by Year



Note. Figure adapted from Schlossberg, 2012.

To date, there have been “three distinct statutory procedures for selecting military installations to close or realign” (Schlossberg, 2012, p. 1). The first is 10 U.S.C. § 2687 enacted in 1977 (applies to all past and future rounds), the second is the 1988 Defense Authorization Amendments and Base Closure and Realignment Act (round 1), and the most commonly used is the Defense Base Closure and Realignment Act of 1990 (rounds 2 through 5). Since 2011, the only direct legislation available to conduct a new BRAC round is 10 U.S.C. § 2687 (Schlossberg, 2012). Congress still has the power however to amend the act from 1990 to perform another BRAC as they have done in the past. A future BRAC round is not out of the question as the Department of Defense (DoD) informed Congress in 2016 a request for an additional BRAC is foreseeable in the near future (Touchton & Ashley 2019; U.S. Department of Defense, 2016). The DoD’s preliminary justification was to “eliminate excess infrastructure to avoid wasting resources maintaining unneeded facilities – resources that could be much better spent on readiness” (U.S. Department of Defense, 2016, p. 8). This is far from uncommon, as budget constraints have remained the primary reasoning for BRACs throughout history. Nevertheless, the possibility for another BRAC underscores why many defense communities and military installations have been shepherding efforts to mitigate land use incompatibilities, a criterion now included in BRAC considerations.

Critical Inquiry on BRAC

Contrasting the Pre-BRAC era, research concerning the implications of BRAC on defense communities is more widely available. The following subsections offer a concise examination of

past critical inquiry regarding the implications of BRAC on defense community capitals. The intent of the section is less about providing a comprehensive literature review on BRAC but to: 1) underscore BRAC's influence on the theoretical framework; 2) emphasize how dense the planning literature is compared to other topics pertinent to defense communities; 3) offer evidence of the symptoms which drive the policy problem, and 4) coherently link, to some degree, the discourse which remains comprehensively disjointed. Last, and most critically, recognition of this literature is crucial since the findings of preceding studies can shed light on what civilian and military planners may expect if incompatibility mitigation efforts (such as Joint Land Use Studies (JLUSs)) are unsuccessful or unpursued. To synthesize the information in a structured manner, sources are categorized into what is commonly referred to as *community capitals* in community development. This approach was inspired by a similar concept offered by Young (2008) regarding the various ways BRAC "potentially impacts [...] contiguous civilian communities" (p. 4). As a result, the findings of the literature are grouped into the following categories: (1) Natural Capital; (2) Financial Capital; (3) Socio-Cultural Capital; (4) Built Capital; and (5) Human-Political Capital. Comparable to all references, findings from sources which fall within a capital are not bound solely to that capital and may diversify.

Natural Capital

Natural capital is described here as community assets derived from natural resources including air quality, water quality, landscapes, wildlife, etc. (Flora, Flora, & Gasteyer, 2016; Green & Haines, 2012). Green and Haines identify three motivations communities have for being cognizant of changes to their natural capital including: 1) their ability to serve as "ecological functions [...] such as flood control, water catchment, and waste assimilation;" 2) their "direct use value [such as] marketed outputs and unpriced benefits;" and 3) their "nonuse values such as the ability to pass on a natural area for future generations" (2012, p. 213). Although never directly stated within this framework, many authors from the discourse acknowledge that natural capital plays a significant role for both military installations and their host defense communities. Review of the literature reveals two themes relating to natural capital including *environmental degradation* and *land redevelopment*.

In the context presented here, **environmental degradation** refers to the deterioration of a regional ecosystem which compromises an installation's operational or institutional value, imposes new environmental pressures on an installation, and may ultimately lead to BRAC

consideration. The literature does not suggest that installations are always a direct contributor or that the military disregards environmental issues, but rather the military often becomes compelled to respond through mitigation or prevention efforts. The two most commonly cited environmental degradation issues are loss of biodiversity and destruction of habitats (Antwerp, 2001; Gillman, 2011; Lachman et al., 2007; Lachman et al., 2013; Lynch & Omans, 2004; Omans, 2002; Woodward, 2004). Published by the RAND Corporation and sponsored by the U.S. Army in 2013, Lachman et al.'s comprehensive report specifically distinguished these issues as some of the top concerns installations will face in the future. The literature collectively attributes the destruction of habitats surrounding installations as a consequence of urban sprawl (Antwerp, 2001; Gillman, 2011; Lachman et al., 2007; Lachman et al., 2013; Lynch & Omans, 2004; Omans, 2002; Santicola, 2006). In addition, expanding civilian development near installations is resulting in "islands of biodiversity" on military land as they are often the last remaining green space for "endangered [and threatened] species to continue to thrive" (Antwerp, 2001, p. 23; Gillman, 2011; Knott & Natoli, 2004; McDuffie, 2009; Lynch & Omans, 2004; Omans, 2002; Wiley & Rhodes, 1998; Young, 2008). The sustainment of biodiversity is considered critical for maintaining "healthy and diverse resources and systems that humans depend upon" along with other economic, aesthetic, and moral factors (Lachman et al., 2013, p. 8; Lachman et al., 2007; Flora et al., 2016). Although these studies primarily employed case studies to reinforce their findings, their uniform conclusions from cases throughout the United States enhances overall generalizability and reliability. A rather unique case study focusing outside of the United States found that environmental issues can often "lead to a surge in civil-military cooperation [...] where civilian control is established" (Bugday, 2016, p. 204). Even though Bugday's (2016) study focused on a developing country, similar characteristics are evident in the United States. Lachman et al. (2013) and Omans (2002) acknowledge that while the military remains exceptional stewards of the land they manage, partnerships with private organizations, non-profit organizations, and their surrounding defense communities have become more prevalent in recent decades.

If significant environmental degradation persists, redevelopment of military land may be inevitable via such means as BRAC. The impact of environmental degradation does not necessarily stop at the beginning of the BRAC process however, as it is often described as "the most daunting barrier to successful military base redevelopment" (Bagaeen, 2006, p. 117; Hansen, 2004). This conclusion derives not only from the aforementioned issues previously discussed, but some

installations may require further rehabilitation due to contaminated or hazardous conditions from military use (Ashley & Touchton, 2015; Bagaeen, 2016; Hansen, 2004; Wiley & Rhodes, 1998). For this study, **land redevelopment** refers to the significant alteration of military landscapes to civilian or other federal use resulting from an installation's closure. Comparable to environmental degradation, the vast majority of literature concerning land redevelopment utilizes case studies to support their findings and conclusions. More specifically, they apply case studies to describe the standard process for addressing environmental concerns. Due to requirements outlined by NEPA, an initial step in the BRAC process is to develop an environmental impact statement (EIS) which identifies essential information such as the detection of contaminants (Bonner & Dolesh, 2005; Lynch et al., 2004). While this documentation is being developed, local and state governments will work with the DoD to establish a Local Reuse Authority (LRA) whose role is to develop a Base Reuse Plan (BRP), spearhead all land use planning efforts, and ultimately adopt ownership of the redeveloped land (Bonner & Dolesh, 2005; Cowan & Gonzales, 2010; Hansen, 2004; Lynch et al., 2004). Lynch et al. (2004) describes BRPs as "the guidepost for a myriad of follow-on activities, including land use controls, zoning, [...] and most importantly, the environmental remediation undertaken by the government (p. 11). Some notable conclusions derived from the literature's application of case studies is that laws concerning environmental cleanup often hinder redevelopment promptness, that civilian leadership is paramount, and that early and frequent engagement is fundamental (Bonner & Dolesh, 2005; Cowan & Gonzales, 2010; Lynch et al., 2004).

Recognizing that the discourse has remained almost entirely qualitative in nature (regarding natural capital topics), Ashley and Touchton (2015) recently offered a notable quantitative study concerning the impacts of BRAC. Focusing on their inquiry relating to natural capital, the authors hypothesized that installations with "high potential for environmental contamination [...] will be less likely to feature mixed-use projects in the rebuilt environment than bases with less potential contamination" (Ashley & Touchton, 2015, p. 10). They collected data from 122 locations where installations closed following a BRAC and developed a multinomial logit model for testing their hypotheses (Ashley & Touchton, 2015). From their model, they concluded that "environmental hazards make residential, institutional, and commercial redevelopment difficult to achieve due to regulatory cleanup costs and length of remediation" (Ashley & Touchton, 2015, p. 19). While their findings clearly align with their proposed hypothesis, they also

acknowledge that their “analytical leverage is still limited [since their] data do[es] not allow [them] to categorize projects or processes as successful or unsuccessful” due to information availability (Ashley & Touchton, 2015, p. 20). Recognition of this limitation is critical as further research is necessary to expand both their findings and enhance overall reliability. Their study also facilitates consideration of other policy alternatives, such as JLUSs, from a cost-benefit analysis perspective. For example, almost all of the potential costs that are attributed to environmental cleanup as a result of pursuing BRAC may be avoided entirely if environmental degradation can be alleviated via proactive means.

While transferring and redeveloping to civilian use is by far the most common approach following a BRAC (Sorenson 1998), formerly owned military land may be transferred to other uses such as *military-to-wildlife* refuges (Havlick 2014; Havlick 2018). In 1998, Karen Wiley and Steven Rhones published an in-depth case study investing the conversion of Rocky Mountain Arsenal to its current status as a wildlife refuge. Although enacted via a specialized act, the general process is reasonably comparable to BRAC. This installation encountered numerous environmental degradation issues including contaminations and the habitation of an endangered species (Havlick 2014; Havlick 2018; Sorenson 1998; Wiley and Rhones 1998). As Havlick notes, installations with “chemical hazards, munitions, buildings, or aging infrastructure” can levy major impediments to conventional redevelopment (2014, 273). As a result, these sites may be “redesignated as national wildlife refuges managed by the U.S. Fish and Wildlife Service” (Havlick 2014, 273). Since BRAC’s inception, approximately 15 percent of closed installations have followed this course of action (Havlick 2014; Havlick 2018). Havlick has described the military’s position on military to wildlife conversion in a manner that is visibly comparable to accounts verbalized following conversions to local authority (2018). He states that following military to wildlife conversion “the DOD is not particularly concerned with what decommissioned installations become after they leave military control. As long as the military offloads the managerial and financial obligations of its unneeded lands, it deems the transaction a success” (Havlick 2018, 23).

Financial Capital

Financial capital is described here as community assets of monetary significance including savings, tax revenue, debt capital, grants, etc. (Flora et al., 2016; Green & Haines, 2012). Communities actively respond to undesirable changes of their financial capital since it “not only

helps individuals set up homes and businesses but also enables local governments to provide roads, schools, sewers, and other services community residents and business need” (Flora et al., 2016, p. 227). Although never established within this framework, literature concerning financial capital in defense communities is the most expansive. A potential attributing factor for this is underscored by Flora et al. (2016) and Green and Haines (2012), who emphasize financial capital’s strong relationship with other capitals, most notably, built and human capital. Due to the vast literary scope of financial capital research, the literature is consolidated into two themes including *industrialization* and *economic response*.

For this section, the term **industrialization** describes the evolution or expansion of regional economic activity in defense communities resulting from military proliferation. Research concerning military spending, land expansion, and spillover effects generally reveal a positive relationship between policy decisions which favor military interests and industrialization (Deger & Sen, 1983; Hansen, 2004; Hicks & Raney, 2003; Hooks, 2003; Lutz, 2001; Woodward, 2004; Young, 2008). Currently the most comprehensive study, Louis Hicks and Curt Raney published a comparative case study where they examined changes in economic activity between two similarly situated rural counties between 1940 and 1995 (2003). The distinguishing factor between the two counties was one received a large military installation while the other did not (Hicks & Raney, 2003). Retail businesses within the installation’s county generated nearly five (5) times the amount of sales revenue compared to the county without an installation (Hicks & Raney, 2003). Family incomes throughout this period remained between 40 and 50 percent greater in the county with an installation than the one without, which the authors attribute “almost entirely to the effect of the naval base” (Hicks & Raney, 2003, p. 360). Finally, there was a significant shift in the land value system where the installation’s county changed from primarily agricultural to commercial and residential, while the other county remained agriculturally dominant (Hicks & Raney, 2003). Upon further reflection, these findings reasonably suggest policy decisions which favor military interests can also enhance the financial capital of defense communities through increased tax revenue. Collectively, the literature recognizes that military expansion often acts as a “powerful accelerant” for regional economic development (Hicks & Raney, 2003, p. 368; Deger & Sen, 1983; Hansen, 2004; Hooks, 2003; Lutz, 2001; Young, 2008). While the discourse is generally in consensus over the positive correlation between policy decisions which favor military interests and industrialization, the literature is not without its empirical dissent and criticisms. For example,

Deger and Sen (1983) and Hooks (2003) endorse the conclusion that installations with greater science and technology programs produce far more economic stimulus into defense communities than those with less (Deger & Sen, 1983; Hooks 2003). Consequently, their studies contend that the establishment of science and technology programs *from* military installations are a more significant factor of industrialization than its distinction *as* military (Deger & Sen, 1983; Hooks 2003). Lutz (2001) also adopts this conclusion but criticizes policy decisions which favor military interests since they “produce[s] fewer jobs per dollar than other kinds of government spending” due to the professional characteristics of “scientific and engineering labor” (p. 174). Regardless of whether long-term industrialization of defense communities impose positive or negative consequences on financial capital, recognition of this literature is informative for two reasons. First, it provides insight into financial capital’s role in the evolution of physical incompatibilities. Second, it offers the initial context necessary for understanding defense community reactions to BRAC inclusion.

In the event industrialization becomes so extensive that it impedes the mission of an installation, redevelopment of military land may be unavoidable. Due to the long-term establishment of industrialization in defense communities, the literature frequently describes the common reactions and prognostications of BRAC inclusion as being economically cataclysmic (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996; Lynch et al., 2004; Poppert, 2001; Poppert & Herzog Jr., 2003). However, the current literary consensus is that in *most* circumstances such expectations are often overestimated due to the region’s economic response (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996; Drucker, 2015; Lynch et al., 2004; Poppert, 2001; Poppert & Herzog Jr., 2003). For this section, **economic response** refers to a defense community’s changes in financial capital following an installation’s closure. Literature examining the economic response of defense communities reveal a mix of conclusions. Due to the vast scope of empirical literature presently available, the following bullets outline the most notable policy outcome findings:

- The “expensive nature” of redeveloping former military installations “requires considerable expertise and funding from outside the community” (Ashley & Touchton, 2015, p. 18; Hansen, 2004).
- Defense communities with greater economic productivity (i.e. GDP) prior to BRAC implementation “have more access to planning resources” and are therefore more likely to implement “mixed use development” (Ashley & Touchton, 2015, p. 19).

- Rural defense communities are more likely to recover slowly from an installation's closure due to lack of economic diversity (Bradshaw, 1999; Bagaeen, 2006; Cowan & Gonzales, 2010; Daicoff et al., 1971; Stenberg & Rowley, 1993; Woodward, 2004).
- On average, rural defense communities are more likely to lose more jobs, experience lower income growth, and recover less jobs following an installation's closure compared to urban defense communities (Daicoff et al., 1971; Stenberg & Rowley, 1993).
- A significant "indicator of a community's vulnerability to base closure may be the share of total employment or population accounted for by the base" (Dardia et al., 1996).
- Those who "lose jobs in a base closure are generally not the ones reemployed by redevelopment" due to such reasons as time lag relocation, demand for new industries, withdrawal of working spouses (Bradshaw, 1999, p. 194; Daicoff et al., 1971; Dardia et al., 1996; Woodward, 2004). These factors may lead to employment stabilization (Bradshaw, 1999).
- A more rapid closure and transfer of ownership to local agencies facilitate "community efforts to recover from the economic impact of closure" (Daicoff et al., 1971).
- Local retail business and sales may stabilize following an installation's closure; however, smaller business "nearest to the base may suffer disproportionately" (Bradshaw, 1999, p. 198; Thanner & Segal, 2008; Woodward, 2004).

Although some of these findings are supported by empirical consensus, recognition of the methodologies employed is essential for healthy skepticism. As previously alluded, it is well documented that *ex-ante* studies and their corresponding methodologies often reveal economic discrepancies following a BRAC (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996; Drucker, 2015; Lynch et al., 2004; Poppert, 2001; Poppert & Herzog Jr., 2003). The literature generally emphasizes the following characteristics of *ex-ante* methodologies: they are politically motivated, they are non-peer-reviewed, and they often misjudge mitigation efforts (Bradshaw et al., 1994; Dardia et al., 1996; Drucker, 2015). In comparison, literature exploring the potential methods for *ex-post* studies is far more limited. The earliest example, published in 1994, proposed three approaches for measuring the impacts of BRAC on defense communities (U.S. Department of Defense). These approaches consisted of disseminating population surveys (e.g. Hansen, 2004), utilizing national or regional data (e.g. Stenberg & Rowley, 1993), and conducting precedent case studies (e.g. Ashley & Touchton, 2015; Bradshaw, 1999; Cowan & Gonzales, 2010; Daicoff et al.,

1971; Dardia et al., 1996; Thanner and Segal, 2008) (U.S. Department of Defense, 1994). As the literary examples demonstrate, all of the DoD's proposed approaches have been pursued with precedent case studies being the most common by far. The DoD identified three limitations of survey techniques including the expensive cost, "uncertainty associated with locating households," and the potential issues related to sample size reliability (1994, p. A-3). The only limitation the DoD acknowledged for utilizing national or regional data, although potentially significant, was that there are "no assurance[s] that [...] [the] data will be applicable to BRAC-related communities" (1994, p. A-4). Finally, the DoD claimed the method of examining precedent cases can be limited by the difficulty of collecting considerable data, the potential issues related to sample size reliability, and the variable economic differences among BRAC communities (1994, p. A-4). Despite its limitations, the DoD specifically recommended the precedent case study approach which the literature in general appears to agree (1994). The most notable critic of applying either *ex-ante* or *ex-post* methods to determine the economic impact of installation closure was recently published by Joshua Drucker in 2015. Drucker characterizes *both* methods as variants of economic impact analyses, which his study claims "lose[s] accuracy and validity in the context of rapid and extensive economic change" (2015, p. 415). Alternatively, Drucker recommends less focus on quantitatively precise estimates and more on comparisons and frequent updates which can better inform future planning decisions (2015).

Socio-Cultural Capital

For this subsection, social and cultural capital have been combined due to their strong association (Green & Haines, 2012) and limited empirical discourse. **Social capital** is defined here as community assets consisting of trust, norms, and networks which facilitate internal and external collective action (Flora et al., 2016; Green & Haines, 2012). Green and Haines describe social capital as being "central to building other forms of capital because of the limit[at]ions of individual actions in solving [...] collective problems" (2012, p. 147). In comparison, **cultural capital** is expressed here as community assets comprising of group values and worldviews (Flora et al., 2016; Green & Haines, 2012). Communities with more diverse cultural capital are depicted as being more "attract[ive] to the creative class," "generate more economic growth," and "offer the greatest potential for development" (Green & Haines, 2012, p. 267). Although the general significance of both capitals is well-established, the literature remains considerably limited within this policymaking arena (i.e. policy responses to physical incompatibilities). Potentially

contributing to this may be the challenge of obtaining reliable data and/or a perception by scholars that issues from other capitals are more paramount. To effectively consolidate research on social and cultural capital, the literature is subdivided into two themes including *bridging institutions* and *shifting structures*.

The term **bridging institutions** is described here as a restructuring of societal and cultural bonds, values, and networks following the integration of the military into civilian society. Of the literature investigating the implications of policy decisions which favor military interests on defense communities, only Hooker (2003) and Hicks and Raney (2003) have substantially delved into topics of social and cultural capital. The most apparent connection between policy decisions which favor military interests and military culture is their link to realist ideology, a philosophy less abundant in civil society (Hooker, 2003). Hooker attributes much of the intermingling between military and civilian society to the “high incidence of marri[age] [among] service members and an increase trend toward off-base housing” (2003, p. 3). As more military personnel and their families begin to live off-base, educational and training programs become more integrated, military recruiting expands, and opportunities for second jobs in the private sector become more feasible (Hooker, 2003). Hooker claims the most notable disparity between civil society and military culture are their ideals towards rule of law and how they are enforced (2003). More specifically, Hooker states that military culture “view[s] violations of publicly accepted standards of behavior more seriously because they threaten the unity, cohesion, or survival of the group” (2003, pp. 3-4). Contrasting Hooker, Hicks & Raney’s (2003) comparative case study found mixed evidence of societal and cultural change following bridging institutions. Their study found that the proportion of minorities residing in the county with an installation decreased by half during the 50-year period, while the county without an installation increased its proportion marginally (Hicks & Raney, 2003). However, Hicks and Raney concede that internal segregation policies during this period likely played more of a role for this disproportionately than the installation itself (2003). Collectively, both studies reveal that the unification of civil and military society generally produce a stable bridging of institutions. This conclusion is best reflected in the following passage:

Much of [county with installation’s] traditional culture was destined to be lost in the transition away from agriculture, but energetic efforts have preserved a variety of folkways. Local residents rescue unique examples of historic homes; make traditional artifacts; put on festivals celebrating local agricultural production, [...] [etc.]. It is

impressive how much has been saved by these various preservation efforts. (Hicks & Raney, 2003, pp. 365-366)

If physical incompatibilities become so excessive that they substantially obstruct an installation's missions, redevelopment of military land may be required. When BRACs are implemented, it is reasonable to suggest that the long-established bridging capital (Flora et al., 2016; Green & Haines, 2012) of defense communities may be compromised in the form of shifting structures. For this section, **shifting structures** refers to changes in a defense community's social and cultural capital stemming from defense policy outcomes. Of the literature investigating the implications of BRAC on defense communities, only Daicoff et al. (1971) and Thanner and Segal (2008) have substantially delved into the topics of social and cultural capital. Daicoff et al.'s case study researching the closure of Schilling Air Force Base in Salina, Kansas, discovered that civilian reactions consisted of multiple attitudes including disbelief, hostility, panic, acceptance, discontent, and relative satisfaction (1971). They specifically acknowledge that "social and cultural consequences" resulted from the closure; however, the primary concerns of the closure were focused on the "economic consequences and not others" (Daicoff et al., 1971, p. 104). The social and cultural consequences of note were the "rupture of close friendships and the loss of influential and able military people who had assumed important positions in the institutional life of the town" (Daicoff et al., 1971, p. 110). Despite these consequences, Daicoff et al. found that the "extraordinary harmonious relationships that had been developed in previous years between the community and base personnel" aided in "cultural optimism" (Daicoff et al., 1971, pp. 108 & 110).

Comparable in their method, Thanner and Segal published an ethnographic study in 2008 observing the closure of Fort Ritchie. The following passage from their study contradicts Hicks and Raney's (2003) findings on racial diversity, confirms Hookers' (2003) discussion on integration, and reaffirms Daicoff et al.'s (1971) recognition of loss of friendships:

Many residents saw the diversity brought in by the military—different people from different places with different cultures—as positive for the community, especially the children, as military and local children attend school together, intermingled, and became friends. For local adults and their children, the withdrawal of the military also meant the loss of good friends [...]. (Thanner & Segal, 2008, p. 667)

While Thanner and Segal acknowledge that defense communities are accustomed to changes in population every few years due to permanent change of station (PCS) policies, the shift in populations following the closure were much more alarming (2008). For example, they discovered that the African American population declined by 92 percent and the population of children declined by 53 percent (Thanner & Segal, 2008). Their assessment of shifting structures also revealed increased crime (Thanner & Segal, 2008), which may demonstrate some connection with Hooker's (2003) discussion on ideals towards rule of law. Finally, community activity and social interaction suffered negative consequences, as social activities, events, services, and amenities that originated from the installation were lost (Thanner & Segal, 2008). When concluding their article, Thanner and Segal take the opportunity to discuss the benefits and limitations of utilizing case studies within this policymaking arena (2008). They emphasize that case studies allow for "rich and detailed contextual analysis of real-life events and the attendant of social conditions and relationships, [but] are often limited by the fact that they are retrospective" (Thanner & Segal, 2008, p. 679). Thanner and Segal also concede that generalizability from their case study may be questionable; however, the establishment of comparable findings from multiple studies may enhance our understanding of defense policy outcomes (2008).

Built Capital

Built capital is defined here as community assets consisting of physical facilities, buildings, installations, and infrastructure which facilitate community productivity (Flora et al., 2016; Green & Haines, 2012). Due to the physical implications of these assets, most communities strive to be actively involved in the development and growth of their built capital. In addition, community dependency on built capital's "type, quality, and condition" is significant because of their substantial investments and expectation of a long-term return (Flora et al., 2016, p. 260; Green & Haines, 2012). Although never explicitly stated within this framework, the discourse recognizes the considerable role of built capital due to its prime correlation with the rise of physical incompatibilities. To appropriately consolidate the research on built capital, the literature is subdivided into two themes including *urbanization* and *housing disruption*.

In the context presented here, **urbanization** specifically refers to the physical evolution or expansion of regional defense communities resulting from military proliferation. According to Lachman et al.'s study (2013), urbanization is the number one trend in defense communities that may compromise future military operations. This conclusion was foreseeable however, since 80

percent of urban growth near installations exceed the national growth rate (American Farmland Trust, 2011; Gillman, 2011; Holman, 2002; ICMA & MIVT, 2005). The expansion of built capital in defense communities is also reflected in Hicks and Raney's (2003) study, as they found "land became valuable for its proximity to the naval base" for such uses as housing rather than prolonged "agricultural productivity" (p. 367). Gillman (2011) believes physical incompatibilities originate "beyond the construction of structures; it is also the construction of roads, power lines, and cell phone towers [due to] community growth and the continual need for access" (p. 6). Compared to the other capitals, changes in built capital appear to impose the most multilateral impacts. The following passage from Lachman et al.'s study best summarizes the four ways built capital can limit military operations:

(1) They cause testing, training, and other operational restrictions, (2) they increase operation costs, especially for testing and training exercise, (3) they cause community complaints and damage claims, and (4) they degraded military readiness. (2013, pp. 29-30; Lachman et al., 2016)

Conversely, as civilians become "exposed to artillery fire, aircraft noise, dust, and accidents," property values and resell ability are often impaired (Gillman, 2011, p. 4; McDuffie, 2009). The most notable study on civilian perceptions of these types of nuisances was published in 2009 by Joshua McDuffie. After disseminating a survey to over 6,000 residents surrounding Fort Jackson in South Carolina, McDuffie discovered the following (2009):

- Residents closer to the installation reported more nuisances than those farther away;
- Urban residents reported more nuisances than rural residents;
- Residents with military affiliation are more tolerant of nuisances;
- Wealthier residents are more likely to report nuisances than those less affluent;
- Residents with children are more likely to report nuisances; and
- Homeowners are more likely to report nuisances than renters.

A noteworthy limitation recognized by McDuffie was that survey responders may be concerned about future BRAC implications; therefore, underreporting of perceptions may be present. This limitation was likely more critical for his survey as it was conducted only 18 months after the BRAC of 2005 (McDuffie, 2009). Nevertheless, recognition of this limitation may still prove vital for this study's survey even though many dissimilarities are apparent. While the literature primarily portrays the urbanization of defense communities as facilitating more negative consequences than positive, recognition of this literature is still beneficial for two reasons. First, it

provides insight into built capital's prime role in the evolution of physical incompatibilities. Second, it demonstrates why most mitigation and prevention efforts are concentrated on built capital.

When urbanization becomes so intrusive that it hinders the mission of an installation, redevelopment of land may become necessary. If redevelopment is pursued and urbanization is well-established, the current literary consensus is that regional housing markets are the most susceptible to disruption (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996; Lynch et al., 2004). **Housing disruption** is described here as a relatively abrupt condition where a defense community suffers a bear market due to an installation's closure. Research on the early stages of housing disruption have shown that housing resale values can decline as far as ten (10) percent (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996), "mortgage defaults become much more common" (Daicoff et al., 1971, p. 6), and the loss of equity is generally widespread (Daicoff et al., 1971). Following the initial period of housing disruption, former defense communities can experience high vacancies (Bradshaw, 1999; Daicoff et al., 1971; Dardia et al., 1996), "rapid deterioration" of their housing stock (Daicoff et al., 1971, p. 51), and concerns "over the type of persons who will be attracted" to such low-priced housing (Bradshaw, 1999, p. 199). To address issues of homeless following a BRAC, a combination of federal legislation and administrative agreements have mandated that the LRA be the responsible party for "identifying and addressing the requests of homeless providers as part of their [BRP] process" (Lynch et al., 2004, p. 37; Glassberg, 1995). This requires the LRA to advocate on behalf of homeless provider agencies by developing strategies to ease potential fears of developers and site purchasers of the prospect of homeless facilities mixed with other uses (Glassberg, 1995; Lynch et al., 2004). Literature concerning housing disruption is not without its empirical dissent. For example, Daicoff et al.'s study found that new housing construction was significantly reduced due to a closure (1971). On the other hand, Bradshaw discovered that "new housing construction is not affected by base closure in growing regions" (1999, p. 204). Therefore, further research may be required to determine which factors and outcomes are more generalizable.

Possibly the most relevant and unique study on built capital, Rumanda Young's study investigated how Post-BRAC professional perceptions of built capital may or may not align with Pre-BRAC conditions (2008). After receiving 141 survey responses from military and civilian

planners of 80 Army installations (most of which experienced mission realignment), Young concluded the following about changes between Pre-BRAC and Post-BRAC (2008):

- Light levels increased significantly;
- Residential building permits increased but not significantly;
- Population density revealed no significant difference;
- Transportation corridor congestion increased significantly; and
- Noise decibel levels increased significantly.

The professional opinion survey also revealed that most respondents consider all of these factors issues for both defense communities and their installation with the only exception being light (Young, 2008). When comparing the perceived effects of Post-BRAC versus the real effects, Young found that “when all the data is taken in totality, professional opinion appears to match reality; however, on a site-by-site evaluation, professional opinion does not match reality” (2008, p. 92). This study suggests another finding not explored further by Young (2008). More specifically, past realignments and the potential threat or perception of more aggressive BRAC policies have generally resulted in minimal to no change in built capital’s role in the rise of physical incompatibilities. Not only has most of these physical constraints continued to expand, which is expected due to urbanization, professionals are largely adamant that they remain issues. Young indirectly touches on a potential reason for this in his discussion of research limitations. He notes how nearly a third of respondents have only worked in their position for less than five years (Young, 2008). This study concurs with Young’s position that this characteristic of military culture may make it challenging for professionals to accurately perceive changes, severity of past issues, or the implementation of previous mitigation efforts (2008). Comparable to McDuffie’s (2009) survey limitation, this is another limitation that this study will need to acknowledge and confront. With that said, two inferences from Young’s (2008) study suggest that the effect of this limitation is minimal for this study. First, this study is solely focused on generalizable perceptions as opposed to site-by-site cases. Secondly, regarding the subject of built capital, this study is more interested in how different professional subpopulations perceive *broad* changes as opposed to *specific* changes in built capital as examined by Young (2008) (e.g. light, noise, etc.). Expanding upon his study’s limitations, Young acknowledges that external validity may be questionable since he exclusively examined Army defense communities (2008). This study is designed to be inclusive

and representative of defense communities for all branches of service, thus expanding the discourse's understanding of how policy alternatives such as JLUSs influence built capital.

Human-Political Capital

Comparable to the socio-cultural capital section, this subsection combines human and political capital. While literature on community capitals typically do not prioritize their connection (Flora et al., 2016; Green & Haines, 2012), this study deliberately links them since the pertinent discourse exposes a compelling relationship between them. More precisely, the literature suggests the initial catalysts of change for the preceding capitals occur when the political climate of defense communities (i.e. political capital) is substantially altered and accompanied by consequential shifts in human capital. **Human capital** is defined here as community assets consisting of individual experiences, education background, knowledge, skillsets, artistic capabilities, and health (Flora et al., 2016; Green & Haines, 2012). Green and Haines affirms the significance of human capital for communities stating that “having an adequate, skilled, and trained workforce is a prerequisite for economic development today” (2012, p. 117). In comparison, **political capital** is expressed here as community assets comprising of the “organization, connections, voice, and power as citizens turn shared norms and values into standards that are codified into rules, regulations, and distributions that are enforced” (Flora et al., 2016, p.184; Green & Haines, 2012). The themes from previous subsections (e.g. industrialization, urbanization, land redevelopment, etc.) underscore the possible implications of defense policies on political capital. When communities gain or lose military influence within their power structure, the effects are visibly widespread. While respectively the broader importance of both capitals is well-established, the literature remains considerably limited within this policymaking arena (i.e. policy response to physical incompatibilities). To consolidate the research on human and political capital, the literature is subdivided into two themes including *pull factor* and *push factor*.

For this study, **pull factor** refers to the increased population attraction and restructuring of community power structures following the establishment of military institutions into civilian society. To date, only Hooker (2003) and Hicks and Raney (2003) have reasonably delved into the topics of human and political capital. Nonetheless, prior discussions on industrialization, urbanization, and bridging institutions warrant additional reference here due to their discernable connection with this pull factor. A potential concern of communities once military institutions are integrated into civil society is the military's standing or influence in the region's political capital

(Hooker, 2003). Hooker spends much of his article contending that “the tradition of nonpartisanship is alive and well in America’s military” (2003, p. 4). Hooker offers the following literary evidence to support his conclusion:

- High school seniors enlisting in the military and labeling themselves as Republicans never exceeded 40 percent between 1976 and 1999 (2003);
- Senior military elites “overwhelmingly shun” political party extremes and it is “far more accurate to say [they] occupy the political center than to portray them as creatures of the right” (2003, pp. 4-5); and
- There is currently no “evidence that the military has become increasingly partisan in an electoral sense, or that it plays an important role in election outcomes” (2003, p. 5).

This study recognizes the reliability of these conclusions remain questionable since Hooker’s (2003) publication may be relatively dated, the scope of his claims originate from a larger scale (i.e. national), and the discourse overall necessitates further *empirical* investigation. Alternatively, theoretical explanations of varying civil-military relations demonstrate an assortment of literary consensus, dissent, or alternative positions when compared to Hooker’s (2003) conclusions. For further insight into the broader theories of civil-military relations, please refer to the Theoretical Framework section.

Contrasting Hooker (2003), Hicks and Raney’s (2003) comparative case study focused more on the shifts in human capital following this pull factor. Their study found that the population of the county with an installation (originally less than its counterpart) increased by about 450 percent, while the county without an installation increased only marginally by 15 percent during this 50-year period (Hicks & Raney, 2003). Those experienced, employed, and skilled in the agriculture industry decreased in both counties but more substantially in the county with an installation (47% as opposed to 23%) (Hicks & Raney, 2003). While overall education increased for both counties during this period, the county with an installation saw a 63 percent rate increase in high school graduates compared to a 46 percent boost for the other county (Hicks & Raney, 2003). The high school graduation rate for the installation county was not only behind marginally to the other county in 1940, by 1990, the installation county was ahead by 15 percent (Hicks & Raney, 2003). Unfortunately, literature examining community shifts in political and human capital remain constrained, rendering it challenging to make specific generalizations. However, both studies provide insight on how policy decisions which favor military interests generate an *initial* pull

factor which ultimately augment other capitals. Furthermore, themes such as industrialization, urbanization, and bridging institutions, clearly cannot emerge without measurable fluctuations in human and political capital.

If physical incompatibilities become so excessive that they substantially obstruct an installation's missions, redevelopment of military land may be unavoidable. When BRACs are implemented, it is reasonable to suggest that the well-established pull factor of defense communities may be compromised and ultimately lead to a push factor. **Push factor** is defined here as the withdrawal of populations, professional assets, and community power structures following the departure of military institutions from defense communities. Obstacles of this policy alternative are detected early as many reuse plans drive competition for authority and conflicts between local, regional, state, and even federal objectives (Bradshaw et al., 1994; Glassberg, 1995; Hansen, 2004). In cases where competition and conflicting objectives are so obstructive that a single local plan cannot be formed, the "relevant military department [...] will decide unilaterally on future land use" (2004, p. 51). Hansen insists that local-level implementation is preferred because the DoD "cannot afford the time and resources necessary for mediating interests, organizational development, and the implementation of reuse plans in all the communities affected" (2004, p. 51). He also found that the "greatest barrier to effective local implementation [...] was the failure of the federal government to get out of the way" often due to "unwieldy rules, regulations, and environmental degradation" (Hansen, 2004, pp. 51 & 61; Ashley & Touchton, 2015). Despite potential threats of losing oversight or extensive delays, Hansen found these pressures do "not always deter municipalities and their representatives from continuing to push forcefully for their own reuse plans" (Glassberg, 1995, p. 92). Even if a LRA can establish a single BRP, since it is not an elected decision-making body, research reveals that community members often perceive the process as "unrepresentative and unresponsive to local concerns" (Thanner & Segal, 2008, p. 678). Thanner and Segal's article stresses the significance of power when considering policy alternatives as it is essential towards anticipating how people will behave and perceive outcomes (2008). Ultimately, the sources presented here demonstrate why policy response options warrant prioritization of their anticipated effects on political capital in defense communities.

Since the potency of human capital is rooted in individuals, the manner in which this push factor affects people is rather exceptional. While many studies throughout this section have alluded to a loss in total population, Thanner and Segal's ethnographic study specifically offers an example

where the decline can be as severe as 50 percent (2008). In addition, they discovered former defense communities can face a total loss of households up to 20 percent (Thanner & Segal, 2008). The literature is currently mixed as to the lasting effects on total population; however, slower growth rates are observed for former defense communities whose regional economy was largely dependent upon the installation (Bradshaw, 1999; Daicoff et al., 1971). Total population trends are not the only human capital concern of former defense communities. Proceeding research confirms that this push factor inhibits the capabilities, success, and objectives of the enduring population. For example, civilians laid-off from the base received “incomes well below what they received working on the base” (Bradshaw, 1999, p. 195). This was particularly devastating for minority populations who experienced disproportionately high job and wage losses following installation closures (Bradshaw, 1999). The following passage from Dardia et al.’s study best summarizes this pull factor’s effect on early education:

Community vulnerability is also sensitive to the presence of a school on base and the age distribution of dependent populations; the greater the fraction of the local school population accounted for by military dependents, the greater the loss in governmental funding after those children leave the district. (Dardia et al., 1996, p. 12)

Concerns of a diminishing population that is well educated can extend even beyond secondary education. Thanner and Segal (2008) found that when Fort Ritchie was closed, defense communities lost approximately 74 percent of their populace with advanced degrees placing them below the state average.

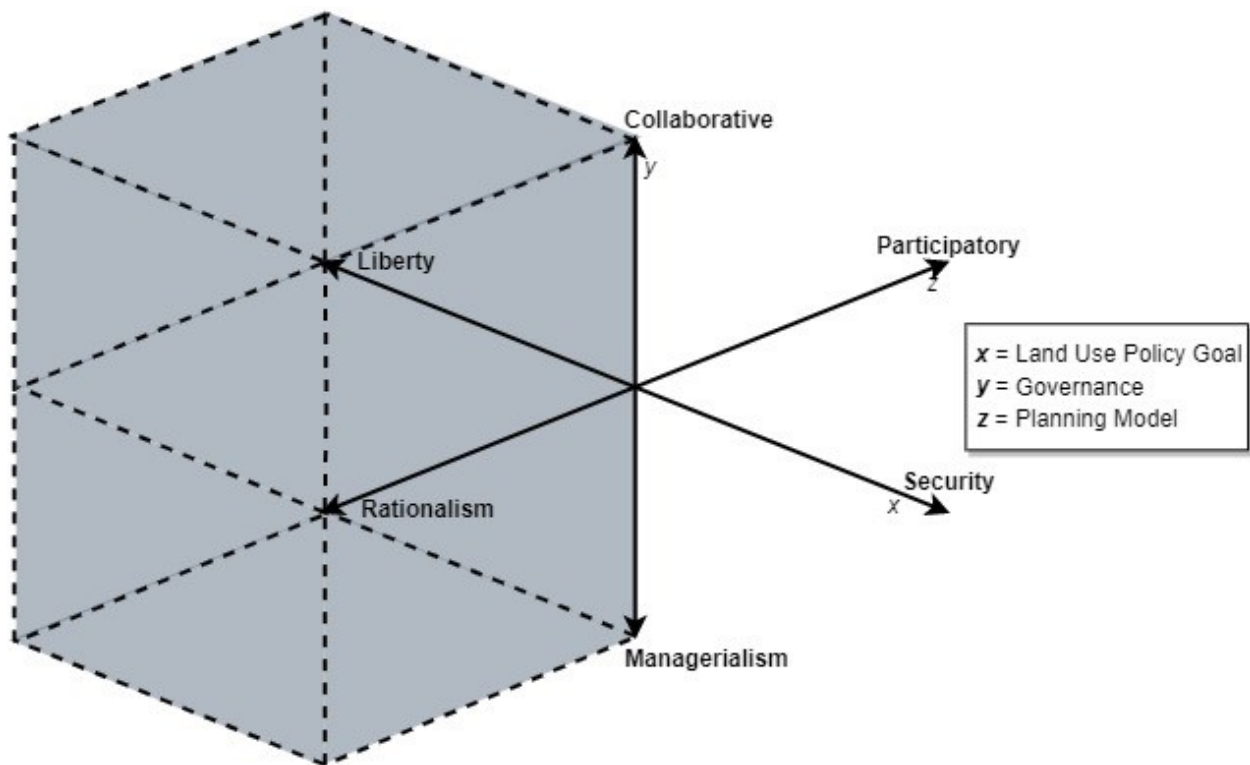
Theoretical Synopsis

While BRAC’s broader policy goal still centers around security (i.e. to enhance military efficiency), its primary *land use* policy goal is more indicative of liberty as the land is returned to civilian use. This era’s land use policies were still largely shaped by managerialism and rationalism however (Ashley and Touchton 2015; Schlossberg 2012). To illustrate this review’s understanding of the policy goals, governance, and planning models which shaped the policies of this era, Figure 15 is provided. Like the preceding era, scholars have criticized BRAC for its top-down approach to policymaking and its closed decision-making planning processes (Touchton and Ashley 2019; Sorenson 1998). Due to the vast complexities and implications of BRAC however, recognition towards the benefits of collaborative governance were starting to take shape. Touchton and Ashley’s case studies not only demonstrate the benefits of collaborative governance in base

conversions, but they argue that if shaped by collaborative governance, future base conversions will be more conducive towards generating a broader set of beneficiaries (2019). The dense academic interest in BRAC underscores its historical significance in fostering land use policy change. BRAC has fundamentally reformed how stakeholders of today view and respond to incompatibilities in defense communities.

Figure 15

Military Readiness and Local Land Use Planning: BRAC Era

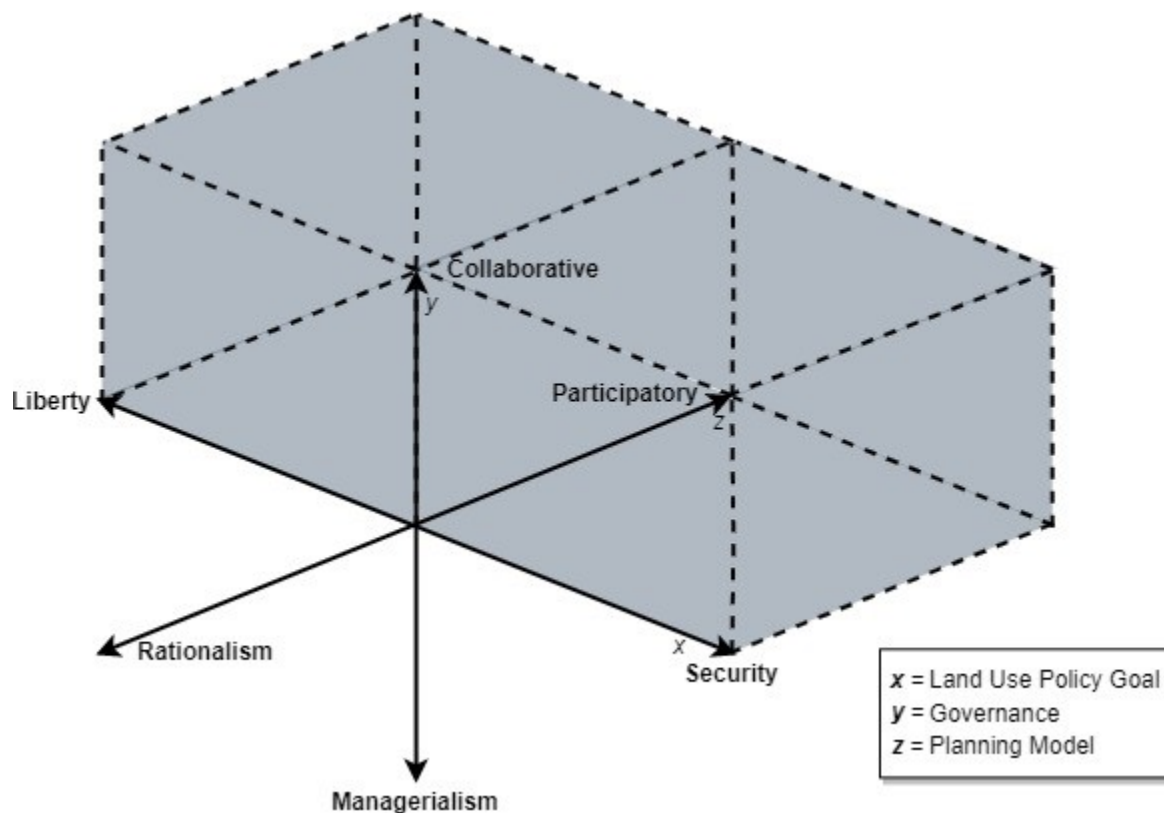


Planning for a Post-BRAC Era

The previous sections offered the introductory context necessary to demonstrate the rise of physical incompatibilities, its impacts on community capitals, and a paradigm shift in land use policymaking for defense communities and military installations. With that context established, it is now essential to examine how the U.S. federalist system applies policy intervention to respond to physical incompatibilities and thus plan for a post-BRAC era. This section provides an overview of the diverse policy alternatives currently established and how such methods are perceived within current literature. Reviewing these elements is critical for better understanding the policymaking arena and informing planners of the other policy options which can supplement Joint Land Use Studies (JLUSs). To synthesize this literature into an absorbable format, the material is subdivided as follows: 1) Federal Government; 2) Federalism, Decentralization, & Intergovernmental Relations; 3) State Governments; 4) Local Governments; and 5) Partnerships. Comparable to previous sections, findings or conclusions from sources which fall into one category are not bound solely to that category and may diversify. Finally, this review identifies another historical policy change whereby land use policies in defense communities of today are largely shaped by collaborative governance, participatory planning, and compromising land use policy goals (see Figure 16).

Figure 16

Military Readiness and Local Land Use Planning: Post-BRAC Era



Federal Government

The federal government remains the central authority combating physical incompatibilities in defense communities. Contemporary policies by the federal government have become more proactive and conscious of the need to include local defense communities (Butler 2006). Scholars have attributed this shift to the fact that Congress cannot “pass and enforce laws that ban development near them” (Butler, 2006, p. 9) or “force local governments to adopt regulations that address incompatible land uses” (Appel & Smith, 2011, p. 4). Consequently, “the most valuable contribution the federal government provides [...] is to offer policy guidance and financial assistance to states and localities to promote joint compatible land-use planning” (Butler, 2006, p. 9; Cotter et al., 2005). Table 2 outlines the federal government’s current policy toolbox for addressing physical incompatibilities. It is important to note that the federal government’s toolbox is historically the most fluid; therefore, the potential for future changes remains conceivable. For additional information concerning the background of each policy alternative, refer to the literature

referenced in the “resources” column of the table. The dialog following the table offers an overview of how the literature perceives the policy alternatives with an emphasis placed on their challenges and accomplishments.

Table 2

Federal Government Policy Toolbox

Policy Alternatives	Military Department(s)	Authorization	Description	Resource(s)
Air Installation Compatible Use Zone (AICUZ) Program	All	U.S. DoD Instruction (1977)	Grants each military department the authority to establish, maintain, and implement their own AICUZ programs to study noise, accident potential, and other hazards to operations.	▪ Appel & Smith, 2011; ▪ Butler, 2006; ▪ Cotter et al., 2005 ▪ Davenport, 2007; ▪ Gillman, 2011; ▪ Lachman et al., 2007 ▪ Loomis, 1993; ▪ Orr et al., 2017; ▪ Santicola, 2006; ▪ U.S. Department of Defense, 1977; and ▪ U.S. Department of Defense, 2016b
▪ Air Force Air Installation Compatible Use Zone (AICUZ) Program	Air Force	Air Force Instruction 32-7063 (2005)	Assist civilian officials with the protection of the public welfare and the safeguarding of Air Force operational capabilities.	▪ Appel & Smith, 2011; and ▪ U.S. Air Force, 2015
▪ Installation Compatible Use Zone (ICUZ) ▪ Environmental Noise Management Program (ENMP) ▪ Operational Noise Management Programs	Army	Army Regulation 200-1 (1982)	Control the environmental noise created by the Army installation to protect the health and welfare of those living both inside and outside the installation.	▪ Army Environmental Policy Institute, 1999; ▪ Appel & Smith, 2011; ▪ Butler, 2006 ▪ Cotter et al., 2005; ▪ Davenport, 2007; and ▪ U.S. Army, 1997
▪ Range Air Installation Compatibility Use Zones (RAICUZ) Program	Navy and Marine Corps	Executive Order 12372 (1982) OPNAV Instruction 10010.36B (2002) Marine Corps Order 11010.16. (2002)	Achieve compatibility between air-to-ground ranges, civilian land use, and the shared airspace surrounding naval and marine installations.	▪ Appel & Smith, 2011; ▪ Butler, 2006; ▪ Cotter et al., 2005 ▪ Davenport, 2007 ▪ Loomis, 1993; ▪ Orr et al., 2017; ▪ Santicola, 2006; ▪ U.S. Department of Defense, 2016b; and ▪ U.S. Navy, 2002

Table 2 (continued)

Federal Government Policy Toolbox

Policy Alternatives	Military Department(s)	Authorization	Description	Resource(s)
Base Realignment and Closure (BRAC)	All	Defense Authorization Amendments and Base Closure and Realignment Act (1988) Defense Base Closure and Realignment Act of 1990 10 U.S.C. § 2687	The conventional process for restructuring, reducing, and closing installations throughout the U.S. This process is chiefly managed through Congress and the Department of Defense.	▪ Ashley & Touchton, 2015; ▪ Lockwood & Siehl, 2004; ▪ Santicola, 2006; ▪ Schlossberg, 2012; and ▪ U.S. Department of Defense, 2016
Compatible Use/Joint Land Use Study (JLUS) Program	All	Title 10 U.S.C § 2391 (1985)	Offers grant assistance to state and local governments for incorporating military compatibility programs within their local planning programs.	▪ Association of Defense Communities; 2016 ▪ Butler, 2006; ▪ Cotter et al., 2005 ▪ Davenport, 2007; ▪ Dawson, 2005; ▪ Eitler, 2017; ▪ Lachman et al., 2007; ▪ Lachman et al., 2016; ▪ O'Brien, 2006; ▪ Orr et al., 2017; ▪ Santicola, 2006; ▪ Schultz, 2016; ▪ U.S. Department of Defense, 2016b; and ▪ U.S. Department of Defense, 2017b

Table 2 (continued)

Federal Government Policy Toolbox

Policy Alternatives	Military Department(s)	Authorization	Description	Resource(s)
Integrated Natural Resource Management Plan (INRMP)	All	Sikes Act (1997)	Plan which outlines an installation's management strategies for natural resources and endangered species.	▪ Gillman, 2011; ▪ Lachman et al., 2007; ▪ Orr et al., 2017; and ▪ U.S. Department of Defense, 2017b
Sustainable Ranges Initiative (SRI)/Readiness and Environmental Protection Initiative (REPI)	All	National Defense Authorization Act 10 U.S.C § 366 & 2684a (2003) Sikes Act, 10 U.S.C. § 670 (2008-2014)	SRI is a comprehensive training range sustainment plan which focuses on the resources needed to sustain installations. REPI allows military installations to coordinate with state and local governments, conservation organizations, or other partners to reduce physical incompatibilities. Standard REPI process: (1) identify potential buffer projects and willing seller; (2) DoD reviews and allocates REPI funds to services; (3) services distribute funding to installations; and (4) partners are finalized and projects are executed.	▪ American Farmland Trust, 2011; ▪ Association of Defense Communities; 2016 ▪ Butler, 2006; ▪ Cotter et al., 2005; ▪ Farley & Belfit, 2001; ▪ Gillman, 2011; ▪ Lachman et al., 2007; ▪ Lachman et al., 2013; ▪ Land Trust Alliance, 2010; ▪ Orr et al., 2017; ▪ Santicola, 2006; ▪ Savage, 2010; ▪ Schultz, 2016; ▪ U.S. Department of Defense, 2016b; and ▪ U.S. Department of Defense, 2017b

Table 2 (continued)

Federal Government Policy Toolbox

Policy Alternatives	Military Department(s)	Authorization	Description	Resource(s)
▪ Army Compatible Use Buffers (ACUBs)	Army	HQDA & ACSIM Memorandum (2003)	Maintain Army operations via land conservation by entering into cooperative agreements with partners who purchase the adjacent land. ACUB partner is responsible for land management including easement monitoring and enforcement. The Army maintains the right to change partners in the event the previous agreement is breached.	▪ Bozarth, 2016; ▪ Cotter et al., 2005 ▪ Knott & Natoli, 2004; ▪ Gillman, 2011; ▪ Lachman et al., 2007; ▪ Lachman et al., 2013; ▪ Orr et al., 2017; ▪ Santicola, 2006; ▪ U.S. Department of Defense, 2016b; and ▪ U.S. Department of Defense, 2017b
▪ Encroachment Management Program/Encroachment Partnering Program (EP) ▪ Encroachment Action Plan (EAP) ▪ Encroachment Control Plan (ECP) ▪ Range Complex Management Plan (RCMP)	Navy Marine Corps	OPNAV Instruction 11010.40 (2007) Marine Corps Order 11011.23 (2015)	Partnership program with local, regional, and state conservation agencies who acquire real property interests to address physical incompatibilities. EAPs and ECPs identify, quantify, and mitigate physical incompatibilities through the development of short and long-term strategies. The plan also identifies any potential partners for EP. RCMP focuses solely on the sustainment and optimization of naval range capabilities and does not address physical incompatibilities beyond the bounds of the installation.	▪ Cotter et al., 2005 ▪ Gillman, 2011; ▪ Lachman et al., 2007; ▪ Orr et al., 2017 ▪ U.S. Navy, 2007; ▪ U.S. Navy, 2015; ▪ U.S. Department of Defense, 2016b; and ▪ U.S. Department of Defense, 2017b

Table 2 (continued)

Federal Government Policy Toolbox

Policy Alternatives	Military Department(s)	Authorization	Description	Resource(s)
Community Plans and Liaison Office (CP & LO)	All	--	Military personnel who directly serves as an installation's Commanding Officer representative with local governments, the public, nearby landowners, and other local agencies.	▪ Orr et al., 2017; and ▪ Santicola, 2006

As one the of earliest policy tools to combat physical incompatibilities, it was likely foreseeable that the Air Installation Compatible Use Zone (AICUZ) program's first challenges were destined for the judicial arena. Cases such as *De-Tom Enterprises, Inc. v. United States* and *Blue v. United States* confirmed that the military "could not be held liable in a taking action simply by virtue of its participation in local government administrative proceedings" (Appel & Smith, 2011, p. 9; Cotter et al., 2005). These cases, among other taking and substantive due process cases, set the judicial precedent necessary for pursuing many of the policy alternatives available today. By the 1980s, it became evident that the AICUZ approach of "producing studies and providing them to local governments was not enough to turn the tide against incompatible land uses" (Appel & Smith, 2011, p. 4; Butler, 2006; Dawson, 2005). Appel and Smith accredit the deficiency in local implementation of AICUZs to the "perceived or real risk of legal liability attendant to restrictive land use regulations limiting [...] economic use," inadequate staffing and resources of local governments, or the general "unwillingness" of local governments to "restrict private sector development" (2011, p. 4). Congress responded in 1985 by authorizing the DoD to offer planning assistance grants through the Office of Economic Adjustment (OEA) (Appel & Smith, 2011; Butler, 2006; Gillman, 2011). Accordingly, this effort led to the creation of the JLUS program (more thoroughly discussed in the next section). Factors such as local budgetary constraints, legal complications, political disagreement, and lack of communitywide buy-in often require these policy alternatives to be supplemented by other programs (Appel & Smith, 2011; Association of Defense Communities, 2016). For example, Appel & Smith consider the Readiness and Environmental Protection Initiative (REPI) "one of the most effective ways to control land use around military installations" since it allows the military to partner with an agency to create buffers via land acquisitions (2011, p. 5). REPI's formation of partnerships is often considered successful because of the "win-win solutions" they create (Butler, 2006, p. 10). Not only does REPI allow conservation groups to obtain land for conservation purposes, but military installations are shielded from incompatible development (Butler, 2006; Knott & Natoli, 2004).

Comprised of in-depth cases studies (for six locations), a formal assessment of REPI implementation was published by the RAND Corporation in 2007 (Lachman et al., 2007; Gillman, 2011). Their study examined four criteria: promotion of military readiness; addressing physical incompatibilities, preserving natural habits and resources, and encouraging intergovernmental relations (Lachman et al., 2007; Gillman, 2011). Lachman et al.'s findings appear to align with the

conclusions of Appel & Smith (2011) and Butler (2006), as they found that REPI has some influence in promoting military readiness, is limiting physical incompatibilities, has a wide range of environmental benefits, and is spearheading intergovernmental cooperation (2007; Gillman, 2011). Studies of REPI implementation have not been without acknowledgment to its weaknesses however. Some notable recommendations for improvement from the literature include (Gillman, 2011; Lachman et al., 2007; Lachman et al., 2013; U.S. Department of Defense, 2016b):

- Additional policy guidance particularly for protecting biodiversity;
- Greater emphasis on intergovernmental cooperation;
- Increased financial support;
- Keep communication open and systematic;
- Process for establishing partnerships needs to be accelerated;
- More encouragement for services to take full advantage of the program;
- Cooperative agreements need to be more comprehensive;
- Adjust its current use by some services away from a real estate program (i.e. fee simple purchases);
- Additional information sharing and technical support are needed;
- Establish an appropriations fund or endowment rather than annual appropriations; and
- Refine the relationship between REPI and natural resource programs (i.e. Sikes Act).

Critical examination of federal policy alternatives by planning scholars has largely focused on broader application, leaving ample room for future scholarship to empirically assess implementation and outcome evaluation.

Federalism, Decentralization, & Intergovernmental Relations

This study has emphasized that the policymaking arena of physical incompatibilities resides within a federalist system. This is pertinent to the policy problem since it involves many levels of government, agencies, and organizations. Since the primary role of the federal government is to provide policy guidance and financial assistance, state and local governments are ultimately relied upon to make the regional planning changes necessary to alleviate physical incompatibilities. Therefore, this subsection is intended to briefly demonstrate the role *federalism*, *decentralization*, and *intergovernmental relations* play in the transition from federal policy alternatives to subnational alternatives. This study adopts O'Toole and Christensen's definition of **federalism** as "a system of authority constitutionally apportioned between central and regional governments" (2012, p. 3). Federalism is often viewed as an "extraordinarily successful and democratic mode of governance" due to its "commitment to diversity rather than homogeneity"

and its assurances of not demolishing the institutions of subnational jurisdictions (Kinciad, 1999, p. 3). Federalism is not without its criticisms however, as it is can be viewed as “complex and complicated mode of governance that is slow to respond to change and challenges” (Kinciad, 1999, p. 5). Given that the U.S. federalist system grants the federal government the power to decentralize (i.e. “devolve functional and administrative responsibilities to lower levels of government”), it is foreseeable that any benefits or issues derived from such action is evident within this policymaking arena. Attempting to describe the opposing perceptions of decentralization, Glassberg (1995) found that federal officials generally see local governments as immensely fragmented “where who has responsibility for what is difficult to determine” (p. 94). Conversely, he notes that local officials often perceive federal agencies as “uncoordinated federal bureaus” (Glassberg, 1995, p. 94). In terms of citizens, Rivlin (2012) found that they typically favor decentralization due to preconceptions that closer governments are more trustworthy, accountable, and can be actively engaged with.

As the literature has shown thus far, the historic relations between military installations and defense communities do not appear to significantly counter such claims. In fact, in 2016 the Association of Defense Communities (ADC) attributed passive intergovernmental relations in defense communities to “practice and culture” (2016, p. 2). They emphasized that “the bureaucracy within the DoD has no clear guidance or established mechanisms to share resources with outside agencies, or to seek their help” (Association of Defense Communities, 2016, p. 2). The ADC also claims that “federal law and policy also inhibit cooperation” as it has created an environment which hinders partnerships with local governments (Association of Defense Communities, 2016, p. 2). To stimulate intergovernmental relations in defense communities specifically, the literature has proposed the following policy recommendations (Association of Defense Communities, 2016; Davenport, 2007; Dawson, 2005; Hansen, 2004):

- Establish federal mandates which required communal and coordinated planning;
- Require a centralized authority which manages the executing organizations;
- Invest in stakeholder training and education of improved planning principles;
- Allocate more revenue and power with regional governments;
- Expand sharing of services and infrastructure; and
- Integrate the role of military installations into the “general policy discussion” of the region.

The purpose for acknowledging the role of federalism, decentralization, and intergovernmental relations here was to highlight how many of the policies introduced throughout this section are interdependent. In addition, it demonstrates how physical incompatibilities is a rather exceptional planning issue since it significantly features both horizontal and vertical federalism.

State Governments

States are a unique stakeholder in this policy arena since they do not directly manage DoD decisions and typically grant local authorities the power to make land use decisions. Existing literature holds the consensus that states are largely motivated by the fear of losing financial capital derived from installations (Butler, 2004; Butler, 2006; Santicola, 2006). Since states know installations account for thousands of jobs, billions of dollars in economic activity, and substantially support their tax revenue, they are highly incentivized to create a “hospitable environment in which military installations can thrive” to avoid “the risk of a future closure” (Santicola, 2006, p. 12; Butler, 2004; Butler, 2006). Driven by these motivations, some state are actively pursuing policy options which promote a balance between community land-use matters and military installation operations. Comparable to the federal government, the concept of passing and enforcing laws which place an outright ban on development near installations is not politically favorable. Consequently, states typically offer “two fundamental roles relative to planning: 1) enabling or requiring local governments to tack action by stature; and 2) setting statewide policy” (Cotter et al., 2005, p. III-3). Table 3 summarizes the current policy toolbox available to states for addressing physical incompatibilities. It is critical to note that since states are susceptible to policy diffusion, the potential for future changes remains conceivable. For additional information concerning the background of each policy alternative, refer to the literature referenced in the “resources” portion of the table. The dialog following the table offers an overview of how the literature perceives the policy alternatives with an emphasis placed on their benefits and drawbacks.

Table 3

State Government Policy Toolbox

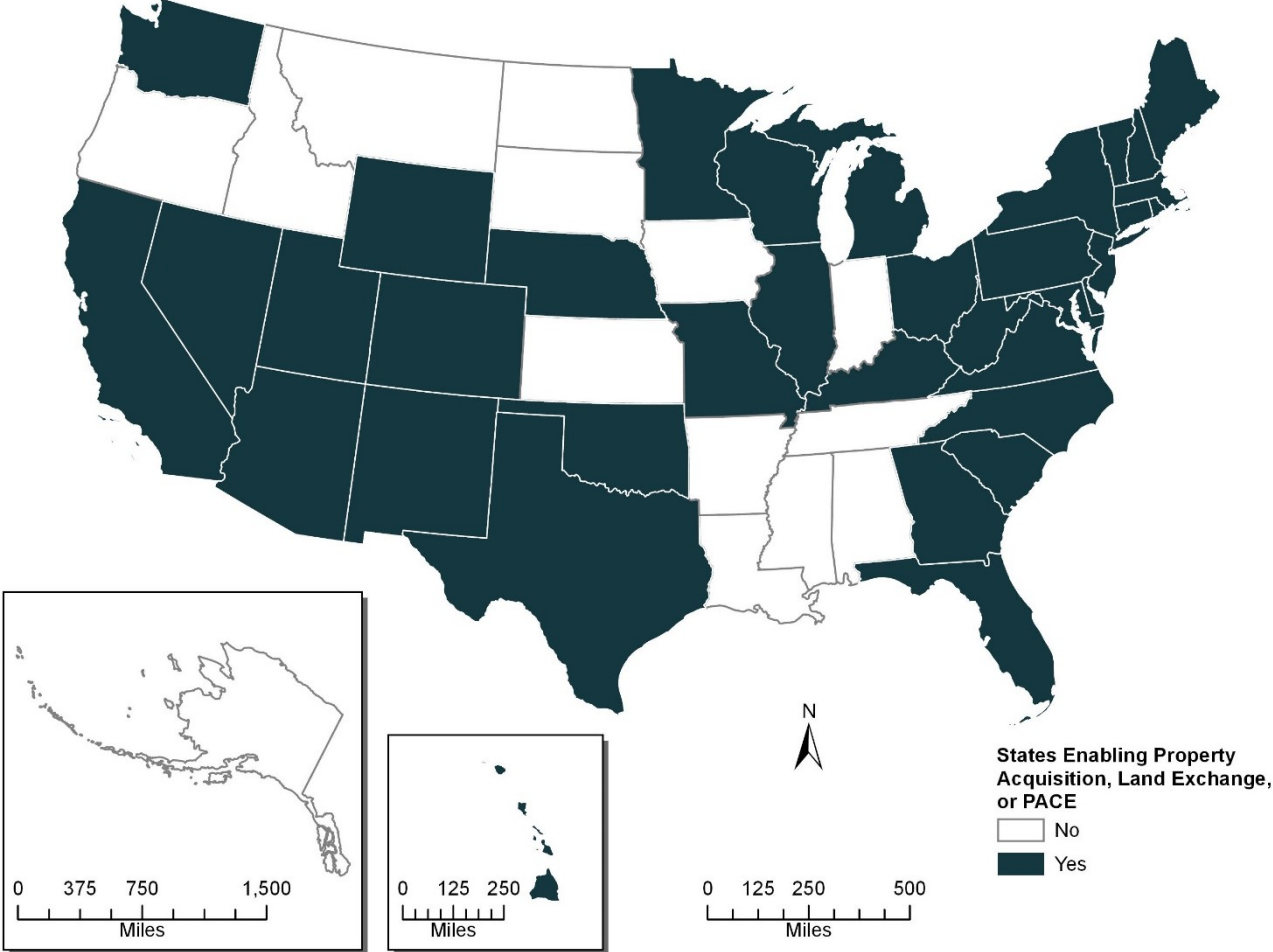
Policy Alternative	Description
Property Acquisition, Land Exchange, or Purchase of Agricultural Conservation Easements (PACE)  States Enabling Property Acquisition, Land Exchange, or PACE □ No ■ Yes	▪ The state directly purchases land, partners with conservation groups, or exchanges land to ensure compatible land use. ▪ Since property acquisition requires funding to be secured, resources from private, local, county, state, and even federal dollars can be applied. ▪ Land exchanges “occur in an open manner with full citizen involvement” and is “legal under the Federal Land Policy and Management Act” (Loomis, 1993, p. 53). ▪ PACE programs compensate “agricultural land owners to restrict their land from future non-farm development” (American Farmland Trust, 2011, p. 2).
	Resource(s) ▪ American Farmland Trust, 2011; ▪ American Farmland Trust, 2018; ▪ Butler, 2004; ▪ Gillman, 2011; ▪ Loomis, 1993; ▪ Orr et al., 2017; ▪ Savage, 2010; and ▪ Schultz, 2016.

Table 3 (continued)

State Government Policy Toolbox

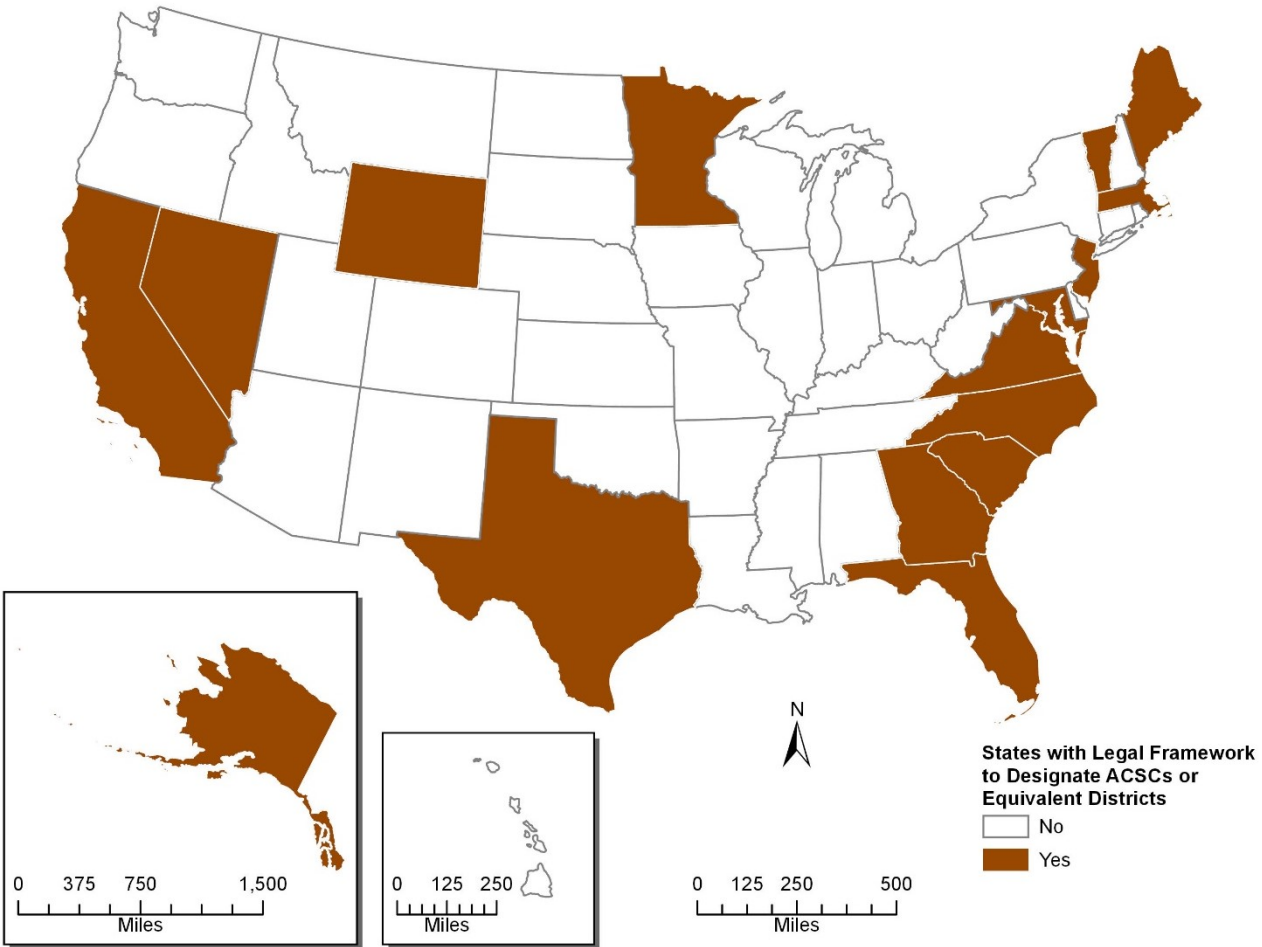
Policy Alternative	Description
Designate Military Installations as Areas of Critical State Concern (ACSC) or Equivalent 	▪ This alternative allows a state to protect an area of statewide importance by monitoring and requiring any proposed uses to be compatible with the unique traits of the installation (Butler, 2004). ▪ Typical process requires local governments to draft plans that are consistent with the state plan and then apply to a state land development agency for permission to develop within these areas” (Butler, 2004, p. 8). ▪ To date, only four states (i.e. Alaska, Georgia, Maryland, and Texas) have officially adopted equivalent designations <i>specifically</i> for military installations (Schultz, 2016).
Resource(s) ▪ Butler, 2004; ▪ Butler, 2006; ▪ Cotter et al., 2005; and ▪ Schultz, 2016.	

Table 3 (continued)

State Government Policy Toolbox

Policy Alternative	Description
Mandated Compatible Land Use States Mandating Compatible Land Use □ No ■ Yes	▪ Alternative which mandates communication and coordination between defense communities and local military representatives when there are proposed changes to land use near installations (Butler, 2006). ▪ Statues requiring compatibility between installations and defense communities typically include the following objectives (Schultz, 2016): 1) Prohibit environmental emissions; 2) Restrict uses that expose the public to excessive noise; 3) Limit uses which attract birds or waterfowl; 4) Avoid structures within aircraft approach and departure zones; and 5) Minimize residential densities.
	Resource(s) ▪ Butler, 2004; ▪ Butler, 2006; ▪ Cotter et al., 2005; ▪ Santicola, 2006; ▪ Savage, 2010; and ▪ Schultz, 2016.

Table 3 (continued)

State Government Policy Toolbox

Policy Alternative	Description
Promotion of Local Zoning, Planning, and Noise Requirements	▪ Approach which promotes land use compatibility around military installations by “encouraging local governments to anticipate future urban growth patterns” (Butler, 2004, p. 6). ▪ Local planning responses are recommended to consider the following (Butler, 2004): 1) Accident Potential Zones; 2) Noise Zones; 3) Military Training Air Routes; 4) Transportation Needs; 5) Open Space/Conservation; and 6) Population Growth. ▪ A program which formalizes the planning process “can strengthen lines of communication and help avoid any unintentional conflicts” between the military and defense communities (Schultz, 2016, p. 15).
	Resource(s) ▪ Butler, 2004; ▪ Butler, 2006; ▪ Santicola, 2006; ▪ Savage, 2010; and ▪ Schultz, 2016.

Table 3 (continued)

State Government Policy Toolbox

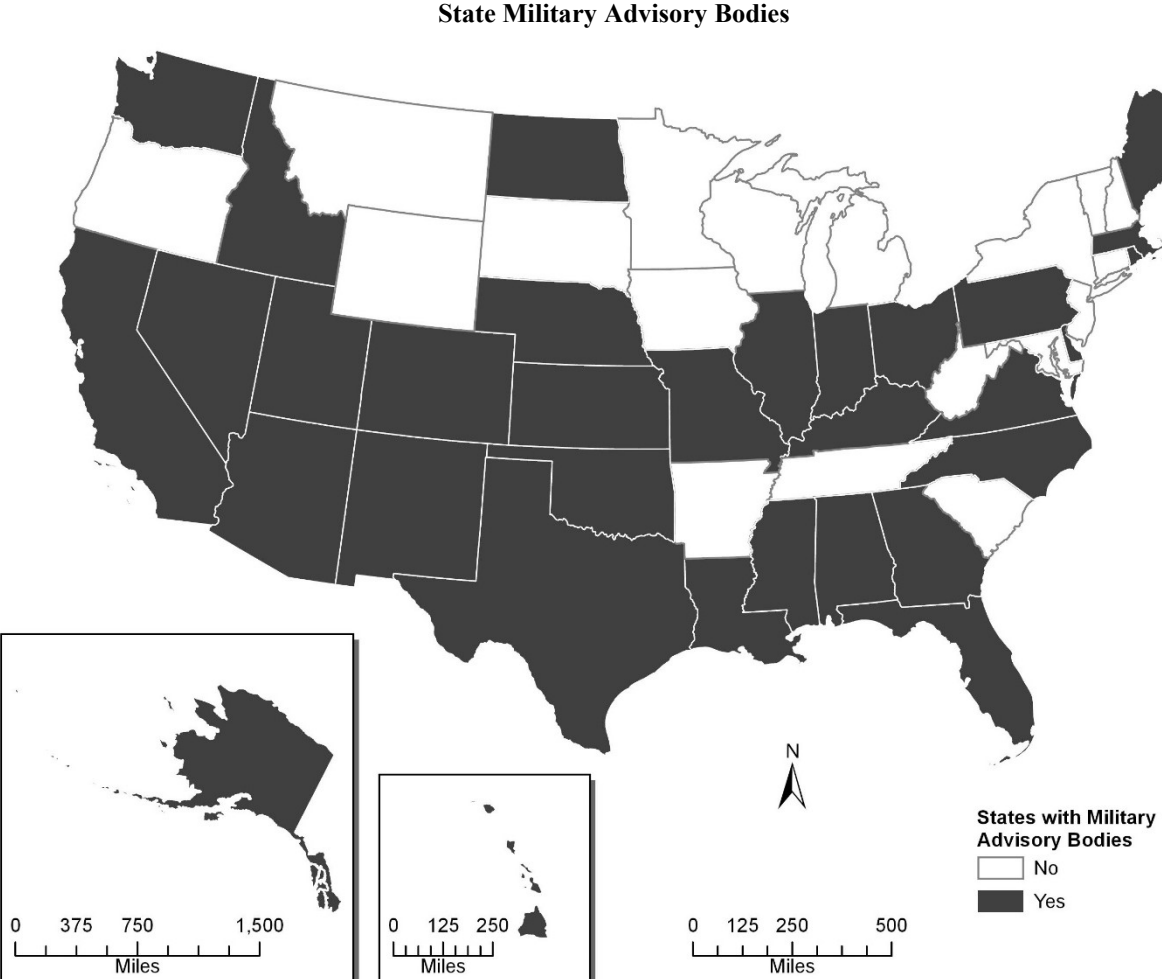
Policy Alternative	Description
State Military Advisory Bodies  States with Military Advisory Bodies □ No ■ Yes	▪ Commission which facilitates discussions among federal, state, regional, and local stakeholders with the purpose of preventing and alleviating physical incompatibilities (Butler, 2004). ▪ Other roles of advisory bodies may include the following (Schultz, 2016): 1) Review local policies; 2) Assist with programs which improve relationships; 3) Conduct studies to facilitate military operations; and 4) Distribute public funds for projects preserving military installations. ▪ Local planning responses are recommended to consider the following (Butler, 2004):
	Resource(s) ▪ Butler, 2004; ▪ Santicola, 2006; and ▪ Schultz, 2016.

Table 3 (continued)

State Government Policy Toolbox

Policy Alternative	Description
Funding and Financing Programs States with Funding and Financing Programs □ No ■ Yes	▪ An alternative which distributes grants or loans with the purpose of producing studies and plans in support of compatible land use (Schultz, 2016). ▪ Grants and loans from such programs typically provide the following: 1) Improve infrastructure; 2) Acquire property; 3) Support energy efficiency; 4) Promote partnerships; 5) Enhance military capabilities; and 6) Assist in economic diversification. Resource(s) ▪ Schultz, 2016

Table 3 (continued)

State Government Policy Toolbox

Policy Alternative	Description
Statutes to Reduce Light Pollution States Statutes to Reduce Light Pollution □ No ■ Yes	▪ “Urbanization, combined with excessive and inefficient use of light, has created a kind of pollution” that states have been compelled to respond to statutorily (Schultz, 2016, p. 26). ▪ Training with night-vision equipment consists of a “significant portion of military training” which “simulate[s] combat situations helping troops develop their situational awareness and ultimately minimize casualties (Schultz, 2016, p. 26). Resource(s) ▪ Schultz, 2016

Table 3 (continued)*State Government Policy Toolbox*

Policy Alternatives	States	Description	Resource(s)
Real Estate Disclosure	Arizona; Maryland	Statue alternative which requires realtors to provide notice of any military operations, testing, and noise-sensitive uses to prospective purchasers of real estate near installations.	▪ Butler, 2006; ▪ Orr et al., 2017; ▪ Schultz, 2016
State Investment Policies	South Dakota	An alternative which encourages the state to “avoid spending state funds in a way that encourages incompatible development around military installations” (Butler, 2006, p. 8).	▪ Butler, 2006 ▪ Cotter et al., 2005
Resource Conversation Districts (RCDs)	All	Special districts created by state law to educate landowners and the public about resource conservation and implement conservation strategies.	▪ National Association of Conservation Districts, 2013; and ▪ Orr et al., 2017

Despite having a plethora of policy alternatives, empirical examination of their implementation remains scarce with most evaluations published by organizations such as the American Farmland Trust, the National Governors Association, and the DoD's OEA. By far the most popular strategy employed by states is property acquisition. Many states consider property acquisition beneficial since it does not necessitate review and it grants local discretion of future land uses (Butler 2004; Cotter et al. 2005). The drawbacks of property acquisition however are the significant funds required, the potential for landowner unwillingness, and the challenges present in reaching a collective agreement (Butler 2004; Cotter et al. 2005). Some states prefer purchase of agricultural conservation easement (PACE) programs since they are voluntary, protective of property rights, and cost effective while still retaining land on the state's tax rolls, protecting land and natural resources, and promoting the transfer of land for future generations (American Farmland Trust 2011). The American Farmland Trust have conceded however that PACE programs can be time consuming, complex, expensive, and necessitate persistent monitoring and enforcement (American Farmland Trust 2011). Although not extensively implemented, areas of critical state concern (ACSC) or equivalent designations are highly recommended by the discourse (Butler 2004; Cotter et al. 2005). The literature argues that multiple states already have the legal framework established and such designation formally protects the land surrounding installations (Butler 2004; Cotter et al. 2005). Cited drawbacks of this option are that the legal framework is not available in *all* states and amending state statutes to integrate it can be laborious (Butler 2004; Cotter et al. 2005).

Augmenting the responsibilities of localities, states mandating compatible uses is considered an effective policy option since it establishes clearly defined laws (Butler 2004; Cotter et al. 2005). However, "the passing [of] legislation can be a long, arduous process" (Butler 2004, 16; Cotter et al. 2005). A less direct approach taken by some states is the promotion of local zoning, planning, and noise requirements to foster compatible development. The literature generally supports yielding discretionary authority to localities since it allows for land use standards to be amended as needed (Butler 2004; Cotter et al. 2005). Still, the literature concedes that local planning decisions are susceptible to being influenced by local special interest groups and the enforcement of standards is not always guaranteed (Butler 2004; Cotter et al. 2005). Described by Schultz as the "most comprehensive policy [option] for ensuring the long-term viability of state's defense communit[ies]," many states have established military advisory bodies to enhance

relations (2016, 11; Butler 2004; Cotter et al. 2005). These advisory bodies offer opportunities for a unified voice among all stakeholders without necessitating regulation (Butler 2004; Cotter et al. 2005). However, when no regulatory or enforcement authority is present, the effectiveness of a body may be minimized (Butler 2004; Cotter et al. 2005). Critical examination of state policy options has seldom endured empirical scrutiny again leaving ample opportunities for future planning scholarship.

Local Governments

Many of the federal and state policy options discussed encourage local governments to support regional cooperation. Consequently, the role, responsibilities, and expectations of planners in defense communities is progressively growing. Planners of defense communities attempting to mitigate land use incompatibilities possess a familiar policy toolbox. Such tools include zoning ordinances, official zoning maps, military overlay zoning, subdivision regulations, transfer of development rights programs, comprehensive/general plans, building code enforcement, capital improvement programs, conditional or special use permits, performance zoning, regional councils, and more (see Table 4). It is critical to note that since localities are susceptible to policy diffusion, the magnitude, relevance, or practicality of each alternative may change in the future. For additional information concerning the background of each policy alternative, refer to the literature referenced in the “resources” portion of the table. The dialog following the table offers an overview of the literature’s perceptions towards these alternatives.

Table 4*Local Government Policy Toolbox*

Policy Alternatives	Description	Resource(s)
Zoning Ordinance	Ordinance which establishes standards and densities for development. Local zoning laws can prevent and alleviate physical incompatibilities by implementing standards such as: ▪ Maintaining lower density development; ▪ Limiting the types of land uses in agricultural zones; ▪ Designating agricultural protection zones; ▪ Requiring compatible use military installations; ▪ Designating various kinds of buffers; and ▪ Planned unit developments (PUDs)	▪ American Farmland Trust, 2011; ▪ Appel & Smith, 2011; ▪ Butler, 2006 ▪ Cotter et al., 2005; ▪ Lachman et al., 2007; ▪ Orr et al., 2017
Official Zoning Map	Supplemental to the zoning ordinance and comprehensive plan, this alternative “identifies in physical space the zoning classifications assigned to a specific property by a local governing body” (Cotter et al., 2005).	▪ Cotter et al., 2005
Military Overlay Zoning	A specific land use regulation which imposes additional requirements over the land’s underlying zoning designation. This alternative typically addresses “height, noise, and accident potential zone contained in the installation’s AICUZ study” (Appel & Smith, 2011, p. 5). The alternative may “contain various procedural and administrative function, including coordination between local government and the military with regard to development proposals” (Appel & Smith, 2011, p. 5).	▪ Appel & Smith, 2011; ▪ Butler, 2006; ▪ Cotter et al., 2005
Subdivision Regulations	Regulations which establish the division of land into developable lots. Subdivision regulations can prevent and alleviate physical incompatibilities by implementing standards such as: ▪ Conditions of approval; ▪ Developer agreements; ▪ Cluster subdivisions; ▪ Designating various kinds of buffers	▪ American Farmland Trust, 2011; ▪ Appel & Smith, 2011; ▪ Cotter et al., 2005; ▪ Orr et al., 2017
Transfer of Development Rights (TDR) Program	A program which allows local governments to “designate ‘receiving districts,’ where higher density development can occur, in exchange for permanent agricultural conservation easements on land designated as ‘sending districts’” (American Farmland Trust, 2011, p. 10).	▪ American Farmland Trust, 2011; ▪ Cotter et al., 2005

Table 4 (continued)*Local Government Policy Toolbox*

Policy Alternatives	Description	Resource(s)
Comprehensive/ General Planning	Local planning process which “establishes and drives local land use policy and can articulate general or specific local land management objectives” (Appel & Smith, 2011, p. 5). A plan can establish military land use recommendations which are implemented via other planning tools such as zoning, subdivision regulations, etc.	▪ Appel & Smith, 2011; ▪ Butler, 2006; ▪ Cotter et al., 2005; ▪ Orr et al., 2017; ▪ Thomas & Mouat, 2011
Building Code Enforcement	This alternative can “address noise impacts by requiring insulation and soundproofing within areas designated in an AICUZ study as having high potential for noise impacts” (Appel & Smith, 2011, p. 5).	▪ Appel & Smith, 2011; ▪ Butler, 2006; ▪ Cotter et al., 2005; ▪ Orr et al., 2017
Capital Improvement Plan (CIP)	A community program in which they outline their plan for “constructing public buildings, facilities, and infrastructure” (Butler, 2006, p. 2). Defense communities can strategically shape their CIP to avoid the promotion of incompatible development near military activities.	▪ Butler, 2006; ▪ Cotter et al., 2005
Conditional or Special Use Permit	This process grants communities a more detailed review of specific development proposals allowing for more informed decisions regarding the compatibility of a proposed land use.	▪ Cotter et al., 2005; ▪ Orr et al., 2017
Performance Zoning	An alternative method of zoning which allows for “flexible design, location, density, and character of proposed development” (Cotter et al., 2005, p. V-54). This alternative allows developers to “work closely with the community and base planners to arrive at a mutually acceptable development solution and plan” (Cotter et al., 2005, p. V-54).	▪ Cotter et al., 2005
Regional Council (RC)	Local governments and installations participating in a Regional Council taken on an advisory role to aid the formulation and implementation planning efforts, informing decision-making processes, and the provision of accessible information.	▪ National Association of Regional Councils, 2009

Research concerning the implementation and outcomes of local alternatives is limited and often pessimistic. Lachman et al.’s study emphasized that installations cannot rely on the support of local zoning in the long term since “local politics and policies are likely to change as development pressures increase” (2007, p. 84). To overcome this, Lachman et al. recommend

installations be extremely proactive working with local governments as early as possible (2007). Appel and Smith found that military overlays are often resisted due to “property owners’ concerns that land use regulation will lower property values or frustrate the development potential of their property” (2011, p. 6). They also identified five legal challenges defense communities often face involving nonconforming uses, vested rights, moratoria, takings, and substantive due process (Appel & Smith, 2011). Whether it be overlays or another alternative, Appel and Smith encourage local agencies to vet legal issues early (2011). Despite an abundance of familiar planning tools, empirical examination on local policy options in defense communities remains scarce leaving another venue for future planning scholarship.

Partnerships

Alluded throughout this section, current policy alternatives often facilitate the creation of partnerships whether short or long-term. As a result, the conclusion of this section explores how the literature measures successful partnerships within defense communities. According to Meurer et al. (2012), for *any* partnership to be successful there needs to be a “mutual value that is greater than what the partners could achieve on their own,” a leveraging of resources, a focus on a common issue, and a sharing of risk (p. 6). Policy alternatives which involve partners are typically either **public-to-public** or **public-to-private**. Public-to-public partnerships are often formed by installations and defense communities “to acquire and share services, expertise, and capabilities with on another” (Lachman et al., 2016). One of the prime benefits of public-to-public partnerships is reducing the “risk that the military will [need] to cease operations completely or scale back its current mission” due to physical incompatibilities (Gillman, 2011, p. 46). Public-to-public partnerships can also reduce and avoid costs, improve services, provide access to specialized equipment and capabilities, and improve overall cooperation (Lachman et al., 2016). Lachman et al.’s examination of defense community public-to-public partnerships in 2016 found that they are often confronted with many barriers including (p. xvii-xviii; Rietjens, 2008):

- “Cultural differences between the military installations and communities;
- Resistance to change by individuals and groups;
- Partner(s) not able or willing to make the commitment required;
- Deciding how to manage and share risks;
- Place-specific partnership opportunities and obstacles based on unique local circumstances;
- Little community interest or political support for partnering;

- Staffing issues within the community;
- Communication roadblocks with military installations;
- Frustration with the slow military decision-making and approval processes relative to the community's processes
- Constraints on community capacity and expertise;
- Installations not wanting to partner with the community;
- Installation staffing issues;
- Installation communication challenges;
- Security and access concerns on the installation;
- Assessing the partnership in relationship to other activities;
- Determining which authority and what type of agreement to use for the partnership
- Installation and community lawyers, contracting personnel, and other staff disagreeing on the specific terms of the partnership agreement or contract;
- An installation's inability to appropriately monitor performance and provide contract oversight;
- The agreement or contract not having enough flexibility to change over time given changes and challenges that arise;" and
- Installations may face challenges from federal policies, regulations, and legislation when try to develop and implement partnerships.

To enhance relations within public-to-public partnerships, they proposed the following recommendations (Lachman et al., 2016, p. xix-xx):

- "Establish synergistic goals and objectives;
- Invest in the partnership with the intent to develop a long-term relationship;
- Have committed leaders and staff;
- Facilitate partnership champions who can communicate objectives, motivate change, and address barriers;
- Make sure there are routine and ongoing communications at multiple levels;
- Ensure that clear responsibilities are assigned to the different partners;
- Develop a well-written partnership agreement or contract that includes [...]
- objectives and performance criteria, spells out risk-sharing and other responsibilities, and provides the consequences for not meeting the agreement terms;
- Ensure that all partnership participants know that part of this process is to develop a long-term mutually beneficial relationship;

- Involve all potentially relevant stakeholders in the process;
- Develop a joint process for handling the media regarding the partnership;
- Encourage on-site field trips to help develop the partnership
- relationship and project ideas; and
- Once implemented, evaluate the partnership progress on an annual basis.”

Since the establishment of the REPI program in 2003, public-to-private partnerships in defense communities have also become more common. Examining Fort Riley, Kansas via a case study, Graci Bozarth specifically described the ACUB program as a successful example public-to-private partnership (2016). Bozarth found that the program provided “the stand-off distance required by the military” while actively working with willing landowners to protect “habitats that would otherwise be lost to development” (2016, p. 144). To enhance the capabilities of public-to-private partnerships further, the DoD has presented the following recommendations (U.S. Department of Defense, 2016b, p. 17; Association of Defense Communities, 2016):

- “Establish contacts between installation, regional military office, and local community stakeholders—stable points of contact improve the process and communication;
- Keep communication open and provide updates on a regular basis;
- Make sure everyone has a common understanding and keeps perspective on the partnership’s context and goals;
- Align goals between military and partners to optimize funding and target priorities;
- Seek other funding sources that have the same land preservation goals;
- Involve a partner that can translate the technical language of the REPI buffer authority to unfamiliar landowners;
- Be aware of landowner education and biases;
- Take time to build trust with other agencies and stakeholders;
- Choose a project that is a priority for all [...]
- stakeholders involved—increases motivation;
- Develop agreements with all parties contributing funds so that they all agree to the appraiser selected and the guidelines;
- Start the process as soon as possible;
- Build on previous partnerships or other successes; and
- Prepare for delays, changes in procedure, and other roadblocks, but don’t get discouraged.”

Describing key components of the base of the future, the Association of Defense Communities (ADC) recommends that “expanded use of public-public and public-private partnerships should replace many of the service and infrastructure delivery methods now common on installations” (2016, p. 4). This quote collectively demonstrates how partnerships in defense communities will inevitably be a major component of future policy intervention, intergovernmental relations, and planning for a post-BRAC era.

The Role of JLUSs in Modern Planning

Authorization & Ex-ante Expectations

Authorized by Congress in 1985 (i.e. *Title 10 U.S.C. Section 2391*), the Compatible Use/Joint Land Use Study (JLUS) program offers grant assistance to states and defense communities for enhancing local planning efforts to mitigate physical incompatibilities (Appel & Smith, 2011; Cotter et al., 2005; Davenport, 2007; Eitler, 2017; Lachman et al., 2007; Lachman et al., 2016; McDuffie, 2009; O’Brien, 2006; Santicola, 2006; U.S. Department of Defense, 2017b). The JLUS program is managed by the Department of Defense’s (DoD) Office of Economic Adjustment (OEA) whose mission is to “address present and future incompatible civilian activity and protect the sustainability of [...] military training and readiness” (O’Brien, 2006, p. 1; Appel & Smith, 2011; Cotter et al., 2005; Santicola, 2006). The objective of JLUSs is to “promote compatible civilian development patterns near military installations by applying the local planning process to update local comprehensive/general plans and supporting land use regulations” (O’Brien, 2006, p. 1; Appel & Smith, 2011; Cotter et al., 2005; Davenport, 2007; Eitler, 2017; Lachman et al., 2007; McDuffie, 2009; Santicola, 2006). JLUSs are currently considered a supply-sided subsidy since it employs categorical-project grants within an entirely *voluntary* process (Eitler, 2017; O’Brien, 2006). This program is typically pursued as a reactive response to physical incompatibilities; however, military departments annually nominate installations for a JLUS project based on current incompatibilities or “the potential for it to develop in the near future” (O’Brien, 2006, p. 4; Santicola, 2006). To participate and receive funding for conducting a JLUS, defense communities are also required to make a “good faith commitment” towards implementation by contributing approximately “ten (10) percent of the projects total cost” either “in the form of cash or dedicated staff time” (O’Brien, 2006, p. 3 & 9; Eitler, 2017; Santicola, 2006). Recent budgetary estimates suggest annually the JLUS program, among other lesser grants,

currently costs the federal government approximately \$50 million to fund (U.S. Department of Defense, 2018b). With this information, it can be estimated that annually approximately \$10 million is spent by defense communities to conduct or update JLUSs. Since JLUSs require commitments from the installation, defense communities, and OEA, they each are expected to fulfill certain role even before the project begins. Generated from a presentation by the JLUS program’s current director Cyrena Eitler, Table 5 outlines the typical roles of each entity prior to, during, and after the project (2017, slides 14-16).

Table 5

Installation, Defense Community, and OEA Roles in the JLUS Process

Installation	Defense Communities	Office of Economic Adjustment (OEA)
▪ Recommend and Support JLUS nomination; ▪ Represent installation interests; ▪ Coordinate updates and integrate military department studies to define the military mission footprint; ▪ Provide leadership, guidance, and technical support to the JLUS Policy Committee and Technical Advisory Committees; ▪ Provide data and information to study; ▪ Installation Commander, or designated senior leader, participates on JLUS Policy Committee as Ex-Officio member; and ▪ Provide comments on study drafts.	▪ Sponsor the JLUS effort; ▪ Administer the OEA grant; ▪ Fund its part of the JLUS effort (i.e. 10% non-Federal match); ▪ Provide staff time and expertise; ▪ Provide the leadership to complete JLUS; ▪ Ensure broad based community input and participation; ▪ Engage diverse group of stakeholders; ▪ Provide public information; ▪ Identify issues and opportunities; ▪ Resolve issues; ▪ Implement JLUS recommendations; and ▪ Seek and coordinate Federal, State, local, and private resources.	▪ Confirm need for JLUS. ▪ Provide guidance to initiate, conduct, and complete a community-driven JLUS; ▪ Provide technical assistance to the local jurisdiction and installation; ▪ Provide funding assistance to the local jurisdiction to prepare a JLUS and implement recommendations; and ▪ Facilitate communications between the local jurisdiction and the installation.

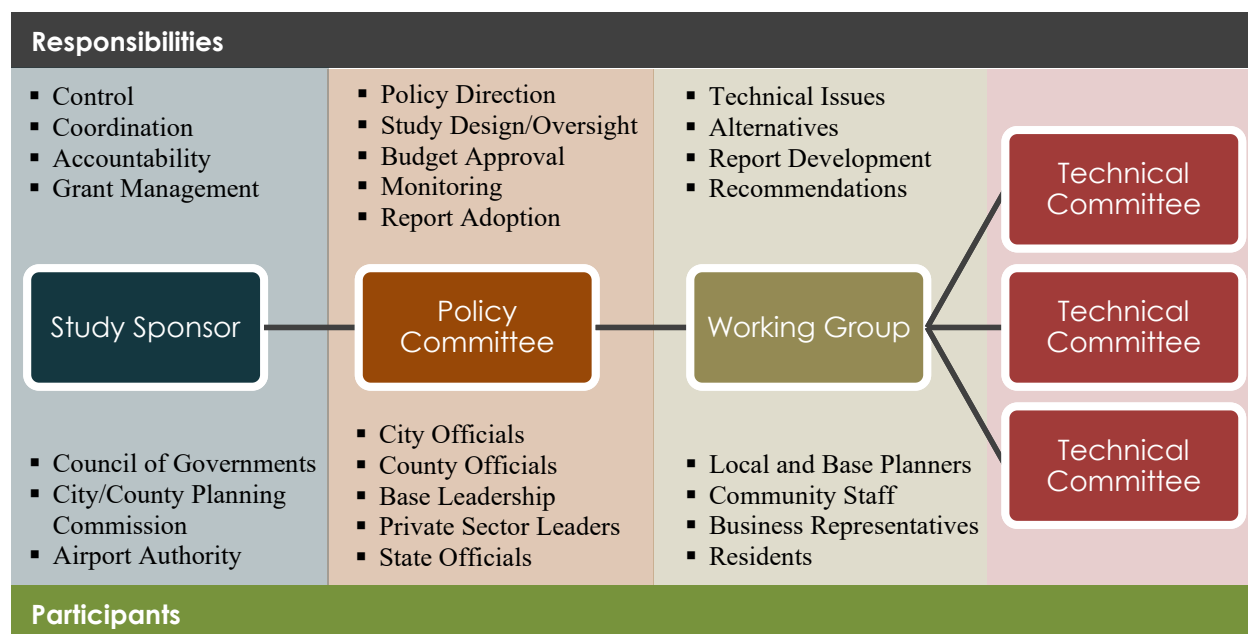
JLUS Structure and Process

Once an installation is selected for a Joint Land Use Study (JLUS), the organizational structure of the process needs to be formally established. As illustrated in Figure 17, the typical structure consists of three groups: study sponsor, policy committee, and working group. The *study sponsor* group is responsible for control, coordination, accountability, and grant management (Cotter et al., 2005; Eitler, 2017; O’Brien, 2006). Therefore, this group primarily includes council

of governments, planning commissions, and airport authorities (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). The next group, *policy committee*, is generally responsible for policy direction, study design, budget approval, etc. and largely consists of the region's local and military leadership (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). Finally, the *working group*, which may consist of multiple technical subgroups, addresses technical issues, presents alternatives, and proposes recommendations (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). This group is mostly comprised of local planners, military personnel, residents, and other staff (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). Following the formation of the organizational structure, the JLUS process may commence. Eitler describes the standard JLUS process as consisting of five steps: organize, assess, plan, implement, and monitor (2017). Details regarding what transpires during each step is summarized in Figure 18.

Figure 17

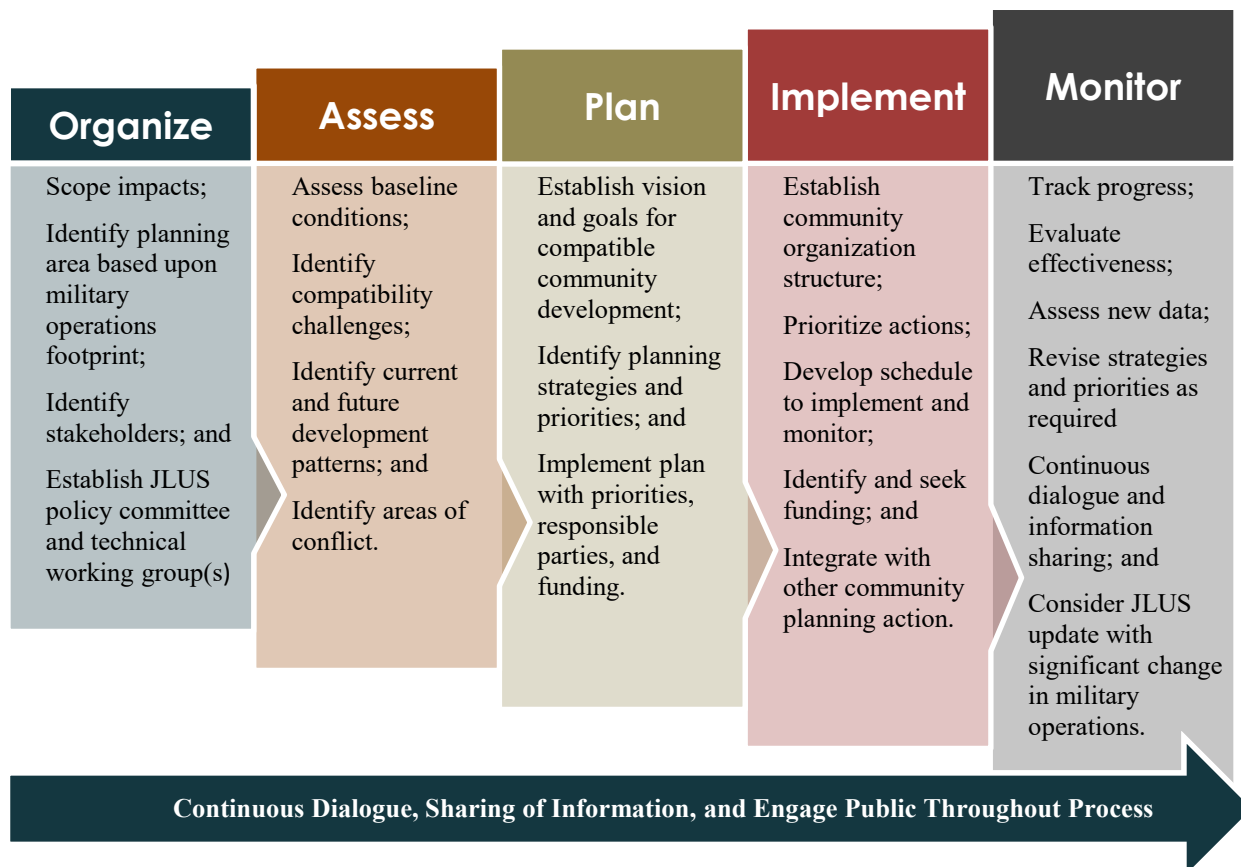
Standard JLUS Organization



Note. Adapted from Cotter et al., 2005; Eitler, 2017; and O'Brien, 2006.

Figure 18

Standard Process of Joint Land Use Study



Note. Adapted from Eitler, 2017.

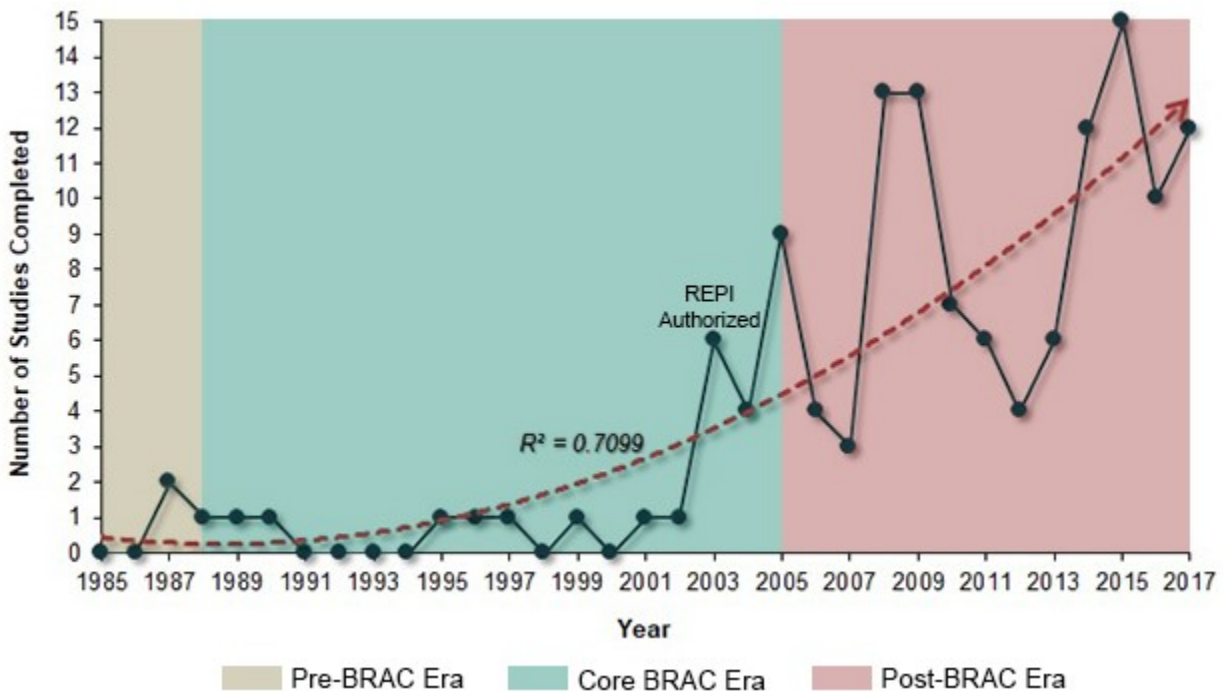
Historical Application

Between 1985 and 2017, approximately 135 Joint Land Use Studies (JLUSs) have been conducted (Eitler, 2017; REPI Interactive Map, 2018). During this period, approximately four (4) studies were completed each year with a median of one (1) study (REPI Interactive Map, 2018). The year 2015 comprised of the most studies at 15 with no studies finalized in the years: 1985, 1986, 1991, 1992, 1993, 1994, 1998, and 2000 (REPI Interactive Map, 2018). By graphing the data annually, as exhibited in Figure 19, three inferences can potentially be deduced. First, both the Pre-BRAC (prior to 1988) and Core BRAC (1988-2005) eras minimally utilized the JLUS program compared to the Post-BRAC era's (2005-Present) active development of studies. Second, 2003 visibly appears to be a catalyst year for the JLUS program. While further empirical testing is needed to reliably confirm, this study recognizes that the REPI program was developed that same year; therefore, a relationship may be present. Finally, this graphic's trend reveals the federal

government's commitment and concern that physical incompatibilities is a growing policy problem.

Figure 19

Number of JLUSs by Year between 1985 and 2017



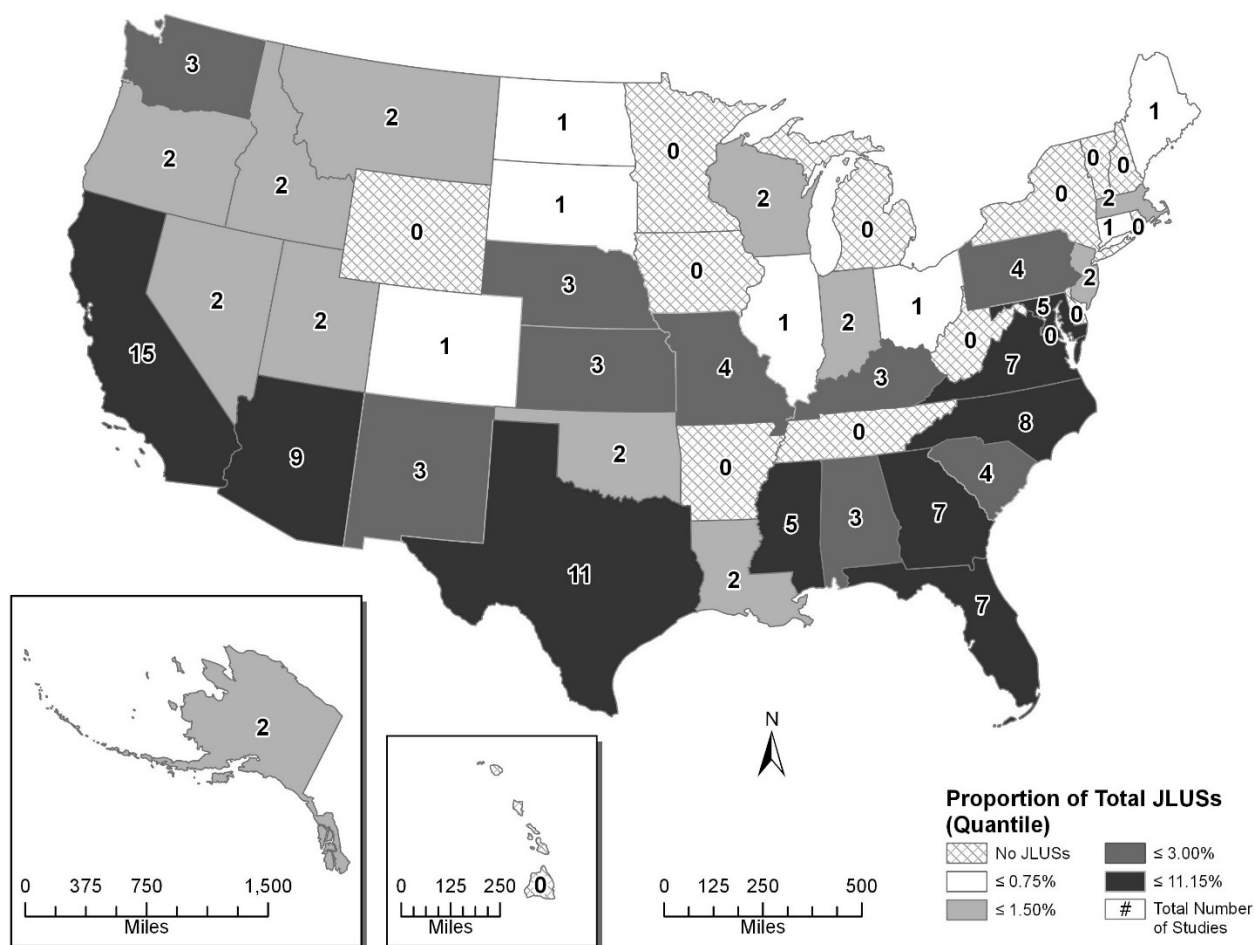
Note. Data available from REPI Interactive Map, 2018. Some quantities may be representative of multiple installations (e.g. Joint Bases) or updated studies.

Examining the data geographically, on average states have completed approximately three (3) studies with a median of two (2) studies (REPI Interactive Map, 2018). California has the most studies at 15 while the following states have currently not pursued or finished a study during this period: Arkansas, Delaware, Hawaii, Iowa, Michigan, Minnesota, New Hampshire, New York, Rhode Island, Tennessee, Vermont, West Virginia, and Wyoming (REPI Interactive Map, 2018). This means 37 states or about 74% of states have completed at least one study since the program's commencement. In terms of the overall distribution of studies, Figure 20 depicts proportionally the distribution of JLUSs finalized by states between 1985 and 2017. Comparable to examining the data annually, three inferences can potentially be deduced from this figure. First, there appears to be some high-level relationship between JLUS application and states known for greater population. Second, JLUS application thus far appears to focus on the southern half of the

continental U.S., potentially aligning with where more installations are positioned. Finally, states further inland appear to produce less JLUSs potentially due to a combination of the previous two factors. While further empirical testing is needed to reliably confirm any of these conclusions, this study purposely recognizes them to potentially offer some comparative insight regarding this study's findings.

Figure 20

Proportion of Completed JLUSs by State between 1985 and 2017



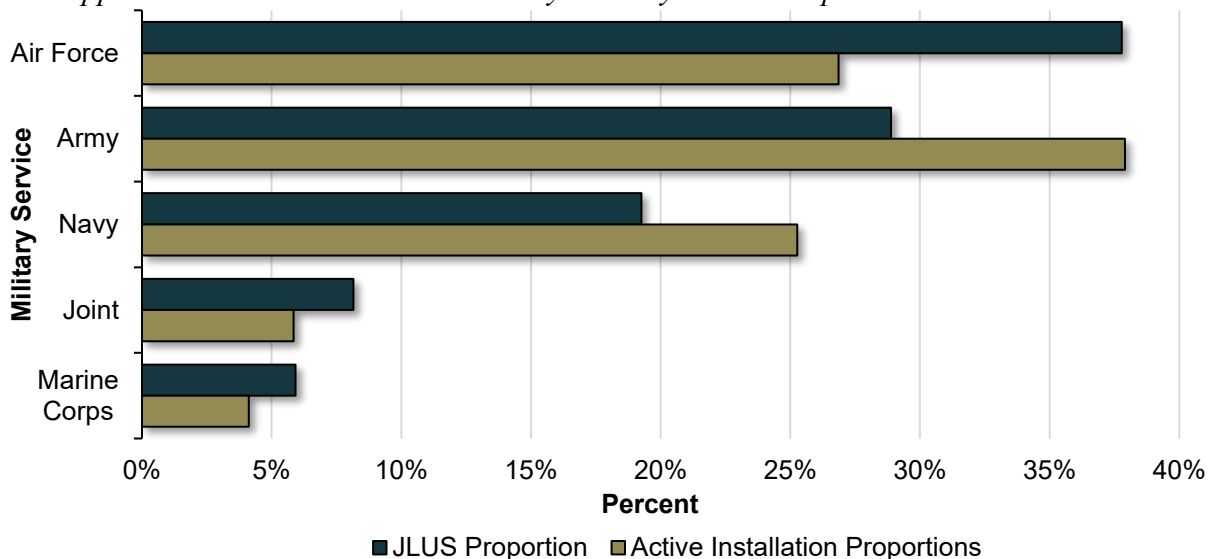
Note: Data available from Eitler, 2017 and REPI Interactive Map, 2018. Some quantities may be representative of multiple installations (e.g. Joint Bases) or updated studies.

Finally, by grouping the data by military service (i.e. Air Force, Army, Navy, Joint, and Marine Corps), military departments have completed an average and median of 27 studies thus far (REPI Interactive Map, 2018). The Air Force has completed the most studies at 51 with the Marine

Corps currently the least with seven (7) (REPI Interactive Map, 2018). For simplicity, this review kept any studies conducted on joint installations in a “Joint” category. A total of 11 studies or just over eight (8) percent of all studies fall under this category. Therefore, while the exact total quantities for each department may somewhat increase if the category was split, the difference is ultimately minimal and limits potential comparisons. To illustrate the overall distribution of studies by military departments, Figure 21 is provided. In addition, the figure exhibits a proportional comparison between JLUSs and active military installations by service department (DISDI Program Manager, 2017). Figure 21 reveals that while the Air Force manages about a quarter of active installations nationally, nearly 40 percent of JLUSs are conducted by Air Force defense communities. The figure also suggests the inverse may be true for the Army. For Navy, Marine Corps, and Joint installations, the proportion comparisons appear to be relatively balanced. A potential inference from this graphic is there may be a relationship between departmental operations and the need to address physical incompatibilities. While further empirical testing is needed to reliably confirm any of this conclusion, this study intentionally recognizes it to potentially offer some comparative insight regarding this study’s findings.

Figure 21

JLUS application and Active Installations by Military Service Department



Note. Data available from DISDI Program Manager, 2017 and REPI Interactive Map, 2018. Quantities may be representative of new or updated studies.

Critical Evaluation

The prime characteristic that makes the Joint Land Use Study (JLUS) program rather exceptional is it can be applied universally (i.e. to any installation nationally). The program deliberately establishes a structure which promotes local governments to work *cooperatively* with the military and their regional counterparts rather than independently. As a result, the benefits of the program are generally multilateral. Benefits for installations are relatively evident since the program is explicitly designed to prevent and mitigate physical incompatibilities which hinder military readiness. Some notable benefits of producing JLUSs for local governments is that it can inform community transportation studies, aid grant proposals, and be a platform for future planning assistance whether from regional assistance or consultants. Other commonly referenced benefits of the JLUS program include the following (Appel & Smith, 2011; Eitler, 2017; O'Brien, 2006): Increased public awareness of physical incompatibilities;

- Reduction of operational impacts;
- Unimpaired training, testing, and operations;
- Compatible community development;
- Long-term sustainability of mutually beneficial relationship;
- Local land use recommendations tailored to local concerns;
- Continued economic development; and
- Military contribution to regional economy.

Reflecting on the ideal policy goals discussed in the last section, this broad combination of benefits demonstrates the program's ability to be relatively efficient. Like all programs, the JLUS program is not exempt from limitations. When considering Stone's liberty-security dilemma (2001), the management of the program by the DoD reasonably skews the goal towards an emphasis on security over liberty. While this approach is substantially more balanced than many military-oriented policies, the limitation remains noteworthy. According to annual data regarding cost, the fiscal impact of the program typically varies (U.S. Department of Defense, 2018b). Comparable to REPI, annual appropriations render the program *potentially* vulnerable to budget constraints which arguably can hinder consistent program implementation. This consideration is why the JLUS program's political feasibility, although firmly established historically, remains susceptible to future political contention.

Potentially the most critical limitation of the JLUS program is a policy implementation life cycle scenario referred to by Sabatier and Mazmanian as the "gradual erosion scenario" (1980, p.

555; Mazmanian & Sabatier, 1989). This scenario suggests that absent strong hierarchical integration, “the initial zeal and success [of a program’s implementation will be] followed by a gradual decline (Sabatier & Mazmanian, 1980, p. 554; Gainsborough, 2001; Mazmanian & Sabatier, 1989). Since the JLUS program only demands a “good-faith commitment” by defense communities at the beginning of a study, successful long-term implementation may potentially be compromised (O’Brien, 2006, p. 3; Santicola, 2006). Collectively, the literature recognizes and advocates for the integration of multiple policy alternatives with JLUSs to achieve successful implementation and combat physical incompatibilities both effectively and efficiently.

Policy Diffusion of JLUSs

When studying the role of JLUSs in modern planning, the concept of *diffusion* must be considered. **Diffusion** is described here as the spread of policy innovation, either internally or externally from a policymaking arena, from one place to another. Pacheco (2012) offers two widely accepted explanations for policy diffusion, “the social learning/contagion model and the economic competition model” (p. 187). The *social learning/contagion model* suggests that governments “look first to neighboring [governments] [...] to learn about policies for reasons of political and demographic similarity and political networking” (Pacheco, 2012, p. 188; Bouché & Volden, 2011). Pacheco’s substitute explanation, *economic competition model*, postulates that local governments “make policy choices in order to gain an economic advantage over proximate [jurisdictions]” (2012, p. 188; Bouché & Volden, 2011). Based on the literature presented throughout this chapter, there is sufficient evidence to suggest both models are likely attributable to the spread of JLUSs. Since its inception in 1985, the application of JLUSs have supplied ample cases nationally for installations and defense communities to learn about the capabilities of the program. In addition, as physical incompatibilities continue to intensify and the threat of BRAC remains, defense communities are becoming more incentivized to engage in policies such as JLUS to avoid losing their economic advantage. The relevance of Pacheco’s models does not cease at this scale of policy innovation however, since the diffusion of JLUSs begets ancillary policy diffusion. For example, the structure of a JLUS can build a forum for defense communities currently lacking planning resources or proactive policies to learn from and coordinate with those in the region that are more prepared to address physical incompatibilities. Complimenting this, producing a JLUS enhances the resume of all defense communities who desire grant assistance from the federal government for planning assistance as a foundation of regional cooperation has

been established. Collectively, these models and examples demonstrate how the *internal* diffusion of JLUSs (i.e. within this policymaking arena) is actively applied and implemented to facilitate further diffusion.

Discussed in chapter one, the secondary research question of this study is designed to assess the practicality of applying joint planning studies in other policymaking contexts. Doing so will expand the literature's understanding of the JLUS program's potential for *external* diffusion. To date, Young's (2008) study is the only publication to specifically acknowledge that military-community relations exhibit many similarities to other intergovernmental or inter-organizational relations. More specifically, Young's review of literature on university-community relations found that both the military and universities exhibit similar characteristics including they both impact the economic system of communities, are "self-focused and concerned with their own success," and develop their own "set of policies and rules that they follow that are distinctly different than that of [...] their surrounding community" (2008, p. 20). Another similarity to military installations, "universities were often located in rural (frequently remote) areas" yet "despite their isolated beginnings [...] were soon threatened by the expansion of urban areas" (Martin et al., 2005). Collectively, these comparable characteristics demonstrate the need for more empirical investigation of intergovernmental planning. Many of these characteristics are also present in other regional relations such as national park-community, tribal-community, multi-community, etc. As a result, part of this study seeks to advance the concept of *external* diffusion much further by conversing with civilian planners to determine whether features of the JLUS program may or may not be applicable to other forms of cooperative regional planning.

Chapter 3 - Methodology

Since this cross-sectional study seeks to provide inferences aimed at numerous gaps within the discourse, a mixed method approach consisting of three phases (i.e. a stakeholder survey on Joint Land Use Study (JLUS) implementation; a pilot study on the policy Delphi as an empirical instrument; and interviews on JLUS application generalizability) was executed. This chapter respectively introduces the methods of each phase through detailed descriptions of the study population and samples, instrument development, data analysis, and limitations. Prior to delving into the details of each phase, this section summarizes the construction of the broader research design and its connection to the research questions posed. As noted in chapter one, this study's collective unit of analysis applies what Mazmanian and Sabatier classify as the fourth stage of the implementation process, the "perceived impacts of policy outcomes" (1989, p. 38; Sabatier & Mazmanian, 1980). While assessing *actual* impacts to the evaluation criteria is ideal, this study's unit of analysis examines *perceived* outcomes for multiple reasons. First, Mazmanian and Sabatier's conclusion that actual outcomes can "often be very difficult to measure in a comprehensive and systematic fashion" is highly applicable for this study (1989, p. 38). The national and intergovernmental scope of this study renders it exceptionally challenging to accurately measure and provide findings that are generalizable for *actual* outcomes. For example, how to define "success" often varies drastically from case to case. Succeeding this factor, this study adopts Mazmanian and Sabatier's "contention that perceived impacts will be a function of actual outcomes as mediated by the values of the perceiver[s]" (1989, p. 38). Thirdly, examination of perceived outcomes correlates with the bottom-up approach (i.e. start by analyzing the variety of actors interacting at the local level) which is more appropriate for this study (Sabatier & Mazmanian, 1986). Sabatier and Mazmanian specifically recommend the bottom-up approach when the primary interest is the "dynamics of different local situations," which is the case here (1986, p. 37). Finally, also emphasized by Sabatier and Mazmanian, perceived outcomes still hold the potential for encouraging or discouraging policy changes (1989). Collectively, these considerations support the application of the broader unit of analysis for this study (i.e. the stakeholders' assessments of JLUSs). Each research question offered in this study is strategically designed to apply this unit of analysis with the intention of providing planning policy inferences

that are generalizable and improve the discourse's limited understanding of the program's capacity to foster regional change.

Phase One – Stakeholder Survey on JLUS Implementation

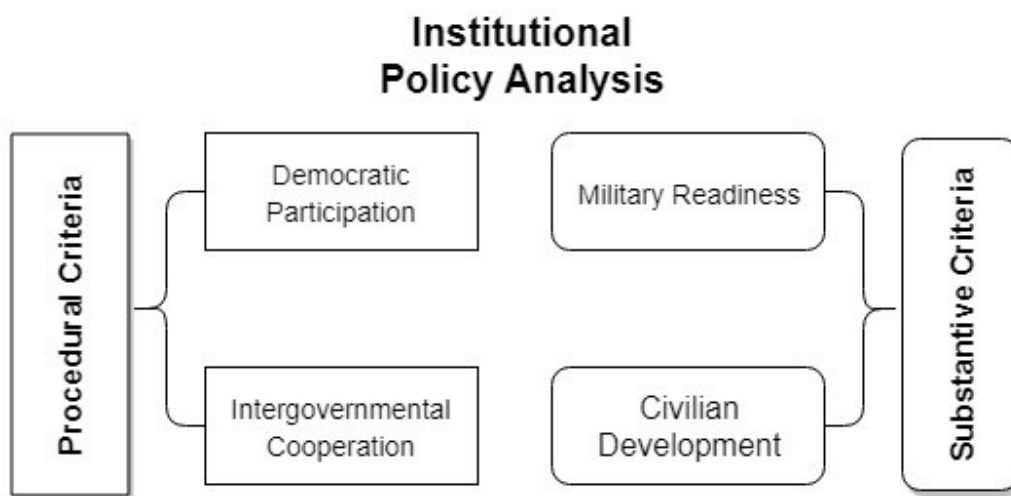
Seeking to perform the first *ex-post* evaluation of the Joint Land Use Study (JLUS) program, phase one of the study engages *local* stakeholders with an established set of evaluation criteria consisting of (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; and (d) civilian development. In the absence of a structured accountability system, the JLUS program's unexplored limitations and shortfalls may continue to compromise long-term implementation and outcome success. The primary and supplementary research questions, all tested in this phase of the study, are intended to be a foundational effort to overcome this oversight. As noted in the previous chapter, the objective of JLUSs is to "promote compatible civilian development patterns near military installations by applying the local planning process to update local comprehensive/general plans and supporting land use regulations" (O'Brien, 2006, p. 1; Appel & Smith, 2011; Cotter et al., 2005; Davenport, 2007; Eitler, 2017; Lachman et al., 2007; McDuffie, 2009; Santicola, 2006). Fundamentally, any *ex-post* evaluation of a policy response to physical incompatibilities, including the JLUS program, can be described as an institutional policy analysis or the "study of government reform and its consequences" (Gormley, 1987, p. 154). Despite its functional purpose to improve government practice, a common criticism of institutional policy analysis from past literature is the disproportionate prioritization of procedural (e.g. leadership, participation, pluralism, fairness) over substantive criteria (Gormley, 1987).

According to Gormley, institutional policy analyses which "are ignorant or misinformed concerning the substantive impacts of institutional reforms" may result in "choices [in]consistent with our convictions [...] [and] forfeit the opportunity to design institutions that promote other important goals" (1987, p. 157). Fortunately, this study's assigned evaluation criteria reflect Gormley's recommendation that *both* procedural (*a* and *b*) and substantive (*c* and *d*) criteria be integrated into the evaluation (see Figure 22) (1987). By ensuring both types of criteria were integrated into the research questions, this study ultimately pursues a methodology which applies what planning scholarship describes as the *performance* and *conformance-based* approaches to planning evaluation. Collectively, both approaches are interested in assessing whether a planning endeavor was successful (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). However, whereas the *performance-based* evaluation judges success based on a

plan's usefulness as a decision-making tool, the *conformance-based* approach judges success by comparing the plan's goals to material development (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). To assess the performance and conformance of the JLUS program, phase one of the study applies a structured, stakeholder survey. The remaining subsections detail this method's study population and samples, instrument development, data analysis, and limitations.

Figure 22

Research Design's Procedural and Substantive Criteria



Study Population and Sample

Phase one's unit of analysis is the survey respondents' assessments of the JLUS program's ability to progress the evaluation criteria. A comprehensive justification for this unit of analysis was detailed in the chapter's introduction. The target population for phase one is local civilian and military stakeholders from defense communities with implemented JLUSs. For clarity, *stakeholders* is defined here as individuals "who have decision authority over the program, including other policy makers, funders, and advisory boards; [and] people who have direct responsibility for the program, including program developers, administrators in the organization implementing the program, program managers, and direct service staff" (as cited in Patton, 2008, p. 61). The study engages stakeholders because they are *directly* involved in, affected by, and knowledgeable of the program's implementation locally. Consequently, the target population's scope does not extend beyond the *local* level. Examples of targeted stakeholders include: local and regional planners; city and county staff; pertinent military personnel; former/current policy

committee members; local leadership; former/current technical advisory committee members; etc. Since the target population consists of an unknown quantity of experienced individuals, a sampling frame was critical for capturing a sample that can produce inferences that are both valid and reliable.

Between the program's inception in 1985 and 2017, the JLUS program produced 135 studies throughout the United States (Eitler, 2017; REPI Interactive Map, 2018). Recognition of where and how many studies were completed during this period was optimal for generating an initial sampling frame since it indicates where the target population is most concentrated throughout the country. However, after thorough examination of this initial sampling frame and considering the potential for recall bias, exclusions were warranted. Four (4) of the sites no longer host military installations (i.e. Williams Air Force Base (AFB); Castle AFB; Mather AFB; and McClellan AFB) so they are not ideal for surveying the target population. Since JLUSs from these sites all occurred prior to 1990 and no other cases are available during the initial five-year lifespan of the program (i.e. 1985 to 1990), the *first* deduction from the sampling frame condensed the timeframe to between 1990 to 2017. Excluding these sites is not considered detrimental to the study since they represent an era with the lowest implementation, they are the most outdated, and it reduces a major potential for recall bias. Two (2) additional cases were excluded from the sampling frame because the scopes of these studies were statewide rather than regional (i.e. Arizona Compatible Use and California Compatible Use). Since these studies were designed to be broad and not aimed at or developed by defense communities of a specific region, their inclusion was not warranted. Excluding these JLUSs is not considered detrimental to the study since it avoids arbitrary sampling of installations within a state that may or may not be implementing recommendations from a state's JLUS. Finally, another two (2) cases are excluded from the sampling frame because they are outdated versions of more recent JLUS publications (i.e. Yuma Marine Corps Air Station and Fort Riley). With a unit of analysis aimed at the collective assessment of the most recent program implementation, there is no need to potentially confuse participants by attempting to have them make the distinctions between each JLUS version. Exclusion of these two cases is not considered detrimental to the study since the updated studies are included, it avoids potential double counting, and it reduces potential concerns of recall bias between JLUS publications. By excluding these studies, the remaining 127 sites reflect the core locations of this study's target population. To further minimize potential recall bias across the

board (for an otherwise heavily transient target population), the sampling frame was condensed to within the last five years (i.e. 2013 to 2017). The selected time frame was not only intended to ensure ample time for implementation lag but increase the likelihood that the survey participants were residing in the defense community prior to the JLUS. In sum, this study’s sampling frame centers on the 55 sites that completed a JLUS between 2013 and 2017 minus the abovementioned exclusions. A list of these site is provided in Table 6.

Table 6

Sampling Frame – Implementation of JLUSs between 2013 and 2017 by Installation

Military Installations		
Maxwell AFB	Dyess AFB	Camp Crowder
Redstone Arsenal	JBSA-Randolph	Fort Leonard Wood
Camp Roberts MTC	Fort Lee	Camp Ashland Training Site
El Centro NAF	NSF Dahlgren	Greenlief Training Site
Kings Bay NSB	Quantico MCB	Fallon NAS
Crane NSA	Kitsap NB	Earle NWS
Fort Riley	Fort McCorty	Holloman AFB
Indian Head NSF	NB Ventura County	Cherry Point MCAS
Keesler AFB	Travis AFB	Dare County Range
Meridian NAS	Beaufort MCAS & Parris Island MCRD	Fort Indiantown Gap
Camp Clark MTA	USAF Academy, Peterson AFB, & Fort Carson	Mechanicsburg NSA
Fort William Harrison	Stones Ranch Military Reservation	Camp Swift
Offutt AFB	Dobbins ARB	Fort Hood
Seymour Johnson AFB	Boone NGC	Sheppard AFB
Minot AFB	Auburn Training Site	Fort A.P. Hill
Klamath Falls ANGB	Aberdeen Proving Ground	Wallops Island SCSC
Shaw AFB & Poinsett ECR	Patuxent River NAS	Lewis McChord JB
Ellsworth AFB	Columbus AFB	
Corpus Christi NAS	Gulfport NCBC	

Since the sample extracted from this sampling frame is indicative of purposeful, criterion sampling, it is critical to distinguish how this non-probability approach will produce findings that are sufficiently detailed yet reasonably generalizable. As emphasized throughout this section, the unknown national quantity, expertise, and transient nature of the target population render it exceptionally challenging and resource intensive to produce a large probability sample that is tractable, reliable, and directly responds to the research questions. To combat these limitations, the study relies heavily on what is believed to be the strongest sampling frame currently available. Not only does the sampling frame offer the abovementioned benefits but it: 1) covers the largest group of JLUS application in any continuous five-year period; 2) encompasses over 40 percent of all

JLUSs to date; and 3) reasonably matches the stakeholder group distributions of the target population (see Table 7). Due to the complexity of the target population and mixed method nature of the stakeholder survey, conventional calculations for a targeted sample size were not practical. Despite these limitations, the survey's data collection strategy, further discussed in a subsequent subsection, intentionally strived to attain the largest and most representative sample feasible. The study also followed the guidance of statistical literature in that it would not accept a sample with less than 30 participants or a sample that is almost exclusively homogeneous (e.g. stakeholder characteristics) (Bailey, 1994). Anticipating that some sites will choose not to participate or exhibit low participation, the sampling approach was considered ideal as the sampling frame covered an ample number of sites to engage prospective participants while ensuring all sites are provided an equal opportunity to participate.

Table 7

Comparison of Target Population and Sampling Frame Distributions

Stakeholder Characteristic	Stakeholder Group	Target Population Distribution	Sampling Frame Distribution ^a
Military Status	Military	~.50	.23
	Civilian	~.50	.77
Military Service Department	Air Force	.37	.26
	Army	.30	.35
	Marine Corps	.06	.05
	Navy	.20	.29
	Joint Base	.07	.05
Geography	West	.24	.14
	Midwest	.27	.35
	Northeast	.28	.27
	South	.22	.24

^a Estimate derived from the 55 JLUSs between 2013 and 2017.

Instrument Development

Evaluation Criteria

With an understanding of phase one's research design, target population, and sample, this study can now highlight the indicators or variables from which we can measure any change in the evaluation criteria. Detailing the evaluation criteria prior to the instrument's design and data collection strategy is critical since it is fundamental to the instrument's overall development. As noted in chapter one, the primary and supplementary research questions are interested in evaluating the effectiveness of the Joint Land Use Study (JLUS) program as a policy response to physical incompatibilities. To do so, the study is rooted in four constructs which make up the evaluation criteria including: (a) *democratic participation*; (b) *intergovernmental cooperation*; (c) *military readiness*; and (d) *civilian development*. As noted in chapter one, selection of the evaluation criteria stemmed from multiple motivations. First and most critically, these constructs encompass the core objectives of the JLUS program (Cotter et al., 2005; Eitler, 2017; O'Brien, 2006). Second, the evaluation criteria parallel the key paradigm shifts observed in this study's theoretical framework (see chapter two). Finally, since the research problem is an amalgamation of planning, intergovernmental, and security policy issues, the evaluation criteria reflect these characteristics to enhance overall generalizability and validity. Collectively, this subsection defines each evaluation criteria, discusses the selected variables for measuring the evaluation criteria, and describes how the evaluation criteria is linked to program performance, conformance, and this study's theoretical framework.

The first evaluation criterion, **democratic participation**, is defined in this study as the extent to which military personnel *and* the public are actively aware of, engaged in, and support planning efforts to mitigate physical incompatibilities. In chapter two, democratic participation was linked to the *planning model* spectrum of this study's theoretical framework. By assessing the JLUS program's perceived effect on democratic participation in defense communities, this study can gauge the extent to which the program effectively promotes participatory planning in defense communities or if it has been impeded by the rationalistic planning model of the past. Democratic participation is also considered an indicator of successful program *performance* as it is directly linked to a plan's usefulness as a decision-making tool (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). While it is not in the scope of this study to pinpoint

the specific sources driving performance or underperformance for this evaluation criterion, this study's findings will provide a basis for future hypotheses related to factors of planning success or failure based upon the measured variables (Talen, 1997). To measure change in democratic participation, this study required variables which were reasonably observable and easily interpretable by participating stakeholders. These variables include *awareness, engagement, and support*. Simply put, measuring perceived change in awareness seeks to gauge the extent to which military personnel and the public are conscious of physical incompatibilities and its consequences. Complementing how informed these individuals are, their ability and willingness to engage in the planning process is fundamental for mitigating physical incompatibilities in defense communities. Thus, measuring the perceived change in engagement by military personnel and the public is vital for gauging change in overall democratic participation. Finally, comparable to most planning efforts, mitigation efforts combating physical incompatibilities will get nowhere fast without support from both military personnel and the public. As a result, measuring the perceived change in support seeks to gauge the extent to which these efforts are backed by those residing in the community.

The next evaluation criterion, **intergovernmental cooperation**, is defined in this study as the relations, communication, and consensus among defense communities and the local military installation to mitigate physical incompatibilities. In chapter two, intergovernmental cooperation was linked to the *governance* spectrum of this study's theoretical framework. By assessing the JLUS program's perceived effect on intergovernmental cooperation in defense communities, this study can gauge the extent to which the program effectively promotes collaborative governance over managerialism. Intergovernmental cooperation is also considered an indicator of successful program *performance* as it is directly linked to a plan's usefulness as a decision-making tool in a regional context (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). While it is not in the scope of this study to pinpoint the specific sources driving performance or underperformance for this evaluation criterion, this study's findings will provide a basis for future hypotheses related to factors of planning success or failure based upon the measured variables (Talen, 1997). To measure change in intergovernmental cooperation, this study required variables which were reasonably observable and easily interpretable by participating stakeholders. These variables include *relations, communication, and consensus*. Simply put, measuring perceived change in relations seeks to gauge the extent to which military and civilian

leadership are willing to work together to mitigate physical incompatibilities. Complementing the leaders' willingness to work together is their efforts or actions to actively communicate with each other when existing or potential cases of physical incompatibilities are presented. Thus, measuring the perceived change in communication between military and civilian leadership is vital for gauging change in intergovernmental cooperation overall. Finally, comparable democratic participation, mitigation efforts combating physical incompatibilities will get nowhere fast if leaders from all institutions do not hold some degree of consensus on how to move forward with planning policy actions. As a result, measuring the perceived change in consensus seeks to gauge the extent to which the JLUS was able to generate procedural consensus among all pertinent institutions.

The third evaluation criterion, **military readiness** is defined in this study as the extent to which military installation missions are sustained, operational complaints by civilians are minimal, and local defense communities actively provide additional support infrastructure and services (e.g. education, training, health, housing, etc.) for the installation's personnel. In chapter two, military readiness was linked to the *land use policy goal* spectrum of this study's theoretical framework. By assessing the JLUS program's perceived effect on military readiness, this study can gauge the extent to which the program prioritizes security. Military readiness is considered an indicator of successful program *conformance* as it is directly linked to a plan's goals related to the implications of material development (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). While it is not in the scope of this study to pinpoint the specific sources driving conformance or lack of conformance for this evaluation criterion, this study's findings will provide a basis for future hypotheses related to factors of planning success or failure based upon the measured variables (Talen, 1997). To measure change in military readiness, this study required variables which were reasonably observable and easily interpretable by participating stakeholders. These variables include *mission sustainment*, *operational complaints*, and *support infrastructure*. Simply put, measuring perceived change in mission sustainment seeks to gauge the extent to which military operations are impeded by physical incompatibilities. Complementing mission sustainment, substantial complaints by civilians regarding military operations can be a contributing factor for Base Realignment and Closure (BRAC) consideration. Thus, measuring the perceived change in operational complaints by civilians is another helpful source for gauging change in overall military readiness. Finally, while generally designed to be self-sufficient, military

installations, their personnel, and ultimately their operations benefit from the support infrastructure put in place by their surrounding defense communities. As a result, measuring the perceived change in support infrastructure seeks to gauge the extent to which civilian infrastructure continues to support local military readiness.

The final evaluation criterion, **civilian development**, is defined in this study as the expansion of civilian built capital near local military installations which influence the region's quality of life and may raise potential concerns of physical incompatibilities. In chapter two, civilian development was linked to the *land use policy goal* spectrum of this study's theoretical framework. By assessing the JLUS program's perceived effect on civilian development, this study can gauge the extent to which the program prioritizes liberty. Civilian development is also considered an indicator of successful program *conformance* as it is directly linked to a plan's goals related to the implications of material development (Altes, 2006; Laurian et al., 2004b; Oliveira & Pinho, 2010; Talen, 1997; Waldner, 2004). While it is not in the scope of this study to pinpoint the specific sources driving conformance or lack of conformance for this evaluation criterion, this study's findings will provide a basis for future hypotheses related to factors of planning success or failure based upon the measured variables (Talen, 1997). To measure change in civilian development, this study required variables which were reasonably observable and easily interpretable by participating stakeholders. These variables include *quality of life*, *compatible civilian development*, and *compatible civilian activities*. Simply put, measuring perceived change in quality of life seeks to gauge the extent to which civilian health, comfort, and happiness in connection with the local installation has changed since the JLUS was adopted. In addition, the perceived change in compatible civilian development and activity near military facilities are by far the most critical variables to measure as they directly correlate with the program's core objective. The subsequent section will provide an overview of how the entire evaluation criteria is integrated into phases one's instrument, the stakeholder survey.

Instrument Design

By thoroughly describing the evaluation criteria, this study can now transition to the functional design of the stakeholder survey. The decision to design the instrument for stakeholders has already been addressed elsewhere. As a result, the initial design element that warrants justification is the decision to pose structured questions. Since this study is specifically interested in the program's effect on the evaluation criteria rather than the broader impacts of JLUSs, open

ended questions were not necessary for this study. In addition, pursuing a *stakeholder survey* with *structured questions* was advantageous since it:

- Allows for rapid response by participants thus increasing methodological efficiency;
- All participants are asked the same questions;
- Enhances tractability of instrument's data analysis;
- Minimizes the cognitive load on participants; and
- Fosters feedback directly tied to the evaluation criteria of this study.

A copy of the list of questions posed in the stakeholder survey is presented in Appendix A. The core questions from the survey range from questions seven (7) to thirty (30). As demonstrated by Table 8, these are considered the *core* questions from the survey since they are linked to the study's evaluation criteria. Each evaluation criterion comprises of six questions with two questions for each variable. The purpose for asking two questions per variable is to gauge not only the *effect* and *relevancy* of the JLUS program but ultimately to test the instrument's reliability (see data analysis section). Questions assigned to measure the effect require participants to assess retrospectively any change or lack of change in the respective variable. Alternatively, questions assigned to measure relevancy require participants to apply their experiences to determine whether they believe the JLUS program's *intended* affects can be effective at other installations.

Table 8*Core Survey Questions Assigned by Evaluation Criterion*

Evaluation Criterion	Survey Question	Variables	Survey Scheme
Democratic Participation	Q7	▪ Awareness	Effect
	Q9	▪ Engagement	
	Q11	▪ Public Support	
	Q8	▪ Awareness	Relevancy
	Q10	▪ Engagement	
	Q12	▪ Public Support	
Intergovernmental Cooperation	Q13	▪ Relations	Effect
	Q15	▪ Communication	
	Q17	▪ Consensus	
	Q14	▪ Relations	Relevancy
	Q16	▪ Communication	
	Q18	▪ Consensus	
Military Readiness	Q19	▪ Mission Sustainment	Effect
	Q21	▪ Operational Complaints	
	Q23	▪ Support Infrastructure	
	Q20	▪ Mission Sustainment	Relevancy
	Q22	▪ Operational Complaints	
	Q24	▪ Support Infrastructure	
Civilian Development	Q25	▪ Quality of Life	Effect
	Q27	▪ Compatible Development	
	Q29	▪ Compatible Activity	
	Q26	▪ Quality of Life	Relevancy
	Q28	▪ Compatible Development	
	Q30	▪ Compatible Activity	

Note. See Appendix A for survey question choices available to participants.

This element of the design is comparable to Manley who posed survey questions aimed at both the effect and relevancy of an education policy change (2013). While Manley's survey questions on effect and relevancy were presented in a direct manner (i.e. what were the broader effects and was the policy a relevant contributor to the effect?), such questions do not align perfectly with the framework and target population of this study (2013). For example, this study is interested in the perceived changes to the evaluation criteria by a target population which is inherently transient. Consequently, questions related to the effect and relevancy of JLUSs need to be presented in a manner which are both focused and flexible for participants (i.e. assess change

from completion of a JLUS or their initial arrival to the community). Despite focusing on perceived changes since JLUS implementation, this study remains conscious of potential concerns related to confounding variables and recall bias. To alleviate this concern, survey questions aimed at relevancy are also posed. Ideally, comparable to Manley, questions aimed at relevancy would remain retrospective and ask participants if they believe the policy/program had a relevant impact in the change observed (2013). However, the transient nature of the target population renders it exceptionally challenging to ask relevancy questions in this manner. As a result, this study structured half of the questions so that participants had to apply their experiences in judging whether they believe the JLUS program can be effective elsewhere for each variable. Not only will higher/lower degrees of relevancy be an indication of the long-term practicality of the program, but the findings will provide some evidence as to whether the JLUS program was a relevant factor in producing its intended change.

For each of the core survey questions, respondents have the option of selecting a positive, negative, or neutral response. Expectations that participants will select the “don’t know or prefer not to answer” response is low since most of the participants were heavily invested in the creation and adoption of a JLUS and they can only benefit from improved implementation practices. In the unanticipated event the study finds that stakeholders are profoundly unaware or unwilling to render an assessment, it may be indicative of other extraneous issues that are inherently contradictory and obstruct the original objective of the JLUS. Regardless of the outcome, it is the intent of the study to incite and inform future study on regional planning in defense communities which today remains scarce. Despite the neutral option, the study ultimately seeks to generate data that reveals a clear positive or negative consensus among participants. Therefore, the final design element that warrants justification is the decision to produce dichotomous responses. There are multiple motivations for posing dichotomous questions. First, and perhaps most significant, the format is simple, straightforward, and can be answered quickly by participants who are known to have demanding schedules (Newell et al., 2004). For a survey with over 30 questions and a target population known for being reserved when it comes to sharing information, simplifying the questions will only increase the response rate (Newell et al., 2004). Second, although analytically constricted compared to other designs (e.g. Likert, ranking, etc.), the output from these questions will sufficiently produce data that can be statistically tested to address the study’s research questions. The next motivation stems from the absence, in this case, of a functional difference

between a “no change” and negative response. Since both options are indicative of a JLUS *unsuccessfully progressing* the evaluation criteria, separation of the two responses was considered unnecessary. Finally, a dichotomous format was optimal for setting up phase two’s pilot study of the policy Delphi. Further discussed in the subsequent section, survey questions in a policy Delphi “are designed to elicit conflict and disagreement;” as a result, “response categories do not typically permit neutral answers” (Rayens & Hahn, 2000, p. 309; Turoff & Linstone, 2002). Incorporating dichotomous choices ensures participants are required to choose one side or the other. In addition to the core survey questions, the stakeholder survey also included questions described here as *supplementary* (see Table 9). The supplementary survey questions are linked to the stakeholder characteristics (i.e. supplementary research question) of this study. Where available, the table also includes the population proportion for each stakeholder group from the sampling frame which is used to gauge representation within the final data. The final question of the survey, question 31, simply asked civilian planners who are willing to conduct a supplementary research interview to leave their email for future contact. This is a major element of phase three’s data collection strategy.

Table 9*Supplementary Survey Questions Assigned by Stakeholder Characteristic*

Stakeholder Characteristic	Survey Question	Attribute of Interest	Sampling Frame Distribution ^a
Military Status	Q1	▪ Military ▪ Civilian	.23 .77
Length of Residency	Q2	▪ Less than 1 year ▪ Between 1 and 3 years ▪ Between 4 and 10 years ▪ Greater than 10 years	N/A
Military Service Department	Q3	▪ Air Force ▪ Army ▪ Marine Corps ▪ Navy ▪ Joint Base	.26 .35 .05 .29 .05
Geography	Q4	▪ West ▪ Midwest ▪ Northeast ▪ South	.14 .35 .27 .24
Institutional Involvement	Q5	▪ Heavily Involved ▪ Somewhat Involved ▪ Rarely Involved ▪ Not Involved	N/A
Program Familiarity	Q6	▪ Extremely Familiar ▪ Moderately Familiar ▪ Slightly Familiar ▪ Not at all Familiar	N/A

^a Estimate derived from the 55 JLUSs between 2013 and 2017.

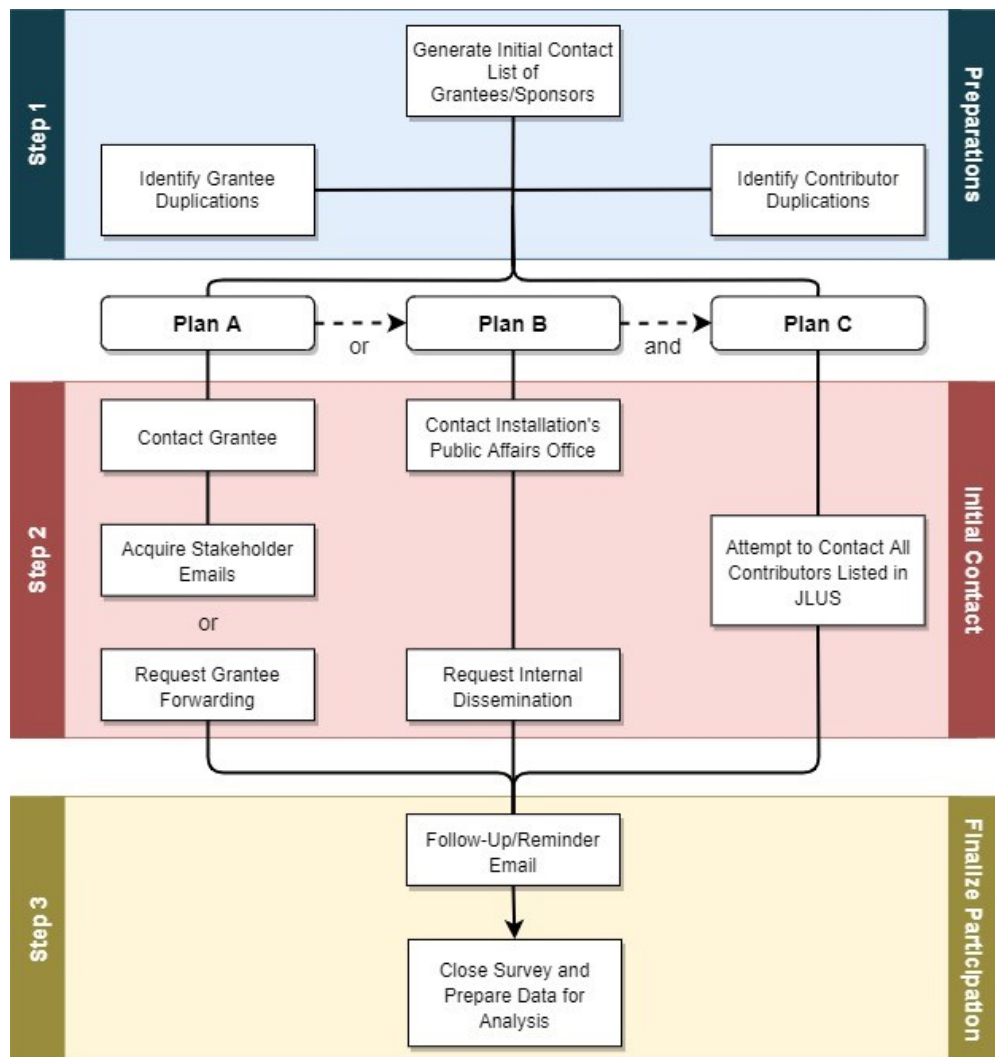
Data Collection Strategy

To obtain the desired data for the stakeholder survey, a strategy outlining the steps for data collection was necessary. Such steps are presented graphically in Figure 23. Step one of the strategy covers *preparations*. This included generating an initial contact list of grantees, sponsors, and contributors from each JLUS site in the sampling frame then identifying and accounting for, where applicable, any duplicates. Contacting the grantee or sponsor of JLUSs was the ideal initial approach since their institutions lead the process, they are regularly engaged in its implementation, and they are intimately familiar with the local stakeholders. Cases where grantees or sponsors managed multiple JLUSs, such as regional planning institutions or state departments, needed to be

identified in the preparations step to mitigate the chances for double counting. Transitioning to step two, *initial contact*, this step was aimed at providing a flexible strategy for online survey dissemination. Under the initial alternative for step two (i.e. Plan A), the grantee/sponsor was successfully contacted, willing to participate, and able to either provide a list of stakeholder emails or willing to forward the survey to the stakeholders (both civilian and military). For instances where Plan A's requirements were unsuccessful, depending upon the circumstances, Plan B and Plan C were implemented.

Figure 23

Phase One's Data Collection Strategy



Collectively, Plan B and C followed a targeted approach. Plan B requested assistance with internal survey dissemination from an installation's public affairs office. Concurrently, Plan C involved reviewing the list of contributors from each JLUS, finding their contact information, and requesting their participation. While Plan A is visibly the more efficient strategy, Plans B and C were necessary for ensuring a representative sample. Plans A and B were ideal since they facilitated an updated sample of the region's stakeholders while Plan C relied on a potentially older list of stakeholders. Despite this foreseeable limitation, Plan C remained a practical approach due to this study's recent sampling frame (i.e. 2013 to 2017). Another anticipated limitation was the unwillingness by military stakeholders to participate. Therefore, the data collection strategy was

designed to have multiple mechanisms to engage military stakeholders as much as possible. In the event low military participation proved true, their potential justifications and assessments are still considered valuable since they can inform future planning research on defense communities and their assessments are highly applicable to this study's collective findings (i.e. primary research question). Overall, the contact phase of the collection strategy was designed to keep the study as tractable as possible without significantly compromising representation. The last step of the data collection strategy, *finalize participation*, applied to all plans. Initially, this included a follow-up/reminder email with the survey's end date and an acknowledgement of appreciation for their participation and assistance. The data collection strategy ended with the closure of the survey and the preparation of raw data for quantitative review. Further details concerning the analytical strategy for this study's empirical instrument is discussed in the subsequent section.

Data Analysis

To test the primary and supplementary research questions of this study, a plan outlining the analytical strategy was necessitated. The primary research question is interested in determining whether the sampled proportion of positive assessments is greater than 50 percent and statistically significant with 95% confidence for each evaluation criterion. The supplementary research question expands upon this to determine whether stakeholder characteristics might influence participant assessments. Prior to delving into the inferential statistics that are applied for testing this hypothesis, it is imperative to first present the data descriptively. Descriptive statistics were essential for gaining an initial sense of the sample's composition, level of consensus among the sampled stakeholders, and level of variability among stakeholder groups. Transitioning from descriptive to inferential statistics, the analytical strategy then aims to test the research questions' hypotheses. Since the data initially originates from individual survey questions, hypothesis testing for each were performed. Fortunately, the instrument's design allowed for identical statistical testing of the core survey questions. Following the guidance of statistical literature, the *primary* research question necessitates the application of the *significance test for a proportion* approach (Agresti & Finlay, 2009; Ott & Longnecker, 2004). Applying the primary research question's hypotheses, the statistical test applied consists of the following:

$$\mathbf{H_0: } p_a \leq 0.5 \text{ and/or } p_b \leq 0.5 \text{ and/or } p_c \leq 0.5 \text{ and/or } p_d \leq 0.5$$

$$\mathbf{H_A: } p_a > 0.5 \text{ and/or } p_b > 0.5 \text{ and/or } p_c > 0.5 \text{ and/or } p_d > 0.5$$

$$\text{Test Statistic: } z = \frac{\hat{p} - p_0}{\sigma_{\hat{p}}}$$

Rule of Evidence: For $\alpha = 0.05$, reject H_0 if $z > 1.645$.

The most critical finding however is the participants' assessment of each evaluation criterion overall. By examining the frequency at which the null hypothesis is rejected or failed to be rejected per survey question, this study was able to develop collective conclusions and compare findings related to the instrument's design. Given that each evaluation criterion is comprised of six survey questions, a strategy was also needed to maintain reliability and validity when rendering inferences about each evaluation criterion. To achieve this, the study performs factor analyses then tests internal consistency of the core survey questions for each evaluation criterion using Kuder-Richardson Formula 20 (KR-20) (Kuder & Richardson, 1937; Ritter, 2010):

$$\text{KR-20: } \frac{K}{K-1} \left[1 - \frac{\sum p_k q_k}{\sigma_{total}^2} \right]$$

where K is the number of questions, p_k is the proportion of stakeholders with positive assessments on the k th question, q_k is the proportion of stakeholders with negative assessments on the k th question, and σ^2_{total} is the variance of proportions on the total measurement. This method reveals the extent to which the evaluation criterion's variables correlate with one another. In the event a pattern of inconsistency was evident, additional consistency testing was performed. For example, the survey's scheme of measuring effect and relevancy for each variable may contribute to some inconsistencies found. If a variable is visibly inconsistent with others and the survey scheme does not appear to be playing a role, this may indicate that the variable is not measuring the intended evaluation criterion and should be excluded from the criterion's overall conclusion. Performing factor analyses and testing internal consistency, ultimately, is intended to confirm the broader conclusions for each evaluation criterion.

Following testing of the primary research question, the analytical strategy aims to test the hypothesis of the supplementary research question. Since the data for this also originates from individual survey questions, hypothesis testing for each were performed. Fortunately, the instrument's design allowed for identical statistical testing for each survey question related to a specific evaluation criterion and stakeholder characteristic. Following the leading guidance from statistical literature, comparing two groups for *military status* necessitated the application of the *statistical test for the difference between two population proportions* (Agresti & Finlay, 2009; Ott & Longnecker, 2004). The statistical test applied for military status consists of the following:

H_{0i}: $p_{i\{1\}a} = p_{i\{2\}a}$ and/or $p_{i\{1\}b} = p_{i\{2\}b}$ and/or $p_{i\{1\}c} = p_{i\{2\}c}$ and/or $p_{i\{1\}d} = p_{i\{2\}d}$

H_{ai}: $p_{i\{1\}a} \neq p_{i\{2\}a}$ and/or $p_{i\{1\}b} \neq p_{i\{2\}b}$ and/or $p_{i\{1\}c} \neq p_{i\{2\}c}$ and/or $p_{i\{1\}d} \neq p_{i\{2\}d}$

$$\text{Test Statistic: } z = \frac{\hat{p}_{i1} - \hat{p}_{i2}}{\sqrt{\frac{\hat{p}_{i1}(1-\hat{p}_{i1})}{n_{i1}} + \frac{\hat{p}_{i2}(1-\hat{p}_{i2})}{n_{i2}}}}$$

Rule of Evidence: For $\alpha = 0.05$, reject H_0 if $z \leq -1.96$ or $z \geq 1.96$.

In the event the data was *not* normally distributed (i.e. the number of positive and negative assessments were less than five), Fisher's exact test was applied (Agresti & Finlay, 2009; Bailey, 2008):

$$\text{Fisher's Exact Test: } \frac{(a+b)! (c+d)! (a+c)! (b+d)!}{N! a! b! c! d!}$$

Once hypothesis testing was performed for each survey question, the study applied the same method of examining the frequency at which the null hypothesis is rejected or failed to be rejected for each survey question. To maintain reliability and validity when rendering inferences about military status, the factor analyses and internal consistency results are applied to confirm the broader conclusions for each evaluation criterion.

For the remaining stakeholder characteristics, the study continues to follow the leading guidance from statistical literature which necessitates the application of the *chi-squared test of homogeneity* (Agresti & Finlay, 2009; Ott & Longnecker, 2004). Applying the hypotheses, the statistical test applied consists of the following:

H_{0#}: $p_{\# \{1\}a} = p_{\# \{...\}a} = p_{\# \{k\}a}$ and/or $p_{\# \{1\}b} = p_{\# \{...\}b} = p_{\# \{k\}b}$ and/or $p_{\# \{1\}c} = p_{\# \{...\}c} = p_{\# \{k\}c}$ and/or $p_{\# \{1\}d} = p_{\# \{...\}d} = p_{\# \{k\}d}$

H_{a#}: $p_{\# \{1\}a} \neq p_{\# \{...\}a} \neq p_{\# \{k\}a}$ and/or $p_{\# \{1\}b} \neq p_{\# \{...\}b} \neq p_{\# \{k\}b}$ and/or $p_{\# \{1\}c} \neq p_{\# \{...\}c} \neq p_{\# \{k\}c}$ and/or $p_{\# \{1\}d} \neq p_{\# \{...\}d} \neq p_{\# \{k\}d}$

$$\text{Test Statistic: } \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Rule of Evidence: If $X^2 > X^2_{.05}$, reject H_0

In the event the data was *not* normally distributed (i.e. more than 20 percent of the estimated expected counts were greater than five), Fisher's exact test was applied (Agresti & Finlay, 2009; Bailey, 2008). The same conclusion strategy was repeated until the final findings were confirmed. Findings from the supplementary research question will not only help indicate which stakeholder characteristics may be sources of variability. They may also offer some preliminary evidence as to which stakeholder groups are dissimilar in their assessments. Collectively, phase one's analytical

strategy is deliberately designed to present both descriptive and inferential findings which appropriately address the primary and supplementary research questions and foster the pursuit of future research.

Validity, Reliability, and Limitations

Evident in any research method are the uncertainties of validity and reliability due to empirical limitations. To design a methodology which proactively minimizes potential concerns of validity and reliability, limitations identified in preceding literature were reviewed. Examples of recorded limitations found in preceding studies pertinent to this study include the following (Frankfort-Nachmias & Nachmias, 2008; Gormley, 1987):

- Questions require simplicity (Questionnaires);
- No opportunities to probe for additional information (Questionnaires);
- Limited control over who responds (Questionnaires);
- Lower response rates (Questionnaires);
- Applying a single method (Institutional Policy Analysis);
- Examining a single reform in a single setting (Institutional Policy Analysis); and
- Focusing attention on a single political institution (Institutional Policy Analysis).

Collectively, the study is confident that phase one's methodology demonstrates a clear strategy for mitigating or eliminating each of these limitations. Despite addressing the limitations found within the discourse, this study concedes that other limitations were inevitable or unforeseeable. For example, this study is conscious that cross-sectional research can be inherently constrained. As implementation of Joint Land Use Studies (JLUSs) continues, experiences and perceptions may change beyond the publication of this dissertation. Nevertheless, since the JLUS program has been in effect nationally for over 30 years, it is anticipated that any such concerns would be negated by its firm establishment. Further reflection on these and any other limitations discovered once the study is completed are documented in chapter five for the benefit of future research and transparency.

Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)

Expanding upon phase one, phase two constructed, disseminated, and analyzed the results of two structured, stakeholder surveys (i.e. treatment and control) to test the validity of the policy Delphi as a methodological instrument in planning policy research. Originally conceptualized by

the Rand Corporation in the 1950s, traditional Delphi methods rely on an “iterative survey of experts with the intention of developing a better understanding, usually through the formation of consensus, of problems, approaches, or future trends” (Baker & Moon, 2010, p. 228; Buck et al., 1993; Manley, 2013; Plinske & Packard, 2010; Rayens & Hahn, 2000; Turoff & Linstone, 2002). Delphi methods are recognized as advantageous for scholars who want participants to express their opinions impersonally, the process to be straightforward yet flexible, and the method to be suitable for various complex topics (Fink et al., 1984; Rayens & Hahn, 2000). The instrument developed for phase two follows many characteristics of a traditional Delphi but it is more accurately described as a variant of the *policy Delphi*. Conventionally, application of a policy Delphi is intended to “discern differences in perspective among and within groups responsible for formulating policy” (Buck et al., 1993, p. 271; Baker & Moon, 2010; Manley, 2013; Turoff & Linstone, 2002; Rayens & Hahn, 2000). Initially conceptualized in the 1970s by Murray Turoff, application of a policy Delphi is less concerned with establishing a consensus among a panel of homogenous, unbiased experts (i.e. traditional Delphi) but generating “the strongest possible opposing views on the potential resolutions of a major policy issue” by all affected parties (Turoff & Linstone, 2002, p. 80; Baker & Moon, 2010; Buck et al., 1993; Manley, 2013; Rayens & Hahn, 2000). While consensus remains a *conceivable* outcome of a policy Delphi, it is the responsibility of the study *not to promote consensus* among participants by allowing them an opportunity to criticize the perceptions of others (Buck et al., 1993; Manley, 2013; Rayens & Hahn, 2000). Overall, the decision to test the policy Delphi is attributable to the guidance of preceding literature. Both the discourse and this study are skeptical of the position that unbiased technical expertise applies to policy issues (Buck et al., 1993; Turoff & Linstone, 2002). Not only are policy issues inherently surrounded by conflicting special interests (i.e. stakeholders with diverse perspectives, goals, and priorities) but scholars interested in *implementation* must be cognizant of the established investments made by participants. Any method which seeks to *produce* consensus (e.g. stakeholder survey, conventional Delphi, etc.) will suffer from an inability to assess whether the consensus was artificially inflated by some form of participation bias. Thus, by incorporating a policy Delphi into this study, we can not only compare the findings and identify other potential limitations of phase one but see how this method performs in an evaluation and planning policy context.

Again, this pilot study is aimed at evaluating the Joint Land Use Study (JLUS) program not generating policy alternatives from the participants. Therefore, application of a policy Delphi

in this context functions to investigate the performance and conformance of past policy actions. Although scarcely used in this manner, preceding literature supports the methodological potential and soundness of applying a policy Delphi for measuring the implementation of past policy actions (Buck et al., 1993; Manley, 2013; Turoff & Linstone, 2002). For example, Buck et al. emphasized how recognizing and understanding the divergences of policy stakeholders helps scholars, policy analysts, etc. “gain a firmer grasp” as to why programs are unsuccessful which may ultimately lead to strategies for mitigating major issues (1993, p. 271). To date, the most compatible uses of policy Delphi to this study include the following: Buck et al.’s application of a “policy Delphi to discern differences in perspective among and within groups responsible for formulating and implementing vocational rehabilitation policy” and Manley’s attempt to “identify the impact of a change in federal policy regarding state-level career and technical education (CTE) funding in the United States” (1993, p. 273; 2013, p. 755). Included in any study employing a policy Delphi are the three principles of *anonymity*, *controlled feedback*, and *statistical response* (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013). The **principle of anonymity** ensures outside influences are minimized and the Delphi fosters candid responses by not revealing to participants who provided specific responses (i.e. broad descriptions of other participants only) (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013). The **principle of controlled feedback** requires the results from earlier rounds (i.e. round 1) to inform the creation subsequent rounds (i.e. round 2) to ensure only directly relevant and accurate information is provided to and asked of the participants (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013). Finally, the **principle of statistical response** requires the results from earlier rounds (i.e. round 1) to be presented quantitatively to the participants of subsequent rounds (i.e. round 2) (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013). Each principle is included in the research design of phase two’s policy Delphi and are addressed, where appropriate, in subsequent sections.

Study Population and Sample

For this phase of the study, the unit of analysis remains the survey respondents’ assessments towards the JLUS program’s ability to progress the evaluation criteria. Furthermore, phase two’s target population continues to be local civilian and military stakeholders from defense communities with implemented JLUSs. *Stakeholders* is again defined here as individuals “who have decision authority over the program, including other policy makers, funders, and advisory boards; [and] people who have direct responsibility for the program, including program

developers, administrators in the organization implementing the program, program managers, and direct service staff” (as cited in Patton, 2008, p. 61). Phase two applied the same unit of analysis and target population as the stakeholder survey since it essentially functions as a second round of surveying. To perform a pilot study that was inexpensive, tractable, and capable of sufficiently simulating what may be expected from a full-scale study (i.e. one that applies a traditional, multi-round policy Delphi), phase two extracted samples from similarly situated JLUS sites. Targeting specific sites was intended to increase confidence in the results whereby any extensive variability would be more attributable to the two chosen instruments (i.e. stakeholder survey vs. policy Delphi survey) rather than from the sample itself.

When selecting sites for the sampling frame (see Table 10), consideration was given to the timeframe of JLUS adoption, geographic representation, and stakeholder continuity. Comparable to phase one, timeframe of JLUS adoption was critical to minimize recall bias. Geographic representation was even more significant for this pilot study considering its influence on stakeholder assessments of the JLUS program (see Chapter 4’s findings from the stakeholder survey). Lastly, due to the increased length of time since adoption, stakeholder continuity was considered to ensure that each site could reasonably contribute to the extracted sample. Cluster randomization was utilized to randomly assign each site to either the control (i.e. stakeholder survey) or treatment (i.e. policy Delphi) instrument. Cluster randomization was ideal to ensure the two groups were relatively balanced based upon the aforementioned criteria. While sample sizes greater than 30 for *each* instrument were the ideal outcome, this study recognized that pilot studies are designed to produce preliminary data. Therefore, such aims were considered aspirational rather than required for phase two. With that said, the study did not conclude data collection until the *total* sample successfully reached or surpassed 30 participants (i.e. for both the control and treatment groups combined) and the extracted samples were reasonably homogeneous in size. To obtain the sample, the data collection strategy follows phase one’s Plan C (see Figure 23) which attempts to contact all contributors listed within the JLUS. Evident by this sampling strategy is the diversion away from traditional Delphi strategies which by their nature are iterative (i.e. data extracted from each round is obtained from the *same* groups each time). To avoid stakeholder fatigue and interested in specifically testing the potential consequences of providing results to other fellow stakeholders who have yet to engage, a direct iterative approach was not necessary.

Table 10*Policy Delphi Survey Sampling Frame*

	Military Installation	State	Year of JLUS Adoption	Military Service Department
Control	Langley AFB	Virginia	2010	Air Force
	Malmstrom AFB	Montana	2012	Air Force
	NAS Lemoore	California	2011	Navy
	Lackland AFB	Texas	2011	Air Force
	Barksdale AFB	Louisiana	2009	Air Force
	Camp Atterbury & MUTC	Indiana	2009	Army
	Fort Jackson	South Carolina	2009	Army
	Fort Benning	Georgia	2008	Army
	Scott AFB	Illinois	2008	Air Force
Treatment	Laughlin AFB	Texas	2008	Air Force
	Tinker AFB	Oklahoma	2008	Air Force
	Fairchild AFB	Washington	2009	Air Force
	Camp Bullis	Texas	2009	Army
	JB McGuire-Dix-Lakehurst	New Jersey	2009	Joint
	Kirtland AFB	New Mexico	2010	Air Force
	Volk Field-Hardwood Range	Wisconsin	2011	Air Force
	Camp Williams	Utah	2012	Army
	NAS JRB New Orleans	Louisiana	2011	Navy & Joint

Instrument Design

Since phase two applies the same evaluation criteria as phase one, this study can now transition to the functional design of the policy Delphi. The initial element which warrants justification is the decision to produce what is essentially a second-round format. Traditionally, early rounds of a policy Delphi are designed to pose unstructured questions to provide participants the opportunity to identify any policy options and consequences they deem pertinent (Baker & Moon, 2010; Manley, 2013; Plinske & Packard, 2010; Rayens & Hahn, 2000; Turoff & Linstone, 2002). Since this study is specifically interested in the program's effect on the evaluation criteria rather than the broader implications of JLUSs, such rounds were not necessary. Furthermore, the stakeholder survey from phase one provides the necessary data for conducting a second round; therefore, addition rounds were not needed for purposes of testing the instrument. Overall, applying the policy Delphi in the form of a *quasi-second-round* was advantageous since it:

- Adheres to the *principle of controlled feedback*;
- Adheres to the *principle of statistical response*;
- Enhances tractability of instrument's implementation;

- Minimizes the potential for participant fatigue;
- Provides participants the required opportunity to criticize the perceptions of others; and
- Fosters feedback directly tied to the study's evaluation criteria.

The control (i.e. phase one's stakeholder survey) and treatment (i.e. policy Delphi) surveys are presented respectively in Appendix A and B. The core survey questions in the treatment survey range from questions five (5) to 28. The core questions warrant the most attention since they are the only ones which fundamentally differ between instruments. While the control survey *directly* asks participants to assess the JLUS program's impact on the evaluation criteria, the treatment survey seeks to achieve this through an *indirect* strategy (i.e. the participants assess their colleagues' views from "round one"). If the stability between "rounds" for both instruments is determined to be largely stable (see data analysis subsection), this study will remain confident that most of the assessed variability likely derives from differences in stakeholder characteristics rather than a limitation of the policy Delphi. Under any other outcome, the study will consider the instrument's design as a *possible* contributor to variability (a potential limitation which can inform future research). Contrasting the core questions, the *supplementary* survey questions function the same for both instruments. The questions concerning military service department and geography from the original stakeholder survey are removed in the policy Delphi survey since they would serve no purpose under this sampling design.

Data Analysis

To test the validity of the policy Delphi as a method for evaluating past policy actions in planning, an analytical strategy was necessitated. Descriptive statistics served as this pilot study's fundamental tool used to gauge variance between the control and treatment surveys. Comparing each survey's sampled proportions (i.e. phase one's stakeholder survey, the control survey, and the treatment survey) is the first approach to present direct comparisons. While this initial analysis is informative, it was expanded upon by applying measurements of *convergence* and *stability*. **Convergence** is defined as the "degree of agreement, or consensus, achieved by the panel in its response to a given question" (Buck et al., 1993, p. 275; Nelson, 1978; Turoff & Linstone, 2002). In comparison, **stability** is defined as a measure of consistency or similarity from the panel's responses to each question across rounds (Buck et al., 1993; Nelson, 1978; Plinske & Packard, 2010; Turoff & Linstone, 2002). Traditionally, these measures are used to determine when a Delphi process can be terminated (i.e. once a Delphi achieves consensus in a stable manner) (Buck

et al., 1993; Nelson, 1978; Plinske & Packard, 2010). However, these descriptive measures were repurposed to gauge how the tested instruments (i.e. control and treatment surveys) affect validity.

This study recognized samples from the treatment and control surveys would be limited in scope compared to phase one's stakeholder survey. Thus, simply combining the raw data from each instrument (i.e. small samples) to phase one's results (i.e. large sample) was deemed insufficient to adequately measure convergence and stability. In order to account for this, the pilot study utilized each survey's most critical component, the sampled proportions, to simulate comparable sample sizes. This consisted of averaging the sampled proportions (i.e. the stakeholder survey's proportion with the treatment's and control's respectively). The concept behind this essentially considers the two instruments as pseudo second rounds which are ultimately combined with round one (i.e. phase one's stakeholder survey). By measuring how the instruments respectively impact convergence and stability, we can measure any effect the instruments had and how they compare. This is also why engaging similarly situated defense communities was considered the ideal approach.

Despite the literature's acknowledgment that thresholds for convergence "vary from study to study" (Plinske & Packard, 2010, p. 295; Rayens & Hahn, 2000), most scholars apply a convergence threshold between 67 and 70 percent for binary data (Alexandrov et al., 1996; Hock Ong et al., 2013; Rayens & Hahn, 2000). Following the leading guidance from the discourse, this study applies the following thresholds for convergence:

$$\textbf{Convergence: } \hat{p} \geq 0.67$$

To measure convergence, the average between the majority proportion from the stakeholder survey and the respective instrument were calculated. Doing so helps gauge whether the degree of consensus for each instrument differ based upon the thresholds previously described. Assessing whether the instruments comparatively exhibit greater consensus or dissent is also examined to provide some additional evidence regarding the instrument's impact.

To gauge how *significant* the effect was and whether the instruments provided valid findings, measuring stability was critical. Comparable to convergence, thresholds for stability vary with the most common quantities ranging from 15 to 20 percent (Nelson, 1978; Plinske & Packard, 2010; Turoff & Linstone, 2002). Following the leading guidance from the discourse, this study applies the following thresholds for stability:

$$\textbf{Stable: } |\hat{p}_1 - \hat{p}_2| \leq 0.15$$

$$\textbf{Unstable: } |\hat{p}_1 - \hat{p}_2| > 0.15$$

As the above formula reveals, stability is measured by the absolute value of the difference between each round's sampled proportion of positive or negative assessments. Employing the minimum threshold of 15 percent ensured the pilot study remain as critical as possible in its assessment of the policy Delphi as a method for evaluating past policy actions in planning. To measure the statistical significance of any instability found, the *statistical test for the difference between two population proportions* was also applied (Agresti & Finlay, 2009; Ott & Longnecker, 2004). Before any final conclusions regarding validity can be posed, data on how *both* surveys affected the outputs, how extensive any changes were, and whether these changes were analogous or not is required. By comparing the results from the treatment and control groups, this pilot study gauges the extent to which the provision of information to stakeholders significantly influences their assessments of the program. This analytical strategy was intended to produce a preliminary yet informative test of the policy Delphi as a valid planning evaluation instrument.

Validity, Reliability, and Limitations

Evident in any research method are the uncertainties of validity and reliability due to empirical limitations. To design a methodology which proactively minimizes potential concerns of validity and reliability, limitations identified in preceding literature were reviewed. Examples of recorded limitations found in preceding studies pertinent to this study include the following (Fink et al., 1984; Turoff & Linstone, 2002; Nelson, 1978):

- Vested interest in the results (Traditional Delphi);
- Small sample size with limited number of rounds (Traditional Delphi);
- Crude questionnaire design related to who participates (Traditional Delphi); and
- Misinterpreting the instrument as a decision-making tool (Policy Delphi).

Collectively, the study is confident that phase two's methodology demonstrated a clear strategy for mitigating or eliminating, to the extent possible for a pilot study, each of these limitations. As before, this study concedes that other limitations were inevitable or unforeseeable.

Phase Three – Interviews on JLUS Application Generalizability

Contrasting phase one and two, the research design of phase three functions as a means for gauging the practicality of joint studies in other regional planning contexts. Interviews with civilian planners experienced with Joint Land Use Studies (JLUSs) were conducted to address the *secondary* research question of this study. As alluded in the previous chapter, this endeavor will expand the literature's understanding of the JLUS program's potential for external policy diffusion. To date, Young's (2008) study remains the only publication to specifically acknowledge that military-community relations exhibits many similarities to other intergovernmental or inter-organizational relations. Discovering this significant gap within the discourse reveals a visible need for empirical investigation to further inform contemporary regional planning. For example, many of the characteristics and practices of JLUSs may be relevant to other regional planning contexts such as national park-community, university-community, tribal-community, multi-community, etc.

By conversing with experienced civilian planners, the secondary research question aims to determine what circumstances they believe are most conducive for joint studies. Findings from the secondary research question benefit academia by: 1) filling a visible gap in knowledge; 2) reintroducing defense communities as a significant setting of regional planning; and 3) offering the necessary contextual information for generating other compelling research questions related to the application of joint studies such as "how do other joint studies compare." Since the motivation behind the secondary research question is to gauge the appropriateness of joint studies to other contexts, the contributions are aimed more towards civilian actors than military. Although qualitative in nature, the findings from this question may encourage civilian actors to reflect on their own practices, adopt policies from successfully implemented joint studies, and even implement joint studies to mitigate other regional issues. Contrasting the supplementary question, the secondary question may have more policy implications for state policy than federal as states have a direct vested interest in ensuring their regional assets are not detrimental to one another. Collectively, this section details the study population and sample, instrument development (i.e. interviews), data analysis, and potential limitations for phase three.

Study Population and Sample

Since the *secondary* research question is qualitative in nature, phase three is designed to conduct interviews. The unit of analysis for the interviews is the unique opinions of civilian

planners aimed at the application generalizability of joint studies comparable to JLUSs. Feedback from civilian planners was the ideal unit of analysis since their expertise/profession directly correlates with the functional practice of JLUSs. As alluded by the unit of analysis, the target population for phase three is civilian planners with experience conducting and/or implementing JLUSs. Following the guidance of literature on preforming interviews, the minimum targeted sample size was set at 12; however, reaching a saturation point was also desired (Francis et al., 2010; Guest et al., 2006; Hennink et al., 2017). The minimum targeted sample size not only adheres to the recommendations of qualitative literature but ensures the tractability of the study is maintained. To acquire a sample which meets or exceeds the minimum target, a two-step data collection strategy was designed. The first step of the strategy is to contact any civilian planners who indicated a willingness to participate in an interview during phase one's stakeholder survey. In the event step one did not produce enough willing participants, the second step of the strategy was to disseminate interview requests to other defense communities not contacted originally in phase one or two and any planning consulting firms with experience producing JLUSs. This process would continue until, at minimum, the targeted sample size was reached. Finally, an additional goal for the interviews was to apply cluster prioritization on the sample to enhance analytic generalizability. More specifically, this study sought to conduct, at minimum, one interview per geographic region. Establishing this technical goal is intended to provide some degree of geographic diversity for a target population known to be geographically skewed.

Instrument Design and Data Analysis

To explore the secondary research question, this study performed structured interviews. Conducting interviews was the ideal instrument for the secondary research question due to its methodological benefits. Such benefits include: 1) fostering more thorough information that other methods are often unable to attain; 2) the researcher retains more control over who participates and how; 3) response rates are typically higher; 4) the researcher, if desired, can create a more flexible questioning processes; 5) allowing the researcher to dive deeper into the participant's motivations for earlier responses; 6) promoting the collection of diverse opinions and experiences; and 7) empowering and respecting the study's participants (Dunn, 2010; Frankfort-Nachmias & Nachmias, 2008; Minichiello, 1995; Musoke, 2017). Transition to the interview's functional design elements, the first element which warrants justification is the decision to pose structured questions. Traditionally, the framework for conducting interviews features one of three types:

structured, unstructured, or semi-structured (Dunn, 2010; Frankfort-Nachmias & Nachmias, 2008; Musoke, 2017). Since this study aims to ensure “any variations among responses can be attributed to the actual difference among the respondents and not to variations in the interview,” the structured approach was pursued (Frankfort-Nachmias & Nachmias, 2008, p. 213). Structured interviews can accomplish this because all participants are asked the same series of carefully constructed questions (Dunn, 2010; Frankfort-Nachmias & Nachmias, 2008; Musoke, 2017). The list of questions posed during the interviews is outlined in Appendix C.

The interview questions are divided into one of three categories including general questions, JLUS program, and JLUSs as an intergovernmental planning tool. Comparable to the surveys, the general questions are intended to gauge the experience and typical role of the planner with JLUSs. In addition, the general questions are asked first to ease the interview into the more complex questions. The next set of questions is aimed specifically at obtaining more thorough responses related to the JLUS program. The JLUS program questions will not only provide findings relevant to primary and supplementary research questions but offer insight into how other joint programs, studies, etc. can be improved both in terms of process and long-term implementation. The final set of questions, JLUSs as an intergovernmental tool, is directly tied to the secondary research question. As a result, the interview questions are intended to understand how characteristics of the JLUS program might extend beyond its current application to other forms of regional and intergovernmental planning if at all. Participant responses for all interview questions will remain anonymous and interviews are anticipated to take approximately 30 minutes to complete. Interviews were scheduled via email with a copy of the interview questions attached for the participants’ reference prior to performing the interview. Once scheduled, interviews were conducted over the phone and individual responses were transcribed and are made available in Appendix F. After reaching either a saturation point or the minimum target sample size by the time interviews were scheduled to be completed, the data was prepared for analysis. To organize the findings of the interviews, inductive coding was applied (Frankfort-Nachmias & Nachmias, 2008). Under this coding scheme, “the responses mentioned most frequently are included in the coding scheme used to analyze the data” (Frankfort-Nachmias & Nachmias 2008). Once codified, the study assessed any consistencies or inconsistencies among the participants’ responses via descriptive statistics. Conclusions from these efforts are then used to address the secondary research question.

Validity and Limitations

As before, any research method is exposed to the uncertainties of validity and reliability due to empirical limitations. To design a methodology which proactively minimizes potential concerns of validity and reliability, limitations identified in preceding literature were reviewed. Examples of possible limitations found in preceding studies pertinent to this study include the following (Frankfort-Nachmias & Nachmias 2008; McCullagh, 2000):

- Interviewer bias (interviews);
- Recall bias through inaccuracy (interviews);
- Recall bias through omission (interviews);
- Lack of anonymity during interview (interviews);
- Limited generalizability (interviews).
- Applying an incorrect code due to misinterpretations (coding); and
- The coder exercises more judgment (coding).

Collectively, the study is confident that phase three's methodology demonstrates a clear strategy for mitigating each of these limitations to the greatest extent possible. Despite addressing the limitations found within the discourse, this study concedes that other limitations were inevitable or unforeseeable. Further reflection on these and any other limitations discovered once the study is completed are documented in Chapter 5 for the benefit of future research and transparency.

Chapter 4 - Findings

This chapter presents the findings from the three methodological phases (i.e. a stakeholder survey on Joint Land Use Study (JLUS) implementation; a pilot study on the policy Delphi as an empirical instrument; and interviews on JLUS application generalizability) discussed in Chapter 3. The stakeholder survey findings are subdivided into six subsections: sample composition, sample participation, factor analysis, internal consistency, primary research, and supplementary research. Data from the stakeholder survey derives from local stakeholders involved in the production and/or implementation of 55 JLUSs completed between 2013 and 2017 throughout the United States (U.S). Raw data from the stakeholder survey is provided in Appendix D. Subsequently, findings from the pilot study on the policy Delphi are subdivided into two subsections: sample composition and comparing instruments. Data from the policy Delphi originates from local stakeholders involved in the production and/or implementation of 18 JLUSs completed between 2008 and 2012 throughout the U.S. JLUS sites were assigned to the control or treatment survey via cluster randomization. Raw data from the pilot study is provided in Appendix E. Finally, the interview findings are subdivided into two subsections: sample participation and composition and secondary research. The data consists of interviews with 12 civilian planners experienced with JLUS development and/or implementation. Raw data from the interviews are provided in Appendix F.

Phase One – Stakeholder Survey on JLUS Implementation

Sample Composition

Open from October 9, 2019 to December 16, 2019, the stakeholder survey was made available to prospective participants for 45 workdays (i.e. weekends and holidays excluded). Of the 55 emails sent to each JLUS site's grantee requesting participation and help with dissemination (see data collection strategy Plan A), 76 percent or 42 sites agreed in some form. The remaining 24 percent (i.e. 13 sites) of grantees chose not to formally respond via email and thus may or may not have participated. In total, 305 emails were sent to prospective stakeholders across all 55 sites requesting participation (excludes follow-up emails). This resulted in a final sample size of 156 participants ($N = 156$). Collectively, this puts the approximate response rate of the stakeholder survey around 51 percent. Since the target population is of unknown quantity, this study targeted

a sample size of 30 which was successfully met fivefold. Table 11 breaks down the survey sample's composition by stakeholder characteristics and compares its distributions with the target population and sampling frame.

Table 11

Sample Composition Comparison – Stakeholder Survey

Stakeholder Characteristic	Stakeholder Group	Target Population Distribution	Sampling Frame Distribution ^a	Sampled Distribution
Military Status	Military	~.50	.23	.06
	Civilian	~.50	.77	.94
Length of Residency	Less than 1 year	N/A	N/A	--
	Between 1 and 3 years	N/A	N/A	.07
	Between 4 and 10 years	N/A	N/A	.22
	Greater than 10 years	N/A	N/A	.71
Military Service Department	Air Force	.37	.26	.17
	Army	.30	.35	.36
	Marine Corps	.06	.05	.06
	Navy	.20	.29	.23
	Joint Base	.07	.05	.18
Geography	West	.24	.14	.11
	Midwest	.27	.35	.44
	Northeast	.28	.27	.24
	South	.22	.24	.21
Institutional Involvement	Heavily Involved	N/A	N/A	.38
	Somewhat Involved	N/A	N/A	.46
	Rarely Involved	N/A	N/A	.11
	Not Involved	N/A	N/A	.05
Program Familiarity	Extremely Familiar	N/A	N/A	.48
	Moderately Familiar	N/A	N/A	.38
	Slightly Familiar	N/A	N/A	.13
	Not at all Familiar	N/A	N/A	<.01

^a Estimate derived from the 55 JLUSs between 2013 and 2017.

Civilian stakeholders encompass nearly 94 percent of the sample's composition. Stakeholders from defense communities with an army installation is the largest cohort of participants at 36 percent nearly matching the sampling frame. Stakeholders from defense communities with marine corps installations are the smallest cohort of participants at six (6) percent nearly matching both the target population and sampling frame. Sampled representation from Air Force stakeholders is below both the target population and sampling frame distributions while the joint base stakeholder group is greater. Based on email correspondence, this study can confirm that JLUS *sites* from *all* military service departments, geographic regions, and year of adoption are represented in the survey to *some* degree. Joint base sites have the lowest confirmable representation at 66 percent while marine corps sites have the highest at 100 percent (see Table 12). Geographically, the Midwest stakeholder group represents the largest cohort of participants at 44 percent with the West being the lowest at 11 percent. West JLUS sites also have the lowest confirmable representation at 63 percent while Northeast sites have the highest at 80 percent. Participants in 38 percent of cases described their institution of employment as "heavily involved" in the implementation of JLUSs with 84 percent describing their institution as "heavily" or "somewhat involved." Similarly, 48 percent of participants described their familiarity with the JLUS program as "extremely familiar" with 86 percent describing their familiarity as "extremely" or "moderately familiar." Only five (5) percent of participants described their institution's involvement in JLUS implementation as "not involved" and less than one (<1) percent were "not at all familiar" with the JLUS program. None of the participants have lived in their respective defense community less than one year with most (i.e. 71 percent) being a resident for over 10 years. Finally, when examining representation of JLUS sites by year of adoption, 2015 was the lowest at 65 percent while all sites from 2013 are represented. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 12*Confirmed Representation by JLUS Characteristics*

JLUS Characteristic	Group	Sampling Frame Total	Confirmed Survey Representation (Minimum)
Military Service Department	Air Force	14	.71
	Army	19	.79
	Marine Corps	3	1.00
	Navy	16	.75
	Joint Base	3	.66
Geography	West	8	.63
	Midwest	19	.79
	Northeast	15	.80
	South	13	.77
Year	2013	5	1.00
	2014	12	.67
	2015	17	.65
	2016	9	.78
	2017	12	.92

Sample Participation

Comparable to most surveys, recognizing the potential for participant fatigue and cases where participants simply did not know how or preferred not to respond is critical for rendering reliable and valid conclusions. Accordingly, Tables 13 and 14 summarize the skip and neutral response rates for each *core* survey question. Approximately 96 percent of participants completed every core survey question in the survey. As evident by the tables, participant skip rates steadily increase for questions positioned later in the survey but never exceed three (3) percent. Participant skip rates are generally consistent regardless of evaluation criteria, survey scheme (i.e. effect vs. relevancy), or the collective measures of performance and conformance. In comparison, the neutral response is selected by 16 percent of stakeholders on average. Neutral response rates for substantive (i.e. conformance) criteria are nearly double that of procedural criteria (i.e. performance) in most cases. When ordered from least to most, the evaluation criteria arrange as follows for average neutral response rates: intergovernmental cooperation at nine (9) percent, democratic participation at 11 percent, civilian development at 19 percent, and military readiness at 25 percent. Questions concerning the *effect* of a variable have a *higher* neutral response rate on average at 19 percent compared to the *relevancy* questions at 13 percent. The survey question with the *lowest* neutral response rate at four (4) percent is question eight (8) concerning improving

public awareness at other military installations. Finally, the question with the *highest* neutral response rate at 46 percent is question 21 concerning the reduction of complaints about military operations.

Table 13

Stakeholder Survey Skip and Neutral Response Rates by Performance Measures

	Skip Rate	Neutral Response Rate
Performance		
Avg.	<.01	.10
Effect Avg.	<.01	.11
Relevancy Avg.	<.01	.09
Democratic Participation		
Q7	.00	.10
Q8	.00	.04
Q9	.00	.11
Q10	<.01	.08
Q11	.00	.15
Q12	.00	.15
Avg.	<.01	.11
Effect Avg.	.00	.12
Relevancy Avg.	<.01	.09
Intergovernmental Cooperation		
Q13	.02	.07
Q14	.01	.06
Q15	.01	.06
Q16	.01	.10
Q17	.01	.15
Q18	.01	.10
Avg.	.01	.09
Effect Avg.	.01	.09
Relevancy Avg.	.01	.09

Note. Skip and neutral response rates are from the core survey questions. Sample ($N = 156$).

Table 14*Stakeholder Survey Skip and Neutral Response Rates by Conformance Measures*

	Skip Rate	Neutral Response Rate
Conformance		
Avg.	.03	.22
Effect Avg.	.03	.27
Relevancy Avg.	.03	.17
Military Readiness		
Q19	.03	.21
Q20	.03	.20
Q21	.03	.46
Q22	.03	.17
Q23	.03	.26
Q24	.03	.22
Avg.	.03	.25
Effect Avg.	.03	.31
Relevancy Avg.	.03	.20
Civilian Development		
Q25	.03	.13
Q26	.03	.21
Q27	.03	.26
Q28	.03	.11
Q29	.03	.30
Q30	.03	.13
Avg.	.03	.19
Effect Avg.	.03	.23
Relevancy Avg.	.03	.15

Note. Skip and neutral response rates are from the core survey questions. Sample ($N = 156$).

For the supplementary survey questions (i.e. Q1 through Q6), 97 percent of participants answered all questions posed. Aggregating the data obtained from the supplementary survey questions allows for the identification of skip and neutral response rates by stakeholder characteristics (see Table 15). Civilian stakeholders have a marginally higher skip rate on the core survey questions while military stakeholders have a slightly higher neutral response rate. All military stakeholders completed the core survey questions in their entirety. Length of residency has visibly no significant influence on the skip or neutral selection rate. Stakeholders from the Air

Force had the highest average neutral response rate while navy stakeholders had the highest average skip rate. Marine Corps stakeholders had the lowest average neutral and skip rates. Stakeholders from the west region have the highest skip and neutral response rate while stakeholders from the south have the lowest for both. Finally, in nearly all cases, the less involved a participant's institution is in JLUS implementation and the less familiar a participant is about the JLUS program, the higher their skip and neutral response rate. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 15

Stakeholder Survey Skip Rate and Neutral Response Rates by Characteristics

Stakeholder Characteristic	Skip Rate	Neutral Response Rate
Q1. Military Status	.00	--
Q2. Length of Residency	.00	--
Q3. Military Service Department	.03	--
Q4. Geography	<.01	--
Q5. Institutional Involvement	.00	--
Q6. Program/Study Familiarity	.00	--
Military Status		
Civilian Avg.	.02	.16
Military Avg.	.00	.19
Length of Residency		
Less than 1 year Avg.	--	--
Between 1 and 3 years Avg.	.00	.17
Between 4 and 10 years Avg.	.02	.17
Greater than 10 years Avg.	.02	.16
Military Service Department		
Air Force Avg.	.03	.21
Army Avg.	.01	.15
Marine Corps Avg.	.00	.09
Navy Avg.	.04	.12
Joint Base Avg.	<.01	.19

Table 15 Continued*Stakeholder Survey Skip Rate and Neutral Response Rates by Characteristics*

Stakeholder Characteristic	Skip Rate	Neutral Response Rate
Geography		
West	.09	.23
Midwest	.01	.19
Northeast	.01	.14
South	<.01	.08
Institutional Involvement		
Heavily Involved	.01	.11
Somewhat Involved	.01	.17
Rarely Involved	.05	.20
Not Involved	.09	.28
Program/Study Familiarity		
Extremely Familiar	.01	.14
Moderately Familiar	<.01	.16
Slightly Familiar	.06	.22
Not at all Familiar	.50	.25

Note. Skip and neutral response rates for the stakeholder characteristics are from the core survey questions. Sample ($N = 156$).

Factor Analysis

To further enhance the reliability and validity of this study's conclusions regarding the stakeholder survey, factor analyses were conducted to identify and resolve any multicollinearities and singularities within the data. In addition, factor analyses assess whether the variables examined reasonably load to their assigned survey scheme, evaluation criteria, and measures (i.e. performance or conformance). This study recognizes that factor analyses generally benefit from higher samples sizes than the sample extracted for the stakeholder survey ($N = 156$); however, the sample generally meets the minimum threshold held by statistical scholarship (Mundfrom et al., 2005). As depicted by Table 16, many of the survey questions are positively correlated and statistically significant. There are also several instances where survey questions exhibit severe multicollinearity ($>.80$) or statistical singularity (1.00) with one another. Performing a factor analysis required many of these questions to be excluded to maintain stability and mitigate any redundancy that may weaken the analysis. Table 17 outlines the survey questions which were

excluded from the factor analyses. Survey question 10 was removed because it has more severe multicollinearities than question 16 which was also removed because of its singularity with survey question 18. Survey question 12 was removed due to its singularity with questions 10 and 14. Survey question 20 had too many singularities and severe multicollinearities and thus was removed. Finally, the results for survey questions 27 and 29 have severe multicollinearity but do not severely match other questions, thus either was removed for the purposes of the factor analysis. When performing the *initial* factor analysis (see Table 18), it was possible that the variables may load to a variety of factors such as the evaluation criteria, survey scheme (i.e. effect vs. relevancy questions), the evaluation measures, or sporadically. The initial factor analysis ultimately reveals that responses to the core survey questions, at least initially, load consistently by survey scheme.

Table 16

Correlation Matrix from Stakeholder Survey

	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q7	--																							
Q8	.07	--																						
Q9	.50**	.14	--																					
Q10	.16	.70**	.31**	--																				
Q11	.44**	.20*	.37**	.25**	--																			
Q12	.18	.70**	.32**	1.00^b**	.27**	--																		
Q13	.38**	.13	.47**	.29**	.40**	.30**	--																	
Q14	.13	.50**	.25**	.89^a**	.19*	1.00^b**	.32**	--																
Q15	.40**	.12	.42**	.28**	.28**	.29**	.59**	.30**	--															
Q16	.26**	.50**	.35**	.89^a**	.28**	.89^a**	.33**	.89^a**	.32**	--														
Q17	.25**	.23**	.46**	.29**	.45**	.30**	.53**	.32**	.52**	.31**	--													
Q18	.27**	.50**	.36*	.77**	.28**	.77**	.34**	.66**	.23**	1.00^b**	.24**	--												
Q19	.17	.25**	.19	.31**	.39**	.31**	.36**	.23*	.33**	.25**	.26**	.16	--											
Q20	.26**	.81^a**	.18	.81^a**	.13	.81**	.16	.81^a**	.26**	.81^a**	.16	.66**	.30**	--										
Q21	.07	.20	.20	.21	.32**	.23	.33**	.23*	.25*	.12	.33**	.01	.44**	.26*	--									
Q22	.23*	.52**	.22*	.57**	.22*	.52**	.19*	.42**	.17	.45**	.16	.35**	.31**	.86^a**	.39**	--								
Q23	.17	.17	.25*	.21*	.36**	.23*	.42**	.24*	.37**	.15	.36**	.16	.48**	.22*	.35**	.21*	--							
Q24	.23*	.46**	.31**	.60**	.21*	.56**	.16	.56**	.23*	.51**	.19*	.32**	.28**	.70**	.38**	.76**	.38**	--						
Q25	.24**	.13	.17	.16	.36**	.17	.34**	.17	.43**	.16	.40**	.07	.39**	.16	.44**	.15	.43**	.28**	--					
Q26	.22*	.41**	.27**	.53**	.41**	.56**	.37**	.50**	.24*	.50**	.27**	.36**	.38**	.52**	.42**	.66**	.32**	.74**	.32**	--				
Q27	.16	.09	.07	.10	.40**	.11	.28**	.14	.22*	.09	.46**	-.02	.23*	.12	.30*	.17	.16	.21*	.48**	.36**	--			
Q28	.27**	.77**	.18*	.86^a**	.20*	.86^a**	.17	.66**	.25**	.86^a**	.24*	.57**	.35**	1.00^b**	.27*	.64**	.25*	.65**	.18	.53**	.18	--		
Q29	.24*	.12	.12	.06	.59**	.07	.40**	.12	.36**	.06	.48**	.01	.33**	.15	.45**	.25*	.19	.22*	.44**	.45**	.87^a**	.19	--	
Q30	.10	.64**	.15	.57**	.28**	.62**	.26**	.42**	.17	.52**	.31**	.45**	.25**	.62**	.21	.34**	.28**	.48**	.22*	.62**	.20*	.70**	.29**	--

^a Severe multicollinearity. ^b Singularity.

* $p\text{-value} < .05$. ** $p\text{-value} < .01$.

Table 17*Stakeholder Survey Exclusions*

Evaluation Criterion	Survey Question Exclusions
Performance	
Democratic Participation	
Effect	None
Relevancy	Q10 and Q12
Intergovernmental Cooperation	
Effect	None
Relevancy	Q16
Conformance	
Military Readiness	
Effect	None
Relevancy	Q20
Civilian Development	
Effect	Q27 or Q29
Relevancy	None
Overall	All Above

Note. See Table 16 concerning results with singularity and severe multicollinearity which warranted these exclusions from the analysis.

Table 18*Initial Results from a Factor Analysis on Stakeholder Survey*

Survey Question	Factor Loading					Prospective Factors		
	1	2	3	4	5	Evaluation Criterion	Survey Scheme	Evaluation Measure
Q8	.81					Democratic Participation	Relevancy	Performance
Q28	.79			.44		Civilian Development	Relevancy	Conformance
Q18	.76		.41			Intergovernmental Cooperation	Relevancy	Performance
Q30	.76				.33	Civilian Development	Relevancy	Conformance
Q14	.72					Intergovernmental Cooperation	Relevancy	Performance
Q23		.76				Military Readiness	Effect	Conformance
Q25		.65				Civilian Development	Effect	Conformance
Q19		.64				Military Readiness	Effect	Conformance
Q21		.58				Military Readiness	Effect	Conformance
Q15		.55	.54			Intergovernmental Cooperation	Effect	Performance
Q17		.44	.39		.42	Intergovernmental Cooperation	Effect	Performance
Q9			.80			Democratic Participation	Effect	Performance
Q7			.78			Democratic Participation	Effect	Performance
Q13		.50	.55			Intergovernmental Cooperation	Effect	Performance
Q22	.34			.81		Military Readiness	Relevancy	Conformance
Q24	.38			.79		Military Readiness	Relevancy	Conformance
Q26	.40			.63	.35	Civilian Development	Relevancy	Conformance
Q27 or Q29					.86	Civilian Development	Effect	Conformance
Q11			.38		.69	Democratic Participation	Effect	Performance

Note. Survey questions excluded from the analysis are outlined in Table 17. Factor loadings <.32 are suppressed. Cases with no response or “don’t know or prefer not to answer” were excluded pairwise. Extraction method is principal component analysis. Rotation method is varimax with Kaiser normalization. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .75. Bartlett’s test of sphericity = $p < .001$. Rotation converged in eight (8) iterations.

Interested in seeing how the variables load beyond the survey scheme, additional factor analyses were performed to separate the survey questions on effect and relevancy. Table 19 displays the loadings for the survey questions related to *effect*. As evident by the table, nearly all questions load to their assigned evaluation measure (i.e. performance or conformance). Survey question 11 concerning the JLUS program's effect on public support is the sole outlier loading more to the conformance criteria than performance. Warranting additional investigation, a final factor analysis was performed separating the effect survey questions by performance and conformance both including survey question 11 (see Tables 20 and 21 respectively). While the survey questions do not load separately, the arrangement of questions is revealing. Findings from the tables show survey question 11 loads closer to the evaluation criterion of democratic participation and civilian development over military readiness and intergovernmental cooperation. Internal consistency reliability is applied in the following section for additional confirmation. In comparison, Table 22 lists the loadings for survey questions associated with *relevancy*. Survey questions 28 and 30 are the most revealing since they load to both performance and conformance measures more than others. Another interesting finding from the first factor group is that no military readiness variables are included. Due to the data limitations of the relevancy questions (i.e. numerous had to be excluded due to multicollinearities), an additional factor analysis could not be performed. However, internal consistency reliability is applied in the following section to provide additional support for their assigned criterion.

Table 19*Results from a Factor Analysis on Stakeholder Survey by Effect Survey Scheme*

Survey Question	Factor Loading		Prospective Factors	
	1	2	Evaluation Criterion	Evaluation Measure
Q21	.76		Military Readiness	Conformance
Q25	.71		Civilian Development	Conformance
Q19	.70		Military Readiness	Conformance
Q27 or Q29	.66		Civilian Development	Conformance
Q23	.61		Military Readiness	Conformance
Q11	.52	.47	Democratic Participation	Performance
Q9		.82	Democratic Participation	Performance
Q7		.78	Democratic Participation	Performance
Q13	.42	.65	Intergovernmental Cooperation	Performance
Q15	.37	.64	Intergovernmental Cooperation	Performance
Q17	.47	.57	Intergovernmental Cooperation	Performance

Note. Survey questions excluded from the analysis are outlined in Table 17. Factor loadings <.32 are suppressed. Cases with no response or “don’t know or prefer not to answer” were excluded pairwise. Extraction method is principal component analysis. Rotation method is varimax with Kaiser normalization. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .81. Bartlett’s test of sphericity = $p < .001$. Rotation converged in three (3) iterations.

Table 20*Results from a Factor Analysis on Stakeholder Survey by Effect and Performance*

Survey Question	Factor Loading	Prospective Factors
	1	Evaluation Criterion
Q13	.78	Intergovernmental Cooperation
Q17	.74	Intergovernmental Cooperation
Q15	.74	Intergovernmental Cooperation
Q9	.74	Democratic Participation
Q7	.67	Democratic Participation
Q11	.66	Democratic Participation

Note. Survey questions excluded from the analysis are outlined in Table 17. Factor loadings <.32 are suppressed. Cases with no response or “don’t know or prefer not to answer” were excluded pairwise. Extraction method is principal component analysis. Rotation method is varimax with Kaiser normalization. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .79. Bartlett’s test of sphericity = $p < .001$. One factor was extracted.

Table 21*Results from a Factor Analysis on Stakeholder Survey by Effect and Conformance*

Survey Question	Factor Loading	Prospective Factors
	1	Evaluation Criterion
Q25	.73	Civilian Development
Q11	.72	Democratic Participation
Q27 or Q29	.72	Civilian Development
Q19	.71	Military Readiness
Q21	.71	Military Readiness
Q23	.65	Military Readiness

Note. Survey questions excluded from the analysis are outlined in Table 17. Factor loadings <.32 are suppressed. Cases with no response or “don’t know or prefer not to answer” were excluded pairwise. Extraction method is principal component analysis. Rotation method is varimax with Kaiser normalization. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .76. Bartlett’s test of sphericity = $p < .001$. One factor was extracted.

Table 22*Factor Analysis on Stakeholder Survey by Relevancy Survey Scheme*

Survey Question	Factor Loading		Prospective Factors	
	1	2	Evaluation Criterion	Evaluation Measure
Q18	.85		Intergovernmental Cooperation	Performance
Q8	.76	.33	Democratic Participation	Performance
Q28	.75	.51	Civilian Development	Conformance
Q14	.73	.33	Intergovernmental Cooperation	Performance
Q30	.67	.38	Civilian Development	Conformance
Q24		.88	Military Readiness	Conformance
Q22		.85	Military Readiness	Conformance
Q26		.82	Civilian Development	Conformance

Note. Survey questions excluded from the analysis are outlined in Table 17. Factor loadings <.32 are suppressed. Cases with no response or “don’t know or prefer not to answer” were excluded pairwise. Extraction method is principal component analysis. Rotation method is varimax with Kaiser normalization. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .72. Bartlett’s test of sphericity = $p < .001$. Rotation converged in three (3) iterations.

Internal Consistency

Recognizing that most of the survey questions load to their assigned survey scheme, evaluation criteria, etc., this study then assessed internal consistency to gauge which survey questions best measure the same construct. Ideally, each construct has a high degree of internal consistency indicating that the variables meant to assess the same construct yield similar results. Seeking to *maximize* the internal consistency reliability of this study’s final, collective conclusions, all questions originally assigned to a construct were included in the test and removed as needed either due to severe multicollinearities or in the event they lowered internal consistency. In addition, the outlier survey questions identified from the factor analyses (i.e. Q11, Q28, and Q30) were tested both in their originally assigned constructs and the other potential constructs they loaded with. Under the standard acceptable consistency threshold (i.e. .70), nearly all constructs, except for democratic participation, can be maximized to have acceptable or better consistency (see Table 23). Table 24 breaks down the survey questions which provided the best reliability to

each construct. One critical finding is the prevalence of *effect* survey questions enhancing internal consistency. Much of this however is attributable to the limitations of the relevancy questions which produced numerous multicollinearities. Another noteworthy finding is that despite efforts to eliminate any potential redundancy and unreliable data generated from the survey questions, *every* survey question is represented to some degree. Survey question 11 is perhaps the most compelling as the statistical evidence from both the factor analysis and internal consistency reliability test confirm the appropriateness of its inclusion within constructs not originally anticipated (i.e. civilian development and conformance). Conversely, the remaining outlier survey questions (i.e. Q28 and Q30) lowered consistency or introduced severe multicollinearity for the unassigned constructs identified by the factor analysis' loadings. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 23*Maximizing Internal Consistency Reliability for Stakeholder Survey*

Classification	KR-20 (Cronbach's α)	Internal Consistency
Performance ^a	.83	Good
Democratic Participation ^b	.65	Fair
Intergovernmental Cooperation ^c	.74	Acceptable
Conformance ^d	.82	Good
Military Readiness ^e	.70	Acceptable
Civilian Development ^f	.72	Acceptable
Survey Scheme		
Effect ^g	.85	Good
Relevancy ^h	.88	Good
Overall ⁱ	.88	Good

Note. Cases with no response or “don’t know or prefer not to answer” were excluded listwise.

^a Highest reliability with Q7, Q9, Q11, Q13, Q15, Q17, and Q16 or Q18. ^b Highest reliability with Q7, Q8, Q9, Q11, and Q10 or Q12. ^c Highest reliability with Q13, Q14, Q15, Q17, and Q18. ^d Highest reliability with Q11, Q19, Q21, Q23, Q25, Q26, Q28, Q29, and Q30. ^e Highest reliability with Q19, Q20, Q21, Q23, and Q24. ^f Highest reliability with Q11, Q25, Q26, Q27, Q28, and Q30. ^g Excludes only Q27. ^h Highest reliability with Q22, Q24, Q26, Q30, and Q8 or Q28. ⁱ Exclude Q10, Q12, Q14, Q16, Q20, Q22, Q24, Q27, and Q8, Q18, and/or Q28 (two of the three).

Table 24*Stakeholder Survey Question Internal Consistency Optimization*

Survey Question	Performance			Conformance			Survey Scheme	
	Democratic Participation	Intergovernmental Cooperation	Overall	Military Readiness	Civilian Development	Overall	Effect	Relevancy
Q7	✓		✓				✓	
Q8	✓							✓ or Q28
Q9	✓		✓				✓	
Q10	✓ or Q12							
Q11	✓		✓		✓	✓	✓	
Q12	✓ or Q10							
Q13		✓	✓				✓	
Q14		✓						
Q15		✓	✓				✓	
Q16			✓ or Q18					
Q17		✓	✓				✓	
Q18		✓	✓ or Q16					
Q19				✓		✓	✓	
Q20				✓				
Q21				✓		✓	✓	
Q22								✓
Q23				✓		✓	✓	
Q24				✓				✓
Q25					✓	✓	✓	
Q26					✓	✓		✓
Q27					✓			
Q28					✓	✓		
Q29						✓	✓	✓ or Q8
Q30					✓	✓		✓

Primary Research

Prologue

Currently, established government practice has neglected to identify any possible deficiencies with the Joint Land Use Study (JLUS) program (some of which may be amendable) opting instead for retaining an unchecked formula and applying it to the next defense community. To overcome this deficiency, this study applied both the *performance* and *conformance*-based approaches to plan evaluation. The *primary* research question driving this evaluation consisted of the following:

- *How do local stakeholders assess the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; and (d) civilian development?*

Results from the stakeholder survey are measured to reject or fail to reject the primary research question's null hypothesis. The tested *null* hypothesis for the primary research question was:

- Less than or equal to half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment regarding the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_0: } p_a \leq 0.5 \text{ and/or } p_b \leq 0.5 \text{ and/or } p_c \leq 0.5 \text{ and/or } p_d \leq 0.5$$

$$H_0: JLUS \text{ Proportion of Positive Assessments}_{(Evaluation \text{ Criteria})} \leq 0.5 \text{ or } 50\%$$

The *alterative* hypothesis tested for the primary research questions is:

- Greater than half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment that the JLUS program progresses a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_A: } p_a > 0.5 \text{ and/or } p_b > 0.5 \text{ and/or } p_c > 0.5 \text{ and/or } p_d > 0.5$$

$$H_I: JLUS \text{ Proportion of Positive Assessments}_{(Evaluation \text{ Criteria})} > 0.5 \text{ or } 50\%$$

For each evaluation criterion, the study hypothesized that more than half of local stakeholders will offer a positive assessment of the JLUS program.

Democratic Participation

The first evaluation criterion of the primary research question is democratic participation. The three variables assigned to democratic participation were public awareness, engagement, and support. Table 25 breaks down the findings for each assigned variable. On average, 84 percent of stakeholders provided a *positive* assessment of the JLUS program in terms of progressing democratic participation in their region. This average is the *highest* among all evaluation criteria. Survey questions with the *relevancy* scheme for this criterion (i.e. Q8, Q10, and Q12) have the *highest* positive assessments (i.e. 97 percent) and are the same regardless of the variable. These *relevancy* questions have the *highest* average positive proportion among all evaluation criteria. In comparison, positive assessments regarding *effect* for this criterion vary and average to about 72 percent. These *effect* questions also have the *highest* average positive proportion among all evaluation criteria. Excluding the relevancy questions, public awareness (i.e. Q7) has the *highest* proportion of positive assessments while public support (i.e. Q11) has the *lowest*. Public support (i.e. Q11 and Q12) also has the *largest* range when comparing effect and relevancy (i.e. 36 percent) while public awareness (i.e. Q7 and Q8) has the *least* (i.e. 16 percent). Public awareness has the *least* range between its effect and relevancy questions among all variables in the study. For the effect questions which offered two negative assessment options (i.e. declined or no change), 94 percent of negative assessments selected the “No Change” option. Lastly, the effect survey question on public support (i.e. Q11) has the greatest “Declined” selection of the three variables at four (4) percent.

Table 25*Democratic Participation Results – Descriptive Statistics*

Survey Question	<i>n</i>	<i>n_p</i>	<i>n_n^a</i>
Public Awareness			
Q7 – Effect	141	.82	.18
Q8 – Relevancy	150	.97	.03
Public Engagement			
Q9 – Effect	139	.73	.27
Q10 – Relevancy ^b	142	.97	.03
Public Support			
Q11 – Effect	132	.61	.39
Q12 – Relevancy ^b	133	.97	.03
Effect Avg.	137	.72	.28
Relevancy Avg.	142	.97	.03
Overall Avg.	140	.84	.16
Overall Median	140	.89	.11

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments; n_n = proportion of negative assessments.

^a Includes “No Change” responses. ^b Exclude *either* Q10 or Q12 from democratic participation conclusions.

Hypothesis testing reveals that the null hypothesis is rejected for *all* survey questions assigned to the democratic participation evaluation criterion (see Table 26). Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 94 percent at the .05 significance level. The relevancy questions also have a consistent margin of error of around two (2) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 52 percent for public support (i.e. Q11) and the *greatest* confidence limit to be 88 percent for public awareness (i.e. Q7) at the .05 significance level. Public awareness (i.e. Q7) has the *smallest* margin of error for the *effect* questions at about six (6) percent while the others are around eight (8) percent. Finally, democratic participation has the *smallest* average margin of error at five (5) percent among all evaluation criteria. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 26*Democratic Participation – Hypothesis Testing*

Survey Question	n_p	Result	95% CI	Approx. ME
Public Awareness				
Q7 – Effect	.82**	Reject the null hypothesis.	[.75, .88]	.06
Q8 – Relevancy	.97**	Reject the null hypothesis.	[.95, .99]	.02
Public Engagement				
Q9 – Effect	.73**	Reject the null hypothesis.	[.65, .80]	.08
Q10 – Relevancy ^a	.97**	Reject the null hypothesis.	[.95, .99]	.02
Public Support				
Q11 – Effect	.61*	Reject the null hypothesis.	[.52, .69]	.08
Q12 – Relevancy ^a	.97**	Reject the null hypothesis.	[.94, .99]	.02

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

^a Exclude *either* Q10 or Q12 from democratic participation conclusions.

* $p\text{-value} < .05$. ** $p\text{-value} < .001$.

Intergovernmental Cooperation

The second evaluation criterion of the primary research question is intergovernmental cooperation. The three variables assigned to intergovernmental cooperation were relations, communication, and consensus. Table 27 breaks down the findings for each assigned variable. On average, 83 percent of stakeholders expressed a *positive* assessment of the JLUS program in terms of progressing intergovernmental cooperation in their region. This average is the *second highest* among all evaluation criteria. Comparable to democratic participation, survey questions with the *relevancy* scheme for this criterion (i.e. Q14, Q16, and Q18) have the *highest* positive assessments regardless of the variable. These *relevancy* questions have the *second highest* average positive proportion among all evaluation criteria. In comparison, positive assessments regarding *effect* for this criterion vary a bit more and average to about 70 percent. These *effect* questions also have the *second highest* average positive proportion among all evaluation criteria. Excluding the relevancy questions, relations (i.e. Q13) has the *highest* proportion of positive assessments while consensus (i.e. Q17) has the *lowest*. Consensus (i.e. Q17 and Q18) has the *largest* range when comparing

effect and relevancy (i.e. 28 percent) while relations (i.e. Q13 and Q18) has the *least* (i.e. 25 percent). For the effect questions which offered two negative assessment options (i.e. declined/deteriorated or no change), 93 percent of negative assessments selected the “No Change” option. Finally, all *effect* questions have the *same* selection rate for the “Deteriorated/Declined” option at two (2) percent.

Table 27

Intergovernmental Cooperation Results – Descriptive Statistics

Survey Question	<i>n</i>	<i>n_p</i>	<i>n_n^a</i>
Relations			
Q13 – Effect	142	.71	.29
Q14 – Relevancy	144	.97	.03
Communication			
Q15 – Effect	145	.70	.30
Q16 – Relevancy ^b	138	.96	.04
Consensus			
Q17 – Effect	131	.68	.32
Q18 – Relevancy	138	.96	.04
Effect Avg.	139	.70	.30
Relevancy Avg.	140	.96	.04
Overall Avg.	140	.83	.17
Overall Median	140	.84	.16

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments; n_n = proportion of negative assessments.

^a Includes “No Change” responses. ^b Exclude from intergovernmental cooperation conclusions.

Hypothesis testing reveals that the null hypothesis is rejected for *all* survey questions assigned to the intergovernmental cooperation evaluation criterion (see Table 28). Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 93 percent at the .05 significance level. The relevancy questions also have a consistent margin of error of around three (3) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 60 percent for consensus (i.e. Q17) and the *greatest* confidence limit to be 79 percent for relations (i.e. Q13) at the .05 significance

level. The *effect* questions also have a consistent margin of error of around eight (8) percent. Finally, intergovernmental cooperation has the *second smallest* average margin of error at six (6) percent among all evaluation criteria. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 28

Intergovernmental Cooperation – Hypothesis Testing

Survey Question	n_p	Conclusion	95% CI	Approx. ME
Relations				
Q13 – Effect	.71*	Reject the null hypothesis.	[.64, .79]	.08
Q14 – Relevancy	.97*	Reject the null hypothesis.	[.94, .99]	.03
Communication				
Q15 – Effect	.70*	Reject the null hypothesis.	[.62, .77]	.08
Q16 – Relevancy ^a	.96*	Reject the null hypothesis.	[.93, .99]	.03
Consensus				
Q17 – Effect	.68*	Reject the null hypothesis.	[.60, .76]	.08
Q18 – Relevancy	.96*	Reject the null hypothesis.	[.93, .99]	.03

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

^a Exclude from intergovernmental cooperation conclusions.

* p -value < .001.

Military Readiness

The third evaluation criterion of the primary research question is military readiness. The three variables assigned to military readiness were mission sustainment, operational complaints, and support infrastructure. Table 29 breaks down the findings for each assigned variable. On average, 76 percent of stakeholders provided a *positive* assessment of the JLUS program in terms of progressing military readiness in their region. This average is the *second lowest* among all evaluation criteria. Survey questions with the *relevancy* scheme for this criterion (i.e. Q20, Q22, and Q24) have the *highest* positive assessments with minimal variance. Despite high positive proportions, these *relevancy* questions have the *second lowest* average among all evaluation

criteria. In comparison, positive assessments regarding *effect* for this criterion vary much more and average to about 57 percent. These *effect* questions *tie* for the *lowest* average positive proportion among all evaluation criteria. Excluding the relevancy questions, mission sustainment (i.e. Q19) has the *highest* proportion of positive assessments while operational complaints (i.e. Q21) has the *lowest*. Operational complaints (i.e. Q21 and Q22) has the *largest* range when comparing effect and relevancy (i.e. 44 percent) while mission sustainment (i.e. Q19 and Q20) has the *least* (i.e. 29 percent). For the effect questions which offered two negative assessment options (i.e. deteriorated or no change), 99 percent of negative assessments selected the “No Change” option. Lastly, the survey question on support infrastructure (i.e. Q23) has the *greatest* “Deteriorated” selection rate of the two variables that had the option at one (1) percent.

Table 29

Military Readiness Results – Descriptive Statistics

Survey Question	<i>n</i>	<i>n_p</i>	<i>n_n^a</i>
Mission Sustainment			
Q19 – Effect	119	.69	.31
Q20 – Relevancy	121	.98	.02
Operational Complaints			
Q21 – Effect	82	.50	.50
Q22 – Relevancy ^b	126	.94	.06
Support Infrastructure			
Q23 – Effect	112	.52	.48
Q24 – Relevancy	118	.92	.08
Effect Avg.	104	.57	.43
Relevancy Avg.	122	.95	.05
Overall Avg.	113	.76	.24
Overall Median	119	.81	.19

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments; n_n = proportion of negative assessments.

^a Includes “No Change” responses. ^b Exclude from military readiness conclusions.

Hypothesis testing reveals that the null hypothesis is rejected for *most* of the survey questions assigned to the military readiness evaluation criterion (see Table 30). The effect survey

questions on operational complaints (i.e. Q21) and support infrastructure (i.e. Q23) failed to reject the null hypothesis. Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 88 percent at the .05 significance level. The relevancy questions also have a relatively consistent margin of error of around four (4) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 39 percent for operational complaints (i.e. Q21) and the *greatest* confidence limit to be 77 percent for mission sustainment (i.e. Q19) at the .05 significance level. The *effect* questions' margin of error varies between eight (8) and 11 percent. Finally, military readiness ties for the *largest* average margin of error at seven (7) percent among all evaluation criteria. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 30

Military Readiness – Hypothesis Testing

Survey Question	n_p	Conclusion	95% CI	Approx. ME
Mission Sustainment				
Q19 – Effect	.69*	Reject the null hypothesis.	[.61, .77]	.08
Q20 – Relevancy	.98*	Reject the null hypothesis.	[.95, .99]	.03
Operational Complaints				
Q21 – Effect	.50	Fail to reject the null hypothesis.	[.39, .61]	.11
Q22 – Relevancy ^a	.94*	Reject the null hypothesis.	[.90, .98]	.04
Support Infrastructure				
Q23 – Effect	.52	Fail to reject the null hypothesis.	[.43, .61]	.09
Q24 – Relevancy	.92*	Reject the null hypothesis.	[.88, .97]	.05

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

^a Exclude from military readiness conclusions.

* $p\text{-value} < .001$.

Civilian Development

The final evaluation criterion of the primary research question is civilian development. The three variables assigned to civilian development were quality of life, compatible civilian development, and compatible civilian activity. Based on the findings from the factor analyses and internal consistency testing, the effect question on public support (i.e. Q11) is also added to this criterion. Table 31 breaks down the findings for each of these variables. On average, 73 percent of stakeholders provided a *positive* assessment of the JLUS program in terms of progressing civilian development in their region. This average is the *lowest* among all evaluation criteria. Survey questions with the *relevancy* scheme for this criterion (i.e. Q26, Q28, and Q30) have the *highest* positive assessments with minimal variance. Despite high positive proportions, these *relevancy* questions have the *lowest* average among all evaluation criteria. In comparison, positive assessments regarding *effect* for this criterion vary much more and average to about 57 percent. Question 25 is the only question in the stakeholder survey where negative assessments were the *majority*. These *effect* questions tie for the *lowest* average positive proportion among all evaluation criteria. Excluding the relevancy questions, compatible civilian activity (i.e. Q29) has the *highest* proportion of positive assessments while quality of life (i.e. Q25) has the *lowest*. Quality of life (i.e. Q25 and Q26) also has the *largest* range when comparing effect and relevancy (i.e. 50 percent) while compatible civilian activity (i.e. Q29 and Q30) has the *least* (i.e. 29 percent). Quality of life has the *greatest* range between its effect and relevancy questions among all variables in the study. For the effect questions which offered two negative assessment options (i.e. declined or no change), 95 percent of negative assessments selected the “No Change” option. Finally, the survey question on public support (i.e. Q11) has the *greatest* “Declined” selection rate of the two variables that had the option at four (4) percent.

Table 31*Civilian Development Results – Descriptive Statistics*

Survey Question	<i>n</i>	<i>n_p</i>	<i>n_n^a</i>
Public Support			
Q11 – Effect ^b	132	.61	.39
Quality of Life			
Q25 – Effect	131	.41	.59
Q26 – Relevancy	119	.91	.09
Compatible Civilian Development			
Q27 – Effect	111	.59	.41
Q28 – Relevancy	135	.96	.04
Compatible Civilian Activity			
Q29 – Effect ^c	105	.66	.34
Q30 – Relevancy	131	.95	.05
Effect Avg.	120	.57	.43
Relevancy Avg.	128	.94	.06
Overall Avg.	123	.73	.27
Overall Median	131	.66	.34

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments; n_n = proportion of negative assessments.

^a Includes “No Change” responses. ^b Added to civilian development conclusions due to findings from factor analysis and internal consistency. ^c Exclude from civilian development conclusions.

Hypothesis testing reveals that the null hypothesis is rejected for *most* of the survey questions assigned to the civilian development criterion (see Table 32). The effect questions on quality of life and compatible civilian development are the only questions which failed to reject the null hypothesis at a .05 significance level. Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 86 percent at the .05 significance level. The relevancy questions also have a relatively consistent margin of error of around four (4) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 33 percent for quality of life (i.e. Q25) and the *greatest* confidence limit to be 75 percent for compatible civilian activity (i.e. Q19) at the .05 significance level. The *effect* questions’ margin of errors are also fairly consistent at around nine

(9) percent. Finally, civilian development *ties* for the *largest* average margin of error at seven (7) percent among all evaluation criteria. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 32

Civilian Development – Hypothesis Testing

Survey Question	n_p	Conclusion	95% CI	Approx. ME
Public Support				
Q11 – Effect ^a	.61**	Reject the null hypothesis.	[.52, .69]	.08
Quality of Life				
Q25 – Effect	.41	Fail to reject the null hypothesis.	[.33, .50]	.09
Q26 – Relevancy	.91****	Reject the null hypothesis.	[.86, .96]	.05
Compatible Civilian Development				
Q27 – Effect	.59*	Fail to reject the null hypothesis.	[.49, .68]	.09
Q28 – Relevancy	.96****	Reject the null hypothesis.	[.93, .99]	.03
Compatible Civilian Activity				
Q29 – Effect ^b	.66***	Reject the null hypothesis.	[.57, .75]	.09
Q30 – Relevancy	.95****	Reject the null hypothesis.	[.91, .99]	.04

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

^a Added to civilian development conclusions due to findings from factor analysis and internal consistency. ^b Exclude from civilian development conclusions.

* $p\text{-value} < .10$. ** $p\text{-value} < .05$. *** $p\text{-value} < .01$. **** $p\text{-value} < .001$.

Performance vs. Conformance

Measuring *performance* is intended to gauge the success of the program via its usefulness as a decision-making tool. Table 24 outlined the list of survey questions which foster the most reliable and valid conclusions concerning the program's performance. As a result, all statistical and hypothesis testing referenced in this subsection refer to the survey questions identified in Table 24. All evaluation criteria and variables originally assigned to measure performance are represented to some degree. On average, 74 percent of stakeholders expressed a *positive*

assessment of the JLUS program's performance. This average is *greater* than the measures of conformance. The relevancy questions on communication and consensus (i.e. Q16 and Q18 respectively) have the *highest* proportion of positive assessments for performance while the effect question on public support (i.e. Q11) has the *lowest*. For the performance questions which offered two negative assessment options (i.e. declined/deteriorated or no change), 93 percent of negative assessments selected the "No Change" option. The survey question on public support (i.e. Q11) has the *greatest* "Declined/Deteriorated" selection rate out of all performance variables at four (4) percent. Hypothesis testing reveals that the null hypothesis is rejected for *all* survey questions identified to measure performance (see Table 33). Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 93 percent at the .05 significance level. The relevancy questions also have a consistent margin of error of around three (3) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 52 percent for public support (i.e. Q11) and the *greatest* confidence limit to be 88 percent for public awareness (i.e. Q7) at the .05 significance level. The *effect* questions' margin of error varies between six (6) and eight (8) percent. Finally, the measures of performance result in nearly the same average margin of error as conformance at about seven (7) percent.

Table 33*Performance – Hypothesis Testing*

Survey Question	n_p	Conclusion	95% CI	Approx. ME
Public Awareness				
Q7 – Effect	.82**	Reject the null hypothesis.	[.75, .88]	.06
Public Engagement				
Q9 – Effect	.73**	Reject the null hypothesis.	[.65, .80]	.08
Public Support				
Q11 – Effect	.61*	Reject the null hypothesis.	[.52, .69]	.08
Relations				
Q13 – Effect	.71**	Reject the null hypothesis.	[.64, .79]	.08
Communication				
Q15 – Effect	.70**	Reject the null hypothesis.	[.62, .77]	.08
Q16 – Relevancy ^a	.96**	Reject the null hypothesis.	[.93, .99]	.03
Consensus				
Q17 – Effect	.68**	Reject the null hypothesis.	[.60, .76]	.08
Q18 – Relevancy ^a	.96**	Reject the null hypothesis.	[.93, .99]	.03

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

^a Exclude *either* Q16 or Q18 from performance conclusions.

* $p\text{-value} < .05$. ** $p\text{-value} < .001$.

Alternatively, measuring *conformance* is intended to gauge the success of the program via its influence on material development. Comparable to performance, Table 24 outlined the list of survey questions which foster the most reliable and valid conclusions concerning the program's conformance. As a result, all statistical and hypothesis testing referenced in this subsection refer to the survey questions identified in the table. All evaluation criteria and variables originally assigned to measure conformance are represented to some degree. In addition, based on the findings from the factor analysis and internal consistency testing, the effect survey question on public support (i.e. Q11) is also added to this measure of success. On average, 68 percent of stakeholders expressed a *positive* assessment of the JLUS program's conformance. This average

is *less* than the measures of performance. The relevancy question on compatible civilian development (i.e. Q28) has the *highest* proportion of positive assessments for conformance while the effect question on quality of life (i.e. Q25) has the *lowest*. For the conformance questions which offered two negative assessment options (i.e. declined/deteriorated or no change), 96 percent of negative assessments selected the “No Change” option. The survey question on public support (i.e. Q11) has the *greatest* “Declined/Deteriorated” selection out of all conformance variables at four (4) percent. Hypothesis testing reveals that the null hypothesis is rejected for *most* of the survey questions identified to measure conformance (see Table 34). Survey questions 21, 23, 25, and 27 failed to reject the null hypothesis at the .05 significance level. Examination of the confidence intervals for the *relevancy* questions reveals that the lower confidence limit never falls below 86 percent at the .05 significance level. The relevancy questions’ margin of error varies between three (3) and five (5) percent. Alternatively, examination of the confidence intervals for the *effect* questions reveals the *lowest* confidence limit to be 33 percent for quality of life (i.e. Q25) and the *greatest* confidence limit to be 77 percent for mission sustainment (i.e. Q19) at the .05 significance level. The *effect* questions’ margin of error varies between eight (8) and nine (9) percent. Collectively, the measures of conformance result in nearly the same average margin of error as performance at about seven (7) percent. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 34*Conformance – Hypothesis Testing*

Survey Question	n_p	Conclusion	95% CI	Approx. ME
Public Support				
Q11 – Effect	.61**	Reject the null hypothesis.	[.52, .69]	.08
Mission Sustainment				
Q19 – Effect	.69****	Reject the null hypothesis.	[.61, .77]	.08
Operational Complaints				
Q21 – Effect	.50	Fail to reject the null hypothesis.	[.39, .61]	.11
Support Infrastructure				
Q23 – Effect	.52	Fail to reject the null hypothesis.	[.43, .61]	.09
Quality of Life				
Q25 – Effect	.41*	Fail to reject the null hypothesis.	[.33, .50]	.09
Q26 – Relevancy	.91****	Reject the null hypothesis.	[.86, .96]	.05
Compatible Civilian Development				
Q27 – Effect	.59*	Fail to reject the null hypothesis.	[.49, .68]	.09
Q28 – Relevancy	.96****	Reject the null hypothesis.	[.93, .99]	.03
Compatible Civilian Activity				
Q29 – Effect	.66***	Reject the null hypothesis.	[.57, .75]	.09
Q30 – Relevancy	.95****	Reject the null hypothesis.	[.91, .99]	.04

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. n_p = proportion of positive assessments; CI = confidence interval; ME = margin of error. Neutral responses are excluded from the analysis.

* $p\text{-value} < .10$. ** $p\text{-value} < .05$. *** $p\text{-value} < .01$. **** $p\text{-value} < .001$.

Supplementary Research

Prologue

Recognizing that stakeholder groups can offer different conclusions (Rossi et al., 2019), prioritize their self-interest (Weimer and Vining, 2017), and influence policy implementation (Mazmanian and Sabatier, 1989), it was critical for this study to be “concerned with fairness [and] equity so that no group is given an unfair preference in the evaluation” (Patton et al., 2016, p. 349). While this study could not possibly test the differences and similarities of every possible stakeholder group, prioritization was devoted to characteristics which applied to all JLUS cases and were likely to enhance the prospect of future research. The stakeholder characteristics chosen based upon these considerations were military status (i.e. civilian vs. military employment), length of residency, military service department (i.e. Army, Navy, etc.), geography, institutional involvement, and program/study familiarity. The findings in this subsection address this study’s supplementary research question:

- *How, if at all, does the following stakeholder characteristics influence differences in local assessments of the JLUS program:*
- | | |
|--|--|
| i. <i>Military Status;</i> | iv. <i>Geography;</i> |
| ii. <i>Length of Residency;</i> | v. <i>Institutional Involvement; and</i> |
| iii. <i>Military Service Department;</i> | vi. <i>Program/Study Familiarity.</i> |

Results from the stakeholder survey are measured to reject or fail to reject this supplementary research question’s null hypothesis. The tested *null* hypothesis consisted of the following:

H₀: *Distributions from stakeholder characteristic **will be homogeneous**.*

The *alterative* hypothesis tested for this supplementary research questions is:

H_a: *Distributions from stakeholder characteristic **will not be homogenous**.*

For each evaluation criterion, the study hypothesized that stakeholder groups from each characteristic will offer different assessments of the JLUS program.

Military Status

The first stakeholder characteristic of interest for the supplementary research question is military status. The two stakeholder groups assigned to military status were military ($n = 10$) and civilian ($n = 146$). Tables 35 through 38 break down the findings for each stakeholder group by evaluation criterion. For *most* survey questions, military stakeholders offered more positive assessments of the JLUS program compared to civilian stakeholders. This generally holds true regardless of the survey scheme (i.e. effect or relevancy). The relevancy survey questions on public awareness (i.e. Q8), quality of life (i.e. Q26), and compatible civilian activity (i.e. Q30) are the only instances where the proportion of positive assessments by civilian stakeholders surpassed military stakeholders. For democratic participation, the relevancy survey questions on public engagement and support (i.e. Q10 and Q12 respectively) have the *smallest* range between civilian and military stakeholders at three (3) percent while the effect question on public support (i.e. Q11) has the *largest* at 42 percent. The survey question on the program's effect on public support (i.e. Q11) also has the *greatest* range between the two groups among all evaluation criteria. For intergovernmental cooperation, the effect question on communication (i.e. Q15) has the *smallest* range between civilian and military stakeholders at two (2) percent while the effect question on consensus (i.e. Q17) has the *largest* at 34 percent. The survey question on the program's effect on communication (i.e. Q15) also has the *smallest* range between the two groups among all evaluation criteria. For military readiness, the relevancy survey question on mission sustainment (i.e. Q20) has the *smallest* range between civilian and military stakeholders at three (3) percent while the effect question on operational complaints (i.e. Q21) has the *largest* at 23 percent. Finally, for civilian development, both survey questions on quality of life (i.e. Q 25 and 26) have the *smallest* range between civilian and military stakeholders at three (3) percent while the effect question on public support (i.e. Q11) again has the *largest* at 42 percent. Military status is the *only* stakeholder characteristic where the *smallest* range for civilian development belongs to the quality of life (i.e. Q25 and Q26) survey questions.

Table 35*Democratic Participation Results by Military Status*

Survey Question	<i>n</i>		<i>n_p</i> ^a	
	Civilian	Military	Civilian	Military
Public Awareness				
Q7 – Effect	134	7	.81	1.00
Q8 – Relevancy	140	10	.98	.90
Public Engagement				
Q9 – Effect	131	8	.72	.88
Q10 – Relevancy ^b	133	9	.97	1.00
Public Support				
Q11 – Effect	125	7	.58	1.00
Q12 – Relevancy ^b	124	9	.97	1.00
Effect Avg.	130	7	.70	.96
Relevancy Avg.	132	9	.97	.97
Overall Avg.	131	8	.84	.96
Overall Median	132	9	.89	1.00

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments.

^a Excludes neutral responses. ^b Exclude *either* Q10 or Q12 from democratic participation conclusions.

Table 36*Intergovernmental Cooperation Results by Military Status*

Survey Question	<i>n</i>		<i>n_p^a</i>	
	Civilian	Military	Civilian	Military
Relations				
Q13 – Effect	134	8	.70	.88
Q14 – Relevancy	135	9	.96	1.00
Communication				
Q15 – Effect	138	7	.70	.71
Q16 – Relevancy ^b	130	8	.96	1.00
Consensus				
Q17 – Effect	125	6	.66	1.00
Q18 – Relevancy	130	8	.96	1.00
Effect Avg.	132	7	.69	.86
Relevancy Avg.	132	8	.96	1.00
Overall Avg.	132	8	.82	.93
Overall Median	132	8	.83	1.00

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments.

^a Excludes neutral responses. ^b Exclude from intergovernmental cooperation conclusions.

Table 37*Military Readiness Results by Military Status*

Survey Question	<i>n</i>		<i>n_p^a</i>	
	Civilian	Military	Civilian	Military
Mission Sustainment				
Q19 – Effect	110	9	.68	.78
Q20 – Relevancy	113	8	.97	1.00
Operational Complaints				
Q21 – Effect	75	7	.48	.71
Q22 – Relevancy ^b	117	9	.94	1.00
Support Infrastructure				
Q23 – Effect	105	7	.50	.71
Q24 – Relevancy	110	8	.92	1.00
Effect Avg.	97	8	.56	.74
Relevancy Avg.	113	8	.94	1.00
Overall Avg.	105	8	.75	.87
Overall Median	110	8	.80	.89

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments.

^a Excludes neutral responses. ^b Exclude from military readiness conclusions.

Table 38*Civilian Development Results by Military Status*

Survey Question	<i>n</i>		<i>n_p^a</i>	
	Civilian	Military	Civilian	Military
Public Support				
Q11 – Effect ^b	125	7	.58	1.00
Quality of Life				
Q25 – Effect	110	9	.41	.44
Q26 – Relevancy	113	8	.91	.88
Compatible Civilian Development				
Q27 – Effect	75	7	.58	.67
Q28 – Relevancy	117	9	.96	1.00
Compatible Civilian Activity				
Q29 – Effect ^c	105	7	.64	.89
Q30 – Relevancy	110	8	.94	.64
Effect Avg.	112	8	.55	.75
Relevancy Avg.	120	9	.94	.96
Overall Avg.	115	8	.72	.84
Overall Median	122	9	.64	.89

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments.

^a Excludes neutral responses. ^b Added to civilian development conclusions due to findings from factor analysis and internal consistency. ^c Exclude from civilian development conclusions.

Due to lower than desired participation by military stakeholders, more than 20 percent of expected counts were not greater than five. Consequently, this required the application of Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing from Fisher's exact test reveals that for *nearly every* survey question the study fails to reject the null hypothesis at the .05 significance level. Tables 39 and 40 collectively outline these findings. The survey question regarding the program's effect on public support (i.e. Q11) is the only exception where the null hypothesis can be rejected at a significance level of .05. Along with military status, program/study familiarity is the only other stakeholder characteristic in which stakeholder groups are statistically heterogeneous in their assessments of the program's effect on public support (i.e. Q11) at the .05

significance level. In multiple instances, the p-values are so close to one that the two groups might even be significantly homogeneous in their assessments. Other variables with some evidence of heterogeneity but *not* quite statistically significant currently are the effect survey questions on consensus and compatible civilian activity (i.e. 17 and 29 respectively). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 39

Military Status – Hypothesis Testing Part I

Survey Question	n_p^a		p -value	Conclusion
	Civilian	Military		
Public Awareness				
Q7 – Effect	.81	1.00	.35	Failed to reject the null hypothesis.
Q8 – Relevancy	.98	.90	0.24	Failed to reject the null hypothesis.
Public Engagement				
Q9 – Effect	.72	.88	.45	Failed to reject the null hypothesis.
Q10 – Relevancy	.97	1.00	1.00	Failed to reject the null hypothesis.
Public Support				
Q11 – Effect	.58	1.00	.04*	Reject the null hypothesis.
Q12 – Relevancy	.97	1.00	1.00	Failed to reject the null hypothesis.
Relations				
Q13 – Effect	.70	.88	.44	Failed to reject the null hypothesis.
Q14 – Relevancy	.96	1.00	1.00	Failed to reject the null hypothesis.
Communication				
Q15 – Effect	.70	.71	1.00	Failed to reject the null hypothesis.
Q16 – Relevancy	.96	1.00	1.00	Failed to reject the null hypothesis.
Consensus				
Q17 – Effect	.66	1.00	.18	Failed to reject the null hypothesis.
Q18 – Relevancy	.96	1.00	1.00	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Method: Fisher’s exact test.

^a Excludes neutral responses.

* p -value < .05.

Table 40*Military Status – Hypothesis Testing Part II*

Survey Question	n_p^a		p - value	Conclusion
	Civilian	Military		
Mission Sustainment				
Q19 – Effect	.68	.78	.72	Failed to reject the null hypothesis.
Q20 – Relevancy	.97	1.00	1.00	Failed to reject the null hypothesis.
Operational Complaints				
Q21 – Effect	.48	.71	.43	Failed to reject the null hypothesis.
Q22 – Relevancy	.94	1.00	1.00	Failed to reject the null hypothesis.
Support Infrastructure				
Q23 – Effect	.50	.71	.44	Failed to reject the null hypothesis.
Q24 – Relevancy	.92	1.00	1.00	Failed to reject the null hypothesis.
Quality of Life				
Q25 – Effect	.41	.44	1.00	Failed to reject the null hypothesis.
Q26 – Relevancy	.91	.88	.55	Failed to reject the null hypothesis.
Compatible Civilian Development				
Q27 – Effect	.58	.67	1.00	Failed to reject the null hypothesis.
Q28 – Relevancy	.96	1.00	1.00	Failed to reject the null hypothesis.
Compatible Civilian Activity				
Q29 – Effect	.64	.89	.16	Failed to reject the null hypothesis.
Q30 – Relevancy	.94	1.00	1.00	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Method: Fisher's exact test.

^a Excludes neutral responses.

* p -value < .05.

Length of Residency

The second stakeholder characteristic of interest for the supplementary research question is length of residency. The four stakeholder groups assigned to length of residency were less than one (1) year ($n = 0$), between one (1) and three (3) years ($n = 11$), between four (4) and ten (10) years ($n = 34$), and greater than ten (>10) years ($n = 111$). Tables 41 and 42 break down the findings for each stakeholder group. Since none of the participants selected the less than one (1) year option, it is excluded from the analysis. By far the most consistently pessimistic cohort, the between one (1) and three (3) years stakeholder group has the *lowest* proportion of positive assessments in 20 out of 24 core survey questions. This holds true regardless of the survey scheme (i.e. effect or relevancy). The other two groups, between four (4) and ten (10) years and greater than ten (>10) years, are nearly identical in their number of questions of which they hold the *highest* proportion of positive assessments. However, the between four (4) and ten (10) years group typically has the *highest* proportion of positive assessments with *relevancy* survey questions while the greater than ten (>10) years group generally has the *highest* proportion of positive assessment with the *effect* questions. For democratic participation, the effect question on public awareness (i.e. Q7) has the *smallest* range between these stakeholder groups at nine (9) percent while the relevancy question (i.e. Q8) has the *largest* at 18 percent. Length of residency is the *only* stakeholder characteristic where the *smallest* range for democratic participation belongs to the program's effect on public awareness (i.e. Q7) and the *largest* to the program's ability to improve public awareness (i.e. Q8) at other military installations.

Table 41*Stakeholder Survey Results by Length of Residency Part I*

Survey Question	<i>n</i>			<i>n_p^a</i>		
	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years
Public Awareness						
Q7 – Effect	9	29	103	.89	.86	.80
Q8 – Relevancy	11	34	105	.82	1.00	.98
Public Engagement						
Q9 – Effect	10	30	99	.60	.73	.74
Q10 – Relevancy	10	33	99	.90	1.00	.97
Public Support						
Q11 – Effect	10	29	93	.50	.59	.62
Q12 – Relevancy	8	29	96	.88	1.00	.97
Relations						
Q13 – Effect	10	32	100	.60	.75	.71
Q14 – Relevancy	11	33	100	.91	.97	.97
Communication						
Q15 – Effect	10	31	104	.70	.68	.70
Q16 – Relevancy	11	29	98	.91	1.00	.96
Consensus						
Q17 – Effect	9	25	97	.56	.64	.70
Q18 – Relevancy	11	30	97	.91	1.00	.96

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments. The less than one (1) year stakeholder group is excluded since no participants selected this option.

^a Excludes neutral responses.

Table 42*Stakeholder Survey Results by Length of Residency Part II*

Survey Question	<i>n</i>			<i>n_p^a</i>		
	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years
Mission Sustainment						
Q19 – Effect	10	23	86	.70	.74	.67
Q20 – Relevancy	10	21	90	.90	1.00	.98
Operational Complaints						
Q21 – Effect	4	18	60	.00	.39	.57
Q22 – Relevancy	9	26	91	.89	.96	.95
Support Infrastructure						
Q23 – Effect	7	25	80	.29	.48	.55
Q24 – Relevancy	8	26	84	.88	.88	.94
Quality of Life						
Q25 – Effect	8	29	94	.38	.31	.45
Q26 – Relevancy	9	24	86	.78	.96	.91
Compatible Civilian Development						
Q27 – Effect	7	27	77	.29	.52	.64
Q28 – Relevancy	10	30	95	.80	1.00	.97
Compatible Civilian Activity						
Q29 – Effect	7	24	74	.43	.58	.70
Q30 – Relevancy	9	27	95	.78	.96	.96

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n = tested sample; n_p = proportion of positive assessments. The less than one (1) year stakeholder group is excluded since no participants selected this option.

^a Excludes neutral responses.

For intergovernmental cooperation, the effect question on communication (i.e. Q15) has the *smallest* range between these stakeholder groups at two (2) percent while the effect questions on relations and consensus (i.e. Q13 and Q17 respectively) have the *largest* at 15 percent. The survey question on the program's effect on communication (i.e. Q15) also has the *smallest* range between these groups among all evaluation criteria. For military readiness, the effect question on mission sustainment and relevancy question on support infrastructure (i.e. Q19 and Q24 respectively) have the *smallest* range between these stakeholder groups at six (6) percent while the relevancy question on operational complaints (i.e. Q21) has the largest at 57 percent. Length of residency is the *only* stakeholder characteristic where the *smallest* range for military readiness belongs to the program's effect on mission sustainment (i.e. Q19) and the program's ability to expand support infrastructure (i.e. Q24) at other military installations. The survey question on the program's effect on operational complaints (i.e. Q21) also has the *greatest* range between these groups among all evaluation criteria. Finally, for civilian development, the effect question on public support (i.e. Q11) has the *smallest* range between these groups at 12 percent while the effect question on compatible civilian development (i.e. Q27) has the *largest* at 35 percent. Length of residency is the *only* stakeholder characteristic where the *smallest* range for civilian development belongs to the program's effect on public support (i.e. Q11).

Since the stakeholder groups varied in size, there were numerous instances where more than 20 percent of expected counts were not greater than five. Consequently, this required a mixed application of traditional chi-squared testing and Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing from these tests reveals that for nearly every survey question the study fails to reject the null hypothesis at the .05 significance level. Tables 43 and 44 collectively outline these findings. The relevancy survey question regarding public awareness (i.e. Q8) is the only exception where the null hypothesis can be rejected at a significance level of .05. Length of residency is the *only* stakeholder characteristic where stakeholder groups are statistically heterogeneous ($\alpha = .05$) in their assessment of the program's ability to improve public awareness (i.e. Q8) at other military installations. While Fisher's exact test cannot pinpoint which specific group is not homogenous with the rest, review of the proportions suggests the between 1- and 3-years group is likely driving the statistical difference in assessments. Contrasting military status, the p-values for length of residency rarely approached one (1) suggesting it may introduce more variance into a stakeholder's assessment compared to military status. Other variables with some

current evidence of heterogeneity but *not* quite statistically significant at the .05 level are the effect survey question on operational complaints (i.e. Q21) and the relevancy question on compatible civilian development (i.e. Q28). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 43

Length of Residency – Hypothesis Testing Part I

Survey Question	n_p^a			p -value	Conclusion
	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years		
Public Awareness					
Q7 – Effect ^b	.89	.86	.80	.61	Failed to reject the null hypothesis.
Q8 – Relevancy ^c	.82	1.00	.98	.03*	Reject the null hypothesis.
Public Engagement					
Q9 – Effect ^b	.60	.73	.74	.65	Failed to reject the null hypothesis.
Q10 – Relevancy ^c	.90	1.00	.97	.19	Failed to reject the null hypothesis.
Public Support					
Q11 – Effect ^b	.50	.59	.62	.73	Failed to reject the null hypothesis.
Q12 – Relevancy ^c	.88	1.00	.97	.25	Failed to reject the null hypothesis.
Relations					
Q13 – Effect ^b	.60	.75	.71	.66	Failed to reject the null hypothesis.
Q14 – Relevancy ^c	.91	.97	.97	.40	Failed to reject the null hypothesis.
Communication					
Q15 – Effect ^b	.70	.68	.70	.97	Failed to reject the null hypothesis.
Q16 – Relevancy ^c	.91	1.00	.96	.27	Failed to reject the null hypothesis.
Consensus					
Q17 – Effect ^b	.56	.64	.70	.60	Failed to reject the null hypothesis.
Q18 – Relevancy ^c	.91	1.00	.96	.28	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 2. The less than one (1) year stakeholder group is excluded since no participants selected this option.

^a Excludes neutral responses. ^b Pearson Chi-Square. ^c Fisher's exact test.

* p -value < .05.

Table 44

Length of Residency – Hypothesis Testing Part II

Survey Question	n_p^a			p -value	Conclusion
	Between 1 and 3 Years	Between 4 and 10 Years	Greater than 10 Years		
Mission Sustainment					
Q7 – Effect ^b	.70	.74	.67	.83	Failed to reject the null hypothesis.
Q8 – Relevancy ^c	.90	1.00	.98	.30	Failed to reject the null hypothesis.
Operational Complaints					
Q9 – Effect ^c	.00	.39	.57	.05*	Failed to reject the null hypothesis.
Q10 – Relevancy ^c	.89	.96	.95	.62	Failed to reject the null hypothesis.
Support Infrastructure					
Q11 – Effect ^c	.29	.48	.55	.39	Failed to reject the null hypothesis.
Q12 – Relevancy ^c	.88	.88	.94	.37	Failed to reject the null hypothesis.
Quality of Life					
Q13 – Effect ^c	.38	.31	.45	.43	Failed to reject the null hypothesis.
Q14 – Relevancy ^c	.78	.96	.91	.28	Failed to reject the null hypothesis.
Compatible Civilian Development					
Q15 – Effect ^c	.29	.52	.64	.14	Failed to reject the null hypothesis.
Q16 – Relevancy ^c	.80	1.00	.97	.06*	Failed to reject the null hypothesis.
Compatible Civilian Activity					
Q17 – Effect ^c	.43	.58	.70	.21	Failed to reject the null hypothesis.
Q18 – Relevancy ^c	.78	.96	.96	.11	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 2. The less than one (1) year stakeholder group is excluded since no participants selected this option.

^a Excludes neutral responses. ^b Pearson Chi-Square. ^c Fisher's exact test.

* p -value < .10.

Military Service Department

The third stakeholder characteristic of interest for the supplementary research question is military service department. The five stakeholder groups assigned to military service department were the Air Force ($n = 26$), Army ($n = 55$), Marine Corps ($n = 9$), Navy ($n = 35$), and joint base ($n = 27$). Tables 45 and 46 break down the findings for each stakeholder group. Contrasting length of residency, no stakeholder group dominates consistently the status of *lowest* proportion of positive assessments. With that said, Army stakeholders do have the most at six (6) out of the 24 core survey questions. Marine Corps stakeholders on the other hand consistently dominate the status of *highest* proportion of positive assessments in 21 out of the 24 core survey questions. Recognizing that the Marine Corp's sample size is the smallest, if excluded, the joint base cohort then holds the *highest* proportion of positive assessments in half of the core survey questions. These findings are not impacted by the survey scheme. For democratic participation, the relevancy question on public engagement (i.e. Q10) has the *smallest* range between these stakeholder groups at four (4) percent while the effect question on public support (i.e. Q11) has the *largest* at 38 percent. The relevancy survey question on public engagement (i.e. Q10) also has the *smallest* range between these groups among all evaluation criteria. For intergovernmental cooperation, the relevancy question on relations (i.e. Q14) has the *smallest* range between these stakeholder groups at five (5) percent while the effect question on relations (i.e. Q13) has the *largest* at 23 percent. For military readiness, the relevancy question on mission sustainment (i.e. Q20) has the *smallest* range between these stakeholder groups at seven (7) percent while the effect question on operational complaints (i.e. Q21) has the *largest* at 44 percent. The survey question on the program's effect on operational complaints (i.e. Q21) also has the *greatest* range between these groups among all evaluation criteria. Finally, for civilian development, the relevancy question on compatible civilian development (i.e. Q28) has the *smallest* range between these groups at eight (8) percent while the effect question on public support (i.e. Q11) has the *largest* at 38 percent. When comparing all stakeholder characteristics, military service department has no *unique* survey questions with the smallest or largest range.

Table 45*Stakeholder Survey Results by Military Service Department Part I*

Survey Question	n_p^a				
	Air Force	Army	Marine Corps	Navy	Joint Base
Public Awareness					
Q7 – Effect	.86	.82	.89	.71	.87
Q8 – Relevancy	1.00	.93	1.00	1.00	1.00
Public Engagement					
Q9 – Effect	.65	.68	.89	.68	.86
Q10 – Relevancy	1.00	.96	1.00	.97	.96
Public Support					
Q11 – Effect	.58	.62	.88	.50	.60
Q12 – Relevancy	1.00	.96	1.00	.97	.95
Relations					
Q13 – Effect	.70	.69	.88	.65	.76
Q14 – Relevancy	.95	.96	1.00	.97	.96
Communication					
Q15 – Effect	.86	.64	.67	.68	.67
Q16 – Relevancy	1.00	.94	1.00	.97	.96
Consensus					
Q17 – Effect	.74	.69	.86	.55	.75
Q18 – Relevancy	1.00	.94	1.00	.97	.96

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Table 46*Stakeholder Survey Results by Military Service Department Part II*

Survey Question	n_p^a				
	Air Force	Army	Marine Corps	Navy	Joint Base
Mission Sustainment					
Q19 – Effect	.70	.62	1.00	.74	.60
Q20 – Relevancy	1.00	.93	1.00	1.00	1.00
Operational Complaints					
Q21 – Effect	.42	.52	.83	.39	.54
Q22 – Relevancy	.95	.94	.89	.92	1.00
Support Infrastructure					
Q23 – Effect	.45	.43	.71	.54	.58
Q24 – Relevancy	.84	.90	1.00	.93	1.00
Quality of Life					
Q25 – Effect	.41	.41	.57	.39	.38
Q26 – Relevancy	.89	.90	1.00	.86	.95
Compatible Civilian Development					
Q27 – Effect	.43	.67	.71	.59	.45
Q28 – Relevancy	1.00	.92	1.00	.97	1.00
Compatible Civilian Activity					
Q29 – Effect	.57	.69	.75	.68	.50
Q30 – Relevancy	.95	.91	.89	.96	1.00

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Since the stakeholder groups varied in size, every survey question had instances where more than 20 percent of their expected counts did not reach the greater than five threshold. Consequently, this required the application of Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing reveals that for *every* survey question the study fails to reject the null hypothesis at the .05 significance level. Tables 47 and 48 collectively outline these findings. Military service department is the *only* stakeholder characteristic where there is currently *no* evidence of statistical heterogeneity ($\alpha = .05$). Comparable to military status, the p-values for military service departments in numerous cases approach one (1) suggesting that these stakeholder groups may in fact be significantly homogeneous in their assessments. Survey questions demonstrating *some* evidence of heterogeneity and the closest to *approaching* statistical significance at the .05 level, albeit still far, are the effect questions on public support (i.e. Q11) and mission sustainment (i.e. Q19). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 47

Military Service Department – Hypothesis Testing Part I

Survey Question	n_p^a					p -value	Conclusion
	Air Force	Army	Marine Corps	Navy	Joint Base		
Public Awareness							
Q7 – Effect	.86	.82	.89	.71	.87	.59	Failed to reject the null hypothesis.
Q8 – Relevancy	1.00	.93	1.00	1.00	1.00	.33	Failed to reject the null hypothesis.
Public Engagement							
Q9 – Effect	.65	.68	.89	.68	.86	.33	Failed to reject the null hypothesis.
Q10 – Relevancy	1.00	.96	1.00	.97	.96	1.00	Failed to reject the null hypothesis.
Public Support							
Q11 – Effect	.58	.62	.88	.50	.60	.28	Failed to reject the null hypothesis.
Q12 – Relevancy	1.00	.96	1.00	.97	.95	1.00	Failed to reject the null hypothesis.
Relations							
Q13 – Effect	.70	.69	.88	.65	.76	.69	Failed to reject the null hypothesis.
Q14 – Relevancy	.95	.96	1.00	.97	.96	1.00	Failed to reject the null hypothesis.
Communication							
Q15 – Effect	.86	.64	.67	.68	.67	.41	Failed to reject the null hypothesis.
Q16 – Relevancy	1.00	.94	1.00	.97	.96	.95	Failed to reject the null hypothesis.
Consensus							
Q17 – Effect	.74	.69	.86	.55	.75	.50	Failed to reject the null hypothesis.
Q18 – Relevancy	1.00	.94	1.00	.97	.96	.95	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 5. Method: Fisher’s exact test.

^a Excludes neutral responses.

Table 48

Military Service Department – Hypothesis Testing Part II

Survey Question	n_p^a					p -value	Conclusion
	Air Force	Army	Marine Corps	Navy	Joint Base		
Mission Sustainment							
Q19 – Effect	.70	.62	1.00	.74	.60	.31	Failed to reject the null hypothesis.
Q20 – Relevancy	1.00	.93	1.00	1.00	1.00	.54	Failed to reject the null hypothesis.
Operational Complaints							
Q21 – Effect	.42	.52	.83	.39	.54	.49	Failed to reject the null hypothesis.
Q22 – Relevancy	.95	.94	.89	.92	1.00	.68	Failed to reject the null hypothesis.
Support Infrastructure							
Q23 – Effect	.45	.43	.71	.54	.58	.40	Failed to reject the null hypothesis.
Q24 – Relevancy	.84	.90	1.00	.93	1.00	.54	Failed to reject the null hypothesis.
Quality of Life							
Q25 – Effect	.41	.41	.57	.39	.38	.89	Failed to reject the null hypothesis.
Q26 – Relevancy	.89	.90	1.00	.86	.95	.87	Failed to reject the null hypothesis.
Compatible Civilian Development							
Q27 – Effect	.43	.67	.71	.59	.45	.44	Failed to reject the null hypothesis.
Q28 – Relevancy	1.00	.92	1.00	.97	1.00	.57	Failed to reject the null hypothesis.
Compatible Civilian Activity							
Q29 – Effect	.57	.69	.75	.68	.50	.46	Failed to reject the null hypothesis.
Q30 – Relevancy	.95	.91	.89	.96	1.00	.62	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 5. Method: Fisher’s exact test.

^a Excludes neutral responses.

Geography

The fourth stakeholder characteristic of interest for the supplementary research question is geography. The four stakeholder groups assigned to geography were the west ($n = 17$), Midwest ($n = 68$), northeast ($n = 38$), and south ($n = 32$). Tables 49 and 50 break down the findings for each stakeholder group. Comparable to military status and military service department, one group consistently dominates the status of *lowest* proportion of positive assessments for geography. The west cohort is the lowest in 21 out of the 24 core survey questions. Southern stakeholders on the other hand generally dominate the status of *highest* proportion of positive assessments at 15 out of the 24 core survey questions. These findings are not impacted by the survey scheme. For democratic participation, the relevancy question on public awareness (i.e. Q8) has the *smallest* range between these stakeholder groups at six (6) percent while the effect question on public support (i.e. Q11) has the *largest* at 39 percent. For intergovernmental cooperation, the relevancy question on relations (i.e. Q14) has the *smallest* range between these stakeholder groups at five (5) percent while the effect question on consensus (i.e. Q17) has the *largest* at 51 percent. The relevancy survey question on relations (i.e. Q14) also has the *smallest* range between these groups among all evaluation criteria. For military readiness, the relevancy question on mission sustainment (i.e. Q20) has the *smallest* range between these stakeholder groups at 13 percent while the effect question on operational complaints (i.e. Q21) has the *largest* at 54 percent. The survey question on the program's effect on operational complaints (i.e. Q21) also has the *greatest* range between these groups among all evaluation criteria. Finally, for civilian development, the relevancy question on compatible civilian activity (i.e. Q30) has the *smallest* range between these groups at six (6) percent while the effect question on compatible civilian development (i.e. Q27) has the *largest* at 41 percent. When comparing all stakeholder characteristics, geography also has no *unique* survey questions with the smallest or largest range.

Table 49*Stakeholder Survey Results by Geography Part I*

Survey Question	n_p^a			
	West	Midwest	Northeast	South
Public Awareness				
Q7 – Effect	.60	.87	.79	.84
Q8 – Relevancy	1.00	.94	1.00	1.00
Public Engagement				
Q9 – Effect	.44	.75	.74	.81
Q10 – Relevancy	.92	.97	.97	1.00
Public Support				
Q11 – Effect	.40	.57	.58	.79
Q12 – Relevancy	.92	.97	.97	1.00
Relations				
Q13 – Effect	.50	.71	.72	.79
Q14 – Relevancy	.92	.97	.97	.97
Communication				
Q15 – Effect	.43	.70	.76	.71
Q16 – Relevancy	.91	.95	.97	1.00
Consensus				
Q17 – Effect	.31	.65	.82	.73
Q18 – Relevancy	1.00	.95	.94	1.00

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Table 50*Stakeholder Survey Results by Geography Part II*

Survey Question	n_p^a			
	West	Midwest	Northeast	South
Mission Sustainment				
Q19 – Effect	.44	.60	.67	.93
Q20 – Relevancy	.88	.96	1.00	1.00
Operational Complaints				
Q21 – Effect	.11	.45	.61	.65
Q22 – Relevancy	.78	.95	1.00	.93
Support Infrastructure				
Q23 – Effect	.30	.47	.58	.62
Q24 – Relevancy	.82	.94	1.00	.85
Quality of Life				
Q25 – Effect	.25	.35	.52	.50
Q26 – Relevancy	.75	.92	.91	.93
Compatible Civilian Development				
Q27 – Effect	.33	.56	.74	.60
Q28 – Relevancy	.83	.95	1.00	1.00
Compatible Civilian Activity				
Q29 – Effect	.50	.64	.70	.68
Q30 – Relevancy	1.00	.95	.94	.94

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Since the stakeholder groups varied in size, there were numerous instances where more than 20 percent of expected counts were not greater than five. Consequently, this required a mixed application of traditional chi-squared testing and Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing reveals that most of the survey questions fail to reject the null hypothesis at the .05 significance level. Tables 51 and 52 collectively outline these findings. The effect survey questions concerning public engagement (i.e. Q9), consensus (i.e. Q17), mission sustainment (i.e. Q19), and operational complaints (i.e. Q21) are the exceptions where the null hypothesis can be rejected at a significance level of .05. Along with geography, institutional involvement is the *only* other stakeholder characteristic in which stakeholder groups are statistically heterogeneous in their assessment of the program's effect on consensus (i.e. Q17) at the .05 significance level. Geography is also the *only* stakeholder characteristic where stakeholder groups are statistically heterogeneous ($\alpha = .05$) in their assessment of the program's effect on public engagement (i.e. Q9), mission sustainment (i.e. Q19), operational complaints (i.e. Q21). While chi-square and Fisher's exact test cannot pinpoint which specific group is not homogenous with the rest, review of the proportions suggests the west group is likely driving much of the statistical differences in assessments. Contrasting military status and military service department, the p-values for geography rarely approached one (1) suggesting it may introduce more variance into a stakeholder's assessment comparable to length of residency. Other variables with some current evidence of heterogeneity but *not* quite statistically significant at the .05 level are the effect question on public support (i.e. Q11) and the relevancy questions on operational complaints (i.e. Q22), support infrastructure (i.e. Q24), and compatible civilian development (i.e. Q28). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 51

Geography – Hypothesis Testing Part I

Survey Question	n_p^a				p -value	Conclusion
	West	Midwest	Northeast	South		
Public Awareness						
Q7 – Effect ^b	.60	.87	.79	.84	.12	Failed to reject the null hypothesis.
Q8 – Relevancy ^c	1.00	.94	1.00	1.00	.29	Failed to reject the null hypothesis.
Public Engagement						
Q9 – Effect ^b	.44	.75	.74	.81	.05**	Reject the null hypothesis.
Q10 – Relevancy ^c	.92	.97	.97	1.00	.50	Failed to reject the null hypothesis.
Public Support						
Q11 – Effect ^b	.40	.57	.58	.79	.06*	Failed to reject the null hypothesis.
Q12 – Relevancy ^c	.92	.97	.97	1.00	.39	Failed to reject the null hypothesis.
Relations						
Q13 – Effect ^b	.50	.71	.72	.79	.26	Failed to reject the null hypothesis.
Q14 – Relevancy ^c	.92	.97	.97	.97	.74	Failed to reject the null hypothesis.
Communication						
Q15 – Effect ^b	.43	.70	.76	.71	.13	Failed to reject the null hypothesis.
Q16 – Relevancy ^c	.91	.95	.97	1.00	.45	Failed to reject the null hypothesis.
Consensus						
Q17 – Effect ^b	.31	.65	.82	.73	<.01***	Reject the null hypothesis.
Q18 – Relevancy ^c	1.00	.95	.94	1.00	.73	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 3.

^a Excludes neutral responses. ^b Pearson Chi-Square. ^c Fisher's exact test.

* p -value < .10. ** p -value < .05. *** p -value < .01.

Table 52

Geography – Hypothesis Testing Part II

Survey Question	n_p^a				p -value	Conclusion
	West	Midwest	Northeast	South		
Mission Sustainment						
Q19 – Effect ^b	.44	.60	.67	.93	<.01***	Reject the null hypothesis.
Q20 – Relevancy ^c	.88	.96	1.00	1.00	.16	Failed to reject the null hypothesis.
Operational Complaints						
Q21 – Effect ^c	.11	.45	.61	.65	.03**	Reject the null hypothesis.
Q22 – Relevancy ^c	.78	.95	1.00	.93	.10*	Failed to reject the null hypothesis.
Support Infrastructure						
Q23 – Effect ^b	.30	.47	.58	.62	.31	Failed to reject the null hypothesis.
Q24 – Relevancy ^c	.82	.94	1.00	.85	.05*	Failed to reject the null hypothesis.
Quality of Life						
Q25 – Effect ^b	.25	.35	.52	.50	.20	Failed to reject the null hypothesis.
Q26 – Relevancy ^c	.75	.92	.91	.93	.44	Failed to reject the null hypothesis.
Compatible Civilian Development						
Q27 – Effect ^b	.33	.56	.74	.60	.14	Failed to reject the null hypothesis.
Q28 – Relevancy ^c	.83	.95	1.00	1.00	.07*	Failed to reject the null hypothesis.
Compatible Civilian Activity						
Q29 – Effect ^b	.50	.64	.70	.68	.69	Failed to reject the null hypothesis.
Q30 – Relevancy ^c	1.00	.95	.94	.94	1.00	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 3.

^a Excludes neutral responses. ^b Pearson Chi-Square. ^c Fisher's exact test.

* p -value < .10. ** p -value < .05. *** p -value < .01.

Institutional Involvement

The fifth stakeholder characteristic of interest for the supplementary research question is institutional involvement. The four stakeholder groups assigned to institutional involvement were heavily involved ($n = 60$), somewhat involved ($n = 71$), rarely involved ($n = 17$), and not involved ($n = 8$). Tables 53 and 54 break down the findings for each stakeholder group. Unlike the other stakeholder characteristics, two of the institutional involvement groups consistently dominates the status of *lowest* proportion of positive assessments. The not involved cohort is the lowest in 11 out of the 24 core survey questions with the rarely involved group is a close second at 9 out of 24. Heavily involved stakeholders on the other hand generally dominate the status of *highest* proportion of positive assessments at 17 out of the 24 core survey questions. These findings are not impacted by the survey scheme. For democratic participation, the relevancy question on public awareness (i.e. Q8) has the *smallest* range between these stakeholder groups at four (4) percent while the effect question on public awareness (i.e. Q7) has the *largest* at 63 percent. The relevancy survey question on public awareness (i.e. Q8) also has the *smallest* range between these groups among all evaluation criteria. For intergovernmental cooperation, the relevancy question on relations (i.e. Q14) has the *smallest* range between these stakeholder groups at six (6) percent while the effect question on relations (i.e. Q17) has the *largest* at 68 percent. The survey question on the program's effect on relations (i.e. Q17) also has the *greatest* range between these groups among all evaluation criteria. For military readiness, the relevancy question on operational complaints (i.e. Q22) has the *smallest* range between these stakeholder groups at eight (8) percent while the effect question on support infrastructure (i.e. Q23) has the *largest* at 55 percent. Institutional involvement is the *only* stakeholder characteristic where the *largest* range for military readiness belongs to the program's effect on the expansion of support infrastructure (i.e. Q23). Finally, for civilian development, the relevancy questions on compatible civilian development and activity (i.e. Q28 and Q30 respectively) has the *smallest* range between these groups at eight (8) percent while the effect question on quality of life (i.e. Q25) has the *largest* at 51 percent. Institutional involvement is also the *only* stakeholder characteristic where the *largest* range for civilian development belongs to the program's effect on quality of life (i.e. Q25).

Table 53*Stakeholder Survey Results by Institutional Involvement Part I*

Survey Question	n_p^a			
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved
Public Awareness				
Q7 – Effect	.91	.84	.60	.29
Q8 – Relevancy	.98	.96	1.00	1.00
Public Engagement				
Q9 – Effect	.81	.71	.54	.50
Q10 – Relevancy	1.00	.95	.93	1.00
Public Support				
Q11 – Effect	.71	.56	.46	.33
Q12 – Relevancy	1.00	.95	.93	1.00
Relations				
Q13 – Effect	.81	.72	.58	.13
Q14 – Relevancy	1.00	.94	.94	1.00
Communication				
Q15 – Effect	.81	.71	.44	.29
Q16 – Relevancy	1.00	.95	.93	.80
Consensus				
Q17 – Effect	.80	.66	.46	.33
Q18 – Relevancy	.98	.97	.93	.80

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Table 54*Stakeholder Survey Results by Institutional Involvement Part II*

Survey Question	n_p^a			
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved
Mission Sustainment				
Q19 – Effect	.74	.68	.50	.67
Q20 – Relevancy	1.00	.96	.91	1.00
Operational Complaints				
Q21 – Effect	.58	.43	.56	.33
Q22 – Relevancy	.94	.95	.92	1.00
Support Infrastructure				
Q23 – Effect	.51	.56	.25	.80
Q24 – Relevancy	.90	.95	.89	1.00
Quality of Life				
Q25 – Effect	.51	.40	.23	.00
Q26 – Relevancy	.90	.91	.92	1.00
Compatible Civilian Development				
Q27 – Effect	.63	.59	.40	.33
Q28 – Relevancy	1.00	.94	.92	1.00
Compatible Civilian Activity				
Q29 – Effect	.75	.65	.40	.33
Q30 – Relevancy	.94	.95	.92	1.00

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Since the stakeholder groups varied in size, every survey question had instances where more than 20 percent of their expected counts did not reach the greater than five threshold. Consequently, this required the application of Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing reveals that for *multiple* survey questions the study can reject the null hypothesis at the .05 significance level. Institutional involvement has the *most* instances of rejecting the null hypothesis of all stakeholder characteristics. Tables 55 and 56 collectively outline these findings. Along with institutional involvement, program/study familiarity is the *only* other stakeholder characteristic in which stakeholder groups are statistically heterogeneous in their assessment of the program's effect on public awareness (i.e. Q7) at the .05 significance level. Institutional involvement is also the *only* stakeholder characteristic where stakeholder groups are statistically heterogeneous ($\alpha = .05$) in their assessment of the program's effect on relations (i.e. Q13), communication (i.e. Q15), consensus (i.e. Q17), and quality of life (i.e. Q25). While Fisher's exact test cannot pinpoint which specific groups are not homogenous with the rest, review of the proportions suggests the heavily and somewhat involved groups are distinct from the rarely and not involved groups. Contrasting military status and military service department, the p-values for geography rarely approached one (1) suggesting it may introduce more variance into a stakeholder's assessment comparable to length of residency and geography. Other variables with some current evidence of heterogeneity but *not* quite statistically significant at the .05 level are the effect questions on public engagement (i.e. Q9), public support (i.e. Q11), quality of life (i.e. Q25), and the relevancy question on communication (i.e. Q16). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 55*Institutional Involvement – Hypothesis Testing Part I*

Survey Question	n_p^a				p -value	Conclusion
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved		
Public Awareness						
Q7 – Effect	.91	.84	.60	.29	<.01****	Reject the null hypothesis.
Q8 – Relevancy	.98	.96	1.00	1.00	.80	Failed to reject the null hypothesis.
Public Engagement						
Q9 – Effect	.81	.71	.54	.50	.09*	Failed to reject the null hypothesis.
Q10 – Relevancy	1.00	.95	.93	1.00	.28	Failed to reject the null hypothesis.
Public Support						
Q11 – Effect	.71	.56	.46	.33	.09*	Failed to reject the null hypothesis.
Q12 – Relevancy	1.00	.95	.93	1.00	.25	Failed to reject the null hypothesis.
Relations						
Q13 – Effect	.81	.72	.58	.13	<.01***	Reject the null hypothesis.
Q14 – Relevancy	1.00	.94	.94	1.00	.20	Failed to reject the null hypothesis.
Communication						
Q15 – Effect	.81	.71	.44	.29	<.01***	Reject the null hypothesis.
Q16 – Relevancy	1.00	.95	.93	.80	.05*	Failed to reject the null hypothesis.
Consensus						
Q17 – Effect	.80	.66	.46	.33	.02**	Reject the null hypothesis.
Q18 – Relevancy	.98	.97	.93	.80	.15	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 3.

^a Excludes neutral responses.

* p -value < .10. ** p -value < .05. *** p -value < .01. **** p -value < .001.

Table 56

Institutional Involvement – Hypothesis Testing Part II

Survey Question	n_p^a				p -value	Conclusion
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved		
Mission Sustainment						
Q19 – Effect	.74	.68	.50	.67	.48	Failed to reject the null hypothesis.
Q20 – Relevancy	1.00	.96	.91	1.00	.24	Failed to reject the null hypothesis.
Operational Complaints						
Q21 – Effect	.58	.43	.56	.33	.61	Failed to reject the null hypothesis.
Q22 – Relevancy	.94	.95	.92	1.00	.90	Failed to reject the null hypothesis.
Support Infrastructure						
Q23 – Effect	.51	.56	.25	.80	.16	Failed to reject the null hypothesis.
Q24 – Relevancy	.90	.95	.89	1.00	.62	Failed to reject the null hypothesis.
Quality of Life						
Q25 – Effect	.51	.40	.23	.00	.04*	Reject the null hypothesis.
Q26 – Relevancy	.90	.91	.92	1.00	1.00	Failed to reject the null hypothesis.
Compatible Civilian Development						
Q27 – Effect	.63	.59	.40	.33	.43	Failed to reject the null hypothesis.
Q28 – Relevancy	1.00	.94	.92	1.00	.17	Failed to reject the null hypothesis.
Compatible Civilian Activity						
Q29 – Effect	.75	.65	.40	.33	.10	Failed to reject the null hypothesis.
Q30 – Relevancy	.94	.95	.92	1.00	.89	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Degrees of Freedom = 3.

^a Excludes neutral responses.

* p -value < .05.

Program/Study Familiarity

The final stakeholder characteristic of interest for the supplementary research question is program/study familiarity. The four stakeholder groups assigned to geography were extremely familiar ($n = 75$), moderately familiar ($n = 59$), slightly familiar ($n = 21$), and not at all familiar ($n = 1$). Tables 57 and 58 break down the findings for each stakeholder group. Excluding the not at all familiar group due to small sample size, comparable to military status, military service department, and geography, one group consistently dominates the status of *lowest* proportion of positive assessments. The slightly familiar cohort is the lowest in 16 out of the 24 core survey questions. Extremely familiar stakeholders on the other hand generally dominate the status of *highest* proportion of positive assessments at 14 out of the 24 core survey questions. These findings are generally not impacted by the survey scheme. For democratic participation, the relevancy question on public awareness (i.e. Q8) has the *smallest* range between these stakeholder groups at three (3) percent while the effect question on public awareness (i.e. Q7) has the *largest* at 90 percent. The effect survey question on public awareness (i.e. Q7) has the *greatest* range between these groups among all evaluation criteria while the relevancy question (i.e. Q8) has the smallest. For intergovernmental cooperation, the relevancy questions on communication and consensus (i.e. Q16 and Q18 respectively) has the *smallest* range between these stakeholder groups at four (4) percent while the effect question on relations (i.e. Q13) has the *largest* at 78 percent. Program/study familiarity is the *only* stakeholder characteristic where the *smallest* range for intergovernmental cooperation belongs to the program's ability to improve communication (i.e. Q16) and consensus (i.e. Q18) at other military installations. For military readiness, the relevancy question on operational complaints (i.e. Q22) has the *smallest* range between these stakeholder groups at three (3) percent while the relevancy question on support infrastructure (i.e. Q24) has the *largest* at 19 percent. Program/study familiarity is also the *only* stakeholder characteristic where the *smallest* range for military readiness belongs to the program's ability to expand support infrastructure (i.e. Q24) at other military installations. Finally, for civilian development, the relevancy question on compatible civilian development (i.e. Q28) has the *smallest* range between these groups at four (4) percent while the effect question on public support (i.e. Q11) has the *largest* at 73 percent.

Table 57*Stakeholder Survey Results by Program/Study Familiarity Part I*

Survey Question	n_p^a			
	Extremely Familiar	Moderately Familiar	Slightly Familiar	Not at all Familiar
Public Awareness				
Q7 – Effect	.90	.81	.53	.00
Q8 – Relevancy	.97	.97	1.00	--
Public Engagement				
Q9 – Effect	.80	.70	.56	.00
Q10 – Relevancy	.96	.98	1.00	--
Public Support				
Q11 – Effect	.73	.51	.47	.00
Q12 – Relevancy	.96	.98	1.00	--
Relations				
Q13 – Effect	.78	.68	.56	.00
Q14 – Relevancy	.94	.98	1.00	--
Communication				
Q15 – Effect	.73	.73	.53	.00
Q16 – Relevancy	.96	.96	1.00	--
Consensus				
Q17 – Effect	.73	.63	.67	.00
Q18 – Relevancy	.96	.96	1.00	--

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Table 58

Stakeholder Survey Results by Program/Study Familiarity Part II

Survey Question	n_p^a			
	Extremely Familiar	Moderately Familiar	Slightly Familiar	Not at all Familiar
Mission Sustainment				
Q19 – Effect	.67	.74	.60	--
Q20 – Relevancy	.98	.98	.92	--
Operational Complaints				
Q21 – Effect	.54	.47	.45	--
Q22 – Relevancy	.94	.96	.93	--
Support Infrastructure				
Q23 – Effect	.56	.50	.38	--
Q24 – Relevancy	.94	.94	.75	--
Quality of Life				
Q25 – Effect	.50	.32	.33	--
Q26 – Relevancy	.90	.94	.82	--
Compatible Civilian Development				
Q27 – Effect	.66	.61	.27	.00
Q28 – Relevancy	.97	.96	.93	--
Compatible Civilian Activity				
Q29 – Effect	.78	.63	.33	.00
Q30 – Relevancy	.95	.96	.85	--

Note. Total sample ($N = 156$). See Tables 13 and 14 concerning skip and neutral response rates. n_p = proportion of positive assessments.

^a Excludes neutral responses.

Since the stakeholder groups varied in size, every survey question had instances where more than 20 percent of their expected counts did not reach the greater than five threshold. Consequently, this required the application of Fisher's exact test (Agresti & Finlay, 2009; Bailey, 2008). Hypothesis testing reveals that *most* of the survey questions fail to reject the null hypothesis at the .05 significance level. Tables 59 and 60 collectively outline these findings. Along with program/study familiarity, institutional involvement is the *only* other stakeholder characteristic in which stakeholder groups are statistically heterogeneous in their assessment of the program's effect on public awareness (i.e. Q7) at the .05 significance level. In addition, program/study familiarity along with military status are the *only* stakeholder characteristics in which stakeholder groups are statistically heterogeneous in their assessment of the program's effect on public support (i.e. Q11) at the .05 significance level. Program/study familiarity is also the *only* stakeholder characteristic where stakeholder groups are statistically heterogeneous ($\alpha = .05$) in their assessment of the program's effect on compatible civilian development (i.e. Q27) and activity (i.e. Q29). While Fisher's exact test cannot pinpoint which specific groups are not homogenous with the rest, review of the proportions suggests the extremely and moderately familiar groups are distinct from the slightly and not familiar groups. Comparable to military status and military service department, the p-values for program/study familiarity in multiple instances approach one (1) suggesting that these stakeholder groups may in fact be significantly homogenous in their assessments. However, this observation for program/study familiarity generally only applies to the relevancy questions. Other variables with some current evidence of heterogeneity but *not* quite statistically significant at the .05 level are the effect questions on public engagement (i.e. 9) and relations (i.e. Q13). Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 59

Program/Study Familiarity – Hypothesis Testing Part I

Survey Question	n_p^a				p -value	Conclusion
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved		
Public Awareness						
Q7 – Effect ^b	.90	.81	.53	.00	<.01***	Reject the null hypothesis.
Q8 – Relevancy ^c	.97	.97	1.00	--	1.00	Failed to reject the null hypothesis.
Public Engagement						
Q9 – Effect ^b	.80	.70	.56	.00	.05*	Failed to reject the null hypothesis.
Q10 – Relevancy ^c	.96	.98	1.00	--	.79	Failed to reject the null hypothesis.
Public Support						
Q11 – Effect ^b	.73	.51	.47	.00	.02**	Reject the null hypothesis.
Q12 – Relevancy ^c	.96	.98	1.00	--	.78	Failed to reject the null hypothesis.
Relations						
Q13 – Effect ^b	.78	.68	.56	.00	.08*	Failed to reject the null hypothesis.
Q14 – Relevancy ^c	.94	.98	1.00	--	.44	Failed to reject the null hypothesis.
Communication						
Q15 – Effect ^b	.73	.73	.53	.00	.13	Failed to reject the null hypothesis.
Q16 – Relevancy ^c	.96	.96	1.00	--	1.00	Failed to reject the null hypothesis.
Consensus						
Q17 – Effect ^b	.73	.63	.67	.00	.35	Failed to reject the null hypothesis.
Q18 – Relevancy ^c	.96	.96	1.00	--	1.00	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Method: Fisher's exact test.

^a Excludes neutral responses. ^b Degrees of Freedom = 3. ^c Degrees of Freedom = 2.

* p -value < .10. ** p -value < .05. *** p -value < .01.

Table 60*Program/Study Familiarity – Hypothesis Testing Part II*

Survey Question	n_p^a				p -value	Conclusion
	Heavily Involved	Somewhat Involved	Rarely Involved	Not Involved		
Mission Sustainment						
Q19 – Effect	.67	.74	.60	--	.53	Failed to reject the null hypothesis.
Q20 – Relevancy	.98	.98	.92	--	.33	Failed to reject the null hypothesis.
Operational Complaints						
Q21 – Effect	.54	.47	.45	--	.83	Failed to reject the null hypothesis.
Q22 – Relevancy	.94	.96	.93	--	.87	Failed to reject the null hypothesis.
Support Infrastructure						
Q23 – Effect	.56	.50	.38	--	.49	Failed to reject the null hypothesis.
Q24 – Relevancy	.94	.94	.75	--	.20	Failed to reject the null hypothesis.
Quality of Life						
Q25 – Effect	.50	.32	.33	--	.12	Failed to reject the null hypothesis.
Q26 – Relevancy	.90	.94	.82	--	.40	Failed to reject the null hypothesis.
Compatible Civilian Development						
Q27 – Effect	.66	.61	.27	.00	.03*	Reject the null hypothesis.
Q28 – Relevancy	.97	.96	.93	--	.52	Failed to reject the null hypothesis.
Compatible Civilian Activity						
Q29 – Effect	.78	.63	.33	.00	<.01**	Reject the null hypothesis.
Q30 – Relevancy	.95	.96	.85	--	.24	Failed to reject the null hypothesis.

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: Distributions from stakeholder characteristic will be homogeneous. n_p = proportion of positive assessments. Neutral responses are excluded from the analysis. Method: Fisher's exact test. Degrees of Freedom = 2.

^a Excludes neutral responses.

* p -value < .05. ** p -value < .01.

Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)

Sample Composition

Open from October 26, 2020 to December 4, 2020, the policy Delphi surveys (i.e. control and treatment) were made available to prospective participants for approximately 30 workdays. Of the 115 emails sent to prospective participants for the *control* survey, approximately 21 percent elected to participate ($n_c = 24$). Of the 122 emails sent to prospective participants for the *treatment* survey, approximately 22 percent elected to participate ($n_t = 27$). This resulted in a total sample size of 51 participants ($N = 51$). As a result, this pilot study successfully met its targeted sample size of both surveys combined of greater than 30. Table 61 breaks down the sample composition of each survey by the stakeholder characteristics examined. For both the control and treatment surveys, 96 percent of participants worked/lived in their community greater than 10 years. Over half of the participants in both surveys described their institution as being “heavily” or “somewhat” involved in their community’s JLUS implementation. Similarly, over half of the participants in both surveys described their knowledge concerning their community’s JLUS as “extremely” or “moderately” familiar. Further discussion, interpretations, and implications of these findings are addressed in the subsequent chapter.

Table 61

Sample Composition Comparison – Policy Delphi

Stakeholder Characteristic	Stakeholder Group	Control Survey	Treatment Survey	Phase One’s Stakeholder Survey
Length of Residency	Less than 1 year	--	--	--
	Between 1 and 3 years	--	--	.07
	Between 4 and 10 years	.04	.04	.22
	Greater than 10 years	.96	.96	.71
Institutional Involvement	Heavily Involved	.38	.44	.38
	Somewhat Involved	.33	.26	.46
	Rarely Involved	.17	.26	.11
	Not Involved	.12	.04	.05
Program Familiarity	Extremely Familiar	.54	.41	.48
	Moderately Familiar	.17	.44	.38
	Slightly Familiar	.25	.15	.13
	Not at all Familiar	.04	--	<.01

Comparing Instruments

To compare the control and treatment instrument, their data is first examined at face value. Tables 62 and 63 break down the findings for each survey. The overall average observed from the positive proportions of phase one's stakeholder survey was 68 percent. Both the control and treatment surveys have higher averages with the control survey at 72 percent while the treatment survey scored slightly lower at 70 percent. Phase one's stakeholder survey observed a median positive proportion of 72 percent. The medians for the control and treatment surveys are also higher with the control survey at 77 percent while the treatment survey was slightly lower at 74 percent. In phase one's stakeholder survey, stakeholders were *most pessimistic* of the program's ability to reduce operational complaints. This held true for the control survey. However, the treatment participants were more pessimistic of the program's ability to foster support infrastructure from civilian institutions. Phase one's stakeholders were *most optimistic* about the program's potential for increasing community awareness of compatibility issues. This also held true for the control survey. In comparison, the treatment participants were most optimistic about the program's ability to foster intergovernmental communication at other military installations. Finally, there is only one instance where an evaluation criterion's questions received a lower average of positive proportions, albeit marginally (i.e. two percent), compared to phase one's survey. This is attributable to the military readiness questions in the treatment survey.

Table 62*Survey Positive Proportion Comparison – Part I*

Survey Question	Instrument		
	Control Survey	Treatment Survey	Phase One's Survey
Public Awareness			
Effect	.71	.85	.74
Relevancy	1.00	.89	.94
Public Engagement			
Effect	.71	.74	.65
Relevancy	.96	.89	.89
Public Support			
Effect	.46	.59	.51
Relevancy	.92	.78	.83
Relations			
Effect	.54	.81	.66
Relevancy	.92	.78	.90
Communication			
Effect	.54	.92	.66
Relevancy	.92	.88	.86
Consensus			
Effect	.54	.73	.58
Relevancy	.92	.73	.86

Note. Control survey sample size ($n_c = 24$). Treatment survey sample size ($n_t = 27$). Phase one's survey sample size ($N = 156$).

Table 63*Survey Positive Proportion Comparison – Part II*

Survey Question	Instrument		
	Control Survey	Treatment Survey	Phase One's Survey
Mission Sustainment			
Effect	.58	.88	.54
Relevancy	.79	.80	.78
Operational Complaints			
Effect	.33	.40	.27
Relevancy	.79	.56	.78
Support Infrastructure			
Effect	.38	.24	.38
Relevancy	.79	.48	.72
Quality of Life			
Effect	.38	.42	.51
Relevancy	.83	.63	.72
Compatible Civilian Development			
Effect	.67	.67	.43
Relevancy	.96	.83	.86
Compatible Civilian Activity			
Effect	.75	.58	.46
Relevancy	.96	.71	.82

Note. Control survey sample size ($n_c = 24$). Treatment survey sample size ($n_t = 27$). Phase one's survey sample size ($N = 156$).

The next step to compare the control and treatment instruments is examining their influence on consensus. Tables 64 and 65 outline the differences between each instrument in terms of convergence and the opinion's direction. For the control survey, 58 percent of the survey questions reached convergence compared to the treatment survey at 67 percent. All *relevancy* questions exhibit convergence for the control survey. The treatment survey resulted in similar results at 92 percent. Only 17 percent of the control survey's *effect* questions reached convergence with the treatment survey gaining 42 percent. The only instance in which the frequency of convergence differs by evaluation criteria is intergovernmental cooperation. The level of consensus remained the same or grew from the control survey in 71 percent of questions while the treatment survey was more contrary at 54 percent. All *relevancy* questions exhibit the same or greater levels of consensus for the control survey. The treatment survey was visibly dissimilar with only 25 percent

of *relevancy* questions generating the same or greater consensus. In comparison, only half of the *effect* questions from the control survey received the same or greater levels of consensus while the treatment survey obtained 83 percent greater consensus. The *performance* evaluation criteria exhibit nearly no difference in the frequency of group agreement by the two instruments. However, the frequency differences by *conformance* criteria reveals that the treatment survey group was more inclined to dissent. Finally, 33 percent of the questions from both instruments shared the same outcomes (i.e. in terms of both convergence status and group opinion) most of which (i.e. 63 percent) stem from *effect* questions. The frequency of shared outcomes is largely the same regardless of the evaluation criterion.

Table 64

Comparing Instrument Convergence – Part I

Survey Question	Instrument Comparison			
	Phase One Survey & Control Survey		Phase One Survey & Treatment Survey	
	Convergence Reached?	Group Opinion	Convergence Reached?	Group Opinion
Public Awareness				
Effect	Yes	Dissent	Yes	Agree
Relevancy	Yes	Agree	Yes	Dissent
Public Engagement				
Effect	Yes	Agree	Yes	Agree
Relevancy	Yes	Agree	Yes	Agree
Public Support				
Effect	No	Dissent	No	Agree
Relevancy	Yes	Agree	Yes	Dissent
Relations				
Effect	No	Dissent	Yes	Agree
Relevancy	Yes	Agree	Yes	Dissent
Communication				
Effect	No	Dissent	Yes	Agree
Relevancy	Yes	Agree	Yes	Agree
Consensus				
Effect	No	Dissent	No	Agree
Relevancy	Yes	Agree	Yes	Dissent

Note. Convergence: $\hat{p} \geq 0.67$.

Table 65*Comparing Instrument Convergence – Part II*

Survey Question	Instrument Convergence Comparison			
	Phase One Survey & Control Survey		Phase One Survey & Treatment Survey	
	Convergence Reached?	Group Opinion	Convergence Reached?	Group Opinion
Mission Sustainment				
Effect	No	Agree	Yes	Agree
Relevancy	Yes	Agree	Yes	Agree
Operational Complaints				
Effect	No	Agree	No	Agree
Relevancy	Yes	Agree	Yes	Dissent
Support Infrastructure				
Effect	No	Agree	No	Dissent
Relevancy	Yes	Agree	No	Dissent
Quality of Life				
Effect	No	Dissent	No	Dissent
Relevancy	Yes	Agree	Yes	Dissent
Compatible Civilian Development				
Effect	No	Agree	No	Agree
Relevancy	Yes	Agree	Yes	Dissent
Compatible Civilian Activity				
Effect	No	Agree	No	Agree
Relevancy	Yes	Agree	Yes	Dissent

Note. Convergence: $\hat{p} \geq 0.67$.

The final step to compare the control and treatment instruments is examining their stability. Tables 66 and 67 outline the differences between each instrument. When comparing the control survey to phase one's stakeholder survey, the instrument is stable for nearly every question with only two exceptions (i.e. the effect questions on compatible civilian development and activity). There is enough evidence to conclude that these two instances of instability contain proportions which statistically differ between the two "rounds" at the .05 significance level. The instability stems from the control group verbalizing more *positive* assessments than phase one's stakeholder survey. Also noteworthy, all *relevancy* and *performance* questions in the control survey were stable. In comparison, the treatment survey is largely stable with phase one's survey with instances of instability occurring in about 21 percent of questions. There is enough evidence to conclude that these instances of instability also contain proportions which statistically differ between the two

“rounds” at the .05 significance level. The frequency of unstable effect and relevancy questions is nearly the same; however, unstable *effect* questions are due to greater consensus while the unstable *relevancy* questions stem from dissent. When comparing the control and treatment instruments directly, 58 percent of the questions are stable. For the ten (10) questions that are unstable, only *half* have sufficient evidence to conclude that they statistically differ at the .05 significance level. The democratic participation questions remain stable regardless of the comparison examined. Military readiness questions had the most unstable proportions across all comparisons. Finally, the conformance criteria are comparatively more unstable than the performance criteria.

Table 66

Comparing Instrument Stability – Part I

Survey Question	Instrument Stability Comparison		
	Phase One Survey & Control Survey	Phase One Survey & Treatment Survey	Control Survey & Treatment Survey
Public Awareness			
Effect	Stable	Stable	Stable
Relevancy	Stable	Stable	Stable
Public Engagement			
Effect	Stable	Stable	Stable
Relevancy	Stable	Stable	Stable
Public Support			
Effect	Stable	Stable	Stable
Relevancy	Stable	Stable	Stable
Relations			
Effect	Stable	Stable	Unstable*
Relevancy	Stable	Stable	Stable
Communication			
Effect	Stable	Unstable**	Unstable*
Relevancy	Stable	Stable	Stable
Consensus			
Effect	Stable	Stable	Unstable
Relevancy	Stable	Stable	Unstable

Note. Stability measure: $|\hat{p}_1 - \hat{p}_2| \leq 0.15$. Significance level ($\alpha = .05$).

* $p\text{-value} < .05$. ** $p\text{-value} < .01$.

Table 67*Comparing Instrument Stability – Part II*

Survey Question	Instrument Stability Comparison		
	Phase One Survey & Control Survey	Phase One Survey & Treatment Survey	Control Survey & Treatment Survey
Mission Sustainment			
Effect	Stable	Unstable**	Unstable*
Relevancy	Stable	Stable	Stable
Operational Complaints			
Effect	Stable	Stable	Stable
Relevancy	Stable	Unstable*	Unstable
Support Infrastructure			
Effect	Stable	Stable	Stable
Relevancy	Stable	Unstable*	Unstable*
Quality of Life			
Effect	Stable	Stable	Stable
Relevancy	Stable	Stable	Unstable
Compatible Civilian Development			
Effect	Unstable*	Unstable*	Stable
Relevancy	Stable	Stable	Stable
Compatible Civilian Activity			
Effect	Unstable**	Stable	Unstable
Relevancy	Stable	Stable	Unstable*

Note. Stability measure: $|\hat{p}_1 - \hat{p}_2| \leq 0.15$. Significance level ($\alpha = .05$).

* $p\text{-value} < .05$. ** $p\text{-value} < .01$.

Phase Three – Interviews on JLUS Application Generalizability

Sample Participation and Composition

Conducted between July 21, 2020 to August 16, 2020, phone interviews were completed with 12 civilian planners throughout the United States. All participants ($N = 12$) originated from the stakeholder survey, from which, they self-identified as a civilian planner and acknowledged their interest in participating in a subsequent interview. The study not only reached its goal of 12 interviews but was able to interview at least one individual from each geographic region. Out of the 12 interviewees, seven (7) are from the Midwest, two (2) from the Northeast, two (2) from the South, and one (1) from the West. In total, 17 prospective interviewees were sent requests to participate. This puts the response rate for the interviews at about 71 percent. To maintain anonymity, all names, titles, and specific geographic locations will remain confidential. The dissertation can confirm however that all participants met the criteria for the target population. Since the interviewees also provided responses to the stakeholder survey, the composition of phase three's sample can be further examined without compromising anonymity. For example, 83 percent of the interviewees have worked/lived in their community for greater than 10 years with the remaining answering between 4 and 10 years. In terms of the military service department they are most closely associated, 33 percent said Army, 33 percent Joint Base, 25 percent Air Force, and nine (9) percent Navy. Finally, for institutional involvement and program familiarity, 92 percent of the interviews indicated that their institution is "heavily involved" and that they are "extremely familiar" with the Joint Land Use Study (JLUS) program.

Secondary Research

Prologue

In addition to the primary and supplementary research questions, this study offered a *secondary* research question consisting of the following:

- *How can the democratic, cooperative, and regional characteristics of the JLUS program extend beyond its current application to other forms of regional and intergovernmental planning?*

This secondary research question is designed to expand the discourse and qualitatively test the potential for replicating the methodological characteristics established in the Joint Land Use Study (JLUS) program to other forms of intergovernmental planning beyond defense communities.

General Questions

The first two questions of the interviews were general questions intended to gauge the experience and typical role of the planners related to JLUSs. In addition, these questions were posed first to ease the interview into the more complex questions. The first question asked the interviewees about their typical role related to JLUSs. The findings for this question are outlined in Table 68. All participants identified their role during JLUS development and 67 percent also mentioned their role related to its implementation. During plan development, most interviewees (i.e. 58 percent) served as technical/policy committee members. Two other common roles found were grantee management at 25 percent and consultant at 17 percent. For plan implementation, most interviewees currently serve in the capacity either as a consultant or local government administrator (25 percent respectively). The remaining participants prioritized their roles in grant administration and serving on committees aimed at implementation. The second question asked the interviewees to approximate when the most recent JLUS was adopted in their region. The findings for this question are outlined in Table 69. Comparable to the previous question, all participants identified an approximate time of completion and 25 percent also estimated when implementation efforts for their region's study were initiated. For plan completion, most interviewees (i.e. 42 percent) said their plans were completed between 2014 and 2015. Of the 12 participants, three (3) were currently contributing to the development of a new JLUS. All participants which estimated when implementation efforts for their region's study were initiated said sometime between 2017 and 2018.

Table 68*What is Your Typical Role Related to Joint Land Use Studies?*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Plan/Study Completion		
Technical and/or Policy Committee Member	“As director of planning, I served as a technical committee member as a representative of the county.” “I served as a participant in the Joint Land Use Study’s policy committee.”	7 (58)
Grantee Management	“I was the program manager of our region’s Compatible Use Study.” “I was the project coordinator for the Joint Land Use Study’s development.”	3 (25)
Consultant	“I was the consultant project manager during the production of the Joint Land Use Study.” “I served as the selected consulting firm’s project manager during the Joint Land Use Study’s development.”	2 (17)
Plan/Study Implementation		
Consultant	“I was also the principle for planning consultation after the implementation grant was received.” “When the implementation grant was received years later, I served as a consultant in the capacity as deputy project manager.”	3 (25)
Local Government Administrator	“Our institution manages much of the agricultural land surrounding the installation.” “Our institution primarily provides GIS support during long-term implementation.”	3 (25)
Committee Member	“As zoning administrator, I have served as a committee member for two (2) Joint Land Use Studies and one implementation effort.”	1 (8)
Grant Administration	“I was the project coordinator for the Joint Land Use Study’s development and continue to be for its implementation.”	1 (8)

Note. Sample (*N* = 12).

Table 69*When was the Most Recent JLUS Adopted?*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Plan/Study Development		
2009 – 2011	“We have three separate installations in our region. The first two Joint Land Use Studies were respectively completed in 2009 and 2011.”	1 (8)
2014 – 2015	“The most recent Joint Land Use Study was adopted about five (5) years ago.” “We have three separate installations in our region. [...] The most recent Joint Land Use Study was completed in 2015.”	5 (42)
2017 – 2018	“The update to our Joint Land Use Study completed in August 2017.” “The most recent Joint Land Use Study was completed about two (2) to three (3) years ago.”	3 (25)
2019 – Present	“A Joint Land Use Study is currently being produced.” “The most recent Joint Land Use Study was completed in February of 2020.”	4 (33)
Plan/Study Implementation		
2017 – 2018	“The implementation grant was received by the end of 2017. Implementation training finished in 2018.” “Implementation efforts initiated between 2017 and 2018.”	3 (25)

Note. Sample ($N = 12$).

JLUS Program

The next set of questions were aimed at obtaining more thorough responses related to the JLUS program. The first question asked how, if at all, did the JLUS program change their views or approaches towards planning. The findings for this question are outlined in Table 70. Review of the responses through the application of inductive coding revealed four common themes. The first theme centers around recognizing the importance of regional context and planning. As exhibited in the table, one-third of the participants mentioned in their responses that going through the JLUS process reinforced or enlightened their planning philosophy regarding the regional implications of planning decisions. The second theme found among responses was an increased awareness for the need to include and consider military installations in planning process.

Comparable to the first and second theme, one-third of participants stated that the JLUS program had not changed their view or approach towards planning. Finally, 25 percent of the interviewees praised the program's ability to foster shared regional goals and visions.

Table 70

How has the Program Changed Your Views and Approach Towards Planning?

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Recognized the Importance of Regional Context and Planning	“The Joint Land Use Study made me think more about the regional context of planning and recognize its importance.” “The Joint Land Use Study confirmed the need for planning, phased development, good spatial analysis, better data sets, public outreach, and more transitions to regional planning over local.”	4 (33)
Increased Awareness of Military Installations in Planning	“A lot of communities are not paying attention to military infrastructure and other state and federal property.” “We never considered that our land use decisions would affect the base. The Joint Land Use Study showed us that we need a more proactive response to growth around the installation compared to the reactive responses of the past.”	4 (33)
Did Not Change Views or Approach	“The Joint Land Use Study did not change my views at all. Our institution is shaped by regional thinkers and planners.” “The Joint Land Use Study did not change my views and approach towards planning at all.”	4 (33)
Fostered Shared Regional Goals and Visions	“The Joint Land Use Study helped shape a regional vision and provided a platform for communities and institutions in the region to share with each other our ongoing issues related to planning.” “The Joint Land Use Study, albeit non-binding, created a playbook for regional decision-making, offered a means for better continuity, and established a common focus.”	3 (25)

Note. Sample (*N* = 12).

The second question asked the interviewees to identify what they believed would make the program more effective during the initial production of a JLUS. The findings for this question are outlined in Table 71. Review of the responses revealed three common themes. Most interviewees, 75 percent, verbalized that the JLUS program needs more effective outreach, engagement, and buy-in efforts across all groups including the public, military, property owners, leaders, etc. One-

third of the participants stated that during JLUS development there needs to be better communication, coordination, and consideration of regional implications. The final theme shared among 25 percent of interviewees was a criticism of the consultant selection process which they felt did not sufficiently prioritize local interests.

Table 71

What Would Make the Program More Effective During Initial Production?

Shared Response	Example Quote	Frequency, <i>n</i> (%)
More Effective Outreach, Engagement, and Buy-in Efforts	“Taking more time to diversify outreach efforts beyond public meetings to increase the willingness of stakeholders, property owners, and the public to engage. Advertise the Joint Land Use Study at community gatherings. Better online marketing of the campaign would also help.” “Obtaining greater input from all community stakeholders rather than from specific community leaders.”	9 (75)
Better Communication, Coordination, and Consideration of Regional Implications	“The Joint Land Use Study programs needs to interact more with smaller, rural counties, consider the consequences to rural areas, and improve overall outreach.” “A Joint Land Use Study program needs to do a better job at knowing their audience, communication, and coordination.”	4 (33)
Improve Consultant Selection Process	“The types of consultants selected for Joint Land Use Studies is largely decided by the Office of Economic Adjustments. These consultants often do not understand local governments and prioritize federal interests.” “More research and homework need to be done during consultant selection.”	3 (25)

Note. Sample (*N* = 12).

The final question asked the interviewees to identify what they believed would make the program more effective for long-term implementation. The findings for this question are outlined in Table 72. Review of the responses revealed four common themes. Half of the interviewees stated that the JLUS program needs to establish better mechanisms for leadership and staff continuity. Similarly, 42 percent of participants verbalized the need for establishing committees which promote frequent interaction among jurisdictions and institutions. One-third of the participants criticized their JLUS’s capacity to maintain long-term political viability. Finally, 25

percent of interviewees expressed that the plans were too complex and thus hampered administrative operability.

Table 72

What Would Make the Program More Effective for Long-Term Implementation?

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Better Leadership and Staff Continuity	“The establishment of a permanent, regional implementation committee including elected officials, military officers, etc. Staff which answers to committee should not be military planners since individuals holding said position changes frequently. This position needs to be a local.” “Continuity of personnel, particularly military personnel, is critical. The installation is oblivious to what they receive from us now. There is just too much turnover at installations. They do not know what to do with the information.”	6 (50)
Establishing Committees which Promote Frequent Interaction	“There needs to be greater leadership consistency and stability during the transition of military leaders. New military leaders are not involved. This hampers communications and many regional relations have been lost.” “Leadership at military installations is constantly recycling. Static personnel are vital.”	5 (42)
Improving Political Viability	“Integrating official agreements that jurisdictions sign to work towards goals would be beneficial.” “The cities are slower to adopt Joint Land Use Study policies and it is difficult to get these policies adopted by all cities.”	4 (33)
Simplify the Process	“There are so many installations regionally that there is not enough time to do them all comprehensively at the same time. Both plan development and implementation need to be cyclical.” “The study was also just too complex.”	3 (25)

Note. Sample (*N* = 12).

JLUS as an Intergovernmental Planning Tool

The final set of questions were aimed at addressing the secondary research question to better understand how characteristics of the JLUS program might extend beyond its current application to other forms of regional and intergovernmental planning if at all. The first question asked what the benefits are for communities to produce and implement a JLUS. The findings for this question are outlined in Table 73. Review of the responses through the application of inductive

coding revealed four common themes. The first theme centers around establishing better regional relations, cooperation, and engagement. As exhibited in the table, 58 percent of participants mentioned in their responses that one of the main benefits of a JLUS is improving intergovernmental relations. The second theme found among responses was the promotion of regional thinking at 25 percent. This theme is distinguishable from the other themes because there is a recognition by the planners that the JLUS encouraged their communities to temporarily shift away from their scope, scale, and approach towards planning which traditionally prioritizes local interests. Comparable to the second theme, the remaining two themes were also evident in 25 percent of responses. The third theme was an increased awareness of regional issues and the fostering of a shared response. This theme emphasizes the importance of the existing conditions stage of a JLUS and developing an output that is generally agreed upon to address the issues identified. Finally, the fourth theme reflected on the JLUS's ability to address compatibility and sustainability issues. This theme underscores that for some planners the most significant benefits are the study's outcomes.

Table 73*What are the Benefits, if any, for Communities to Produce and Implement a JLUS?*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Establishes Better Regional Relations, Cooperation, and Engagement	“Cooperation. This process encouraged everyone in the region to talk to each other.” “The JLUS process allowed us to be a good neighbor and helped us and others discover you can actually communicate with the military.”	7 (58)
Promotes Regional Thinking	“The JLUS process also helped us identify unknown regional issues that need regional support, resources, etc.” “The JLUS was the first time all subjects were on the table and provided us a platform to consider what can we do.”	3 (25)
Increases Awareness of Regional Issues and Fosters a Shared Response	“The study has increased regional communication and the awareness of compatibility issues significantly.” “It fostered [...] the establishment of shared goals.”	3 (25)
Improves Compatibility and Sustainability	“The JLUS helps keep the operations at the installation which is important for regional employment and economic sustainment. The study has eliminated further encroachment and has been in everyone’s best interest.” “It promotes better compatibility between the community and local installation.”	3 (25)

Note. Sample (*N* = 12).

The second and third questions asked the interviewees to identify what the major challenges are when producing and implementing a JLUS. The findings for these questions are outlined in Table 74 and 75 respectively. Review of the responses revealed multiple themes some of which are shared by both questions. Half of the interviewees verbalized that a lack of engagement, public support, and education efforts was a major challenge of producing a JLUS. Similarly, 42 percent of participants identified a lack of public support and outreach as a major challenge for implementing the JLUS in the long-term. One-third of the participants stated that during JLUS development there were political power struggles among jurisdictions. Other challenges described by planners concerning the production of JLUSs are covered by the following themes: political viability barriers; time-consuming; consultant familiarity limitations; and limited military role. Two of these themes, political viability barriers and limited military role, were also present in the planner’s discussions on JLUS implementation challenges. The remaining themes

found in terms of implementation challenges centered around financial support, leadership and staff continuity, and legal challenges.

Table 74

What are the Major Challenges of Producing a JLUS?

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Lack of Engagement, Public Support, and Education Efforts	“Participation and engagement were also major challenges.” “There needs to be more community involvement.”	6 (50)
Power Struggles	“There was too much representation of certain groups over others. Largest participant had the most influence.” “Overcoming unequal power roles.”	4 (33)
Political Viability Barriers	“Getting by-in by local agencies has been a major challenge as they do not want to give away land use authority.” “Creating a culture of joint efforts and gaining assistance from each other was also challenging.”	3 (25)
Time-consuming	“The natural instinct of the military and participating communities is that they do not want to look vulnerable. Getting past this point takes significant time.” “Getting the time of day with everyone as some do not want to be involved.”	3 (25)
Consultant Familiarity Limitations	“Consultants need to talk and get to know the community.” “In my experience however, [...] getting the right expertise [has] been challenging.”	2 (17)
Limited Military Role	“The military says what they want then takes a step back. They are not standing with us once it moves towards implementation.” “The military also takes a back seat during the process.”	2 (17)

Note. Sample (*N* = 12).

Table 75*What are the Major Challenges of Implementing a JLUS?*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Lack of Public Support and Outreach	“Participation and engagement dropped-off significantly since there is no requirements to keep everyone’s attention.” “By-in from cities and property owners (i.e. voters) has been a challenge.”	5 (42)
Political Viability Barriers and Competition	“Implementation has not been fair across the board. Our community has been out of sight out of mind. There needs to be better prioritization of recommendations by type of community.” “The election cycle also creates competition with other political policies leading to no exposure and delays.”	4 (33)
Limited Military Role	“The military continues to take a back seat when it comes to implementation.” “The military continues to take a step back from implementation as they are cautious of getting involved in zoning and local decisions.”	2 (17)
Financial Support	“States also need to be more involved in the implementation process (i.e. money and personnel).” “Financial support is needed.”	2 (17)
Leadership and Personnel Continuity	“Continuity for both local and military personnel is a major challenge. These personnel move around a lot and then things get dropped.” “We need better leadership continuity. Establishing a permanent body of implementation would be helpful.”	2 (17)
Legal Challenges	“Controversial takings [...] remains [a] leading challenge to implementation.” “There has been no taking issues here, but this has been an issue elsewhere.”	2 (17)

Note. Sample (*N* = 12).

The next two questions asked the interviewees to describe what makes an effective JLUS strategy or recommendation and how often they believe a JLUS should be updated and why. The findings for this question are outlined in Table 76 and 77 respectively. When it comes to what makes an effective strategy or recommendation, multiple common themes were found. Most interviewees, 58 percent, stated that it needs to be shaped by engagement and good planning practices. Half of the participants also verbalized it needs to be as clear and specific as possible.

Other shared descriptions are covered by the following themes: politically viable, ease of administrative operability, and possesses a mechanism for accountability; relatable to the public; stakeholder and leadership support; and one size does not fit all. When asked how often a JLUS should be updated, 42 percent of participants stated somewhere between 4 and 7 years, 33 percent every ten (10) years or more, and the remaining 25 percent either regularly or dependent upon change. The two most prevalent justifications stemmed from matching the update timeline for traditional comprehensive/general plans and being responsive to change over time.

Table 76

What makes a JLUS Strategy or Recommendation Effective?

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Shaped by Engagement and Good Planning Practices	“It must be rooted in analysis and data.” “The participants came together to arrive at the solutions.”	7 (58)
Clarity and Specificity	“It should be clear what needs to be done. They also need to be specific (i.e. tied to specific policies, regulations, and areas).” “There should be a clear need for a rule or policy change. Is it obvious to everyone? The clear the need is to the public the better.”	6 (50)
Politically Viable, Ease of Administrative Operability, and Possesses a Mechanism for Accountability	“Will it get implemented? Is it implementable and political viable?” “They also need to be [...] measurable, and politically viable for adoption.”	3 (25)
Relatable to the Public	“They need to be relatable to locals.” “The community needs to understand the economic benefit. What is the return on investment?”	3 (25)
Stakeholder and Leadership Support	“There needs to be consistent leadership and decision-making.” “There must be consensus among the technical and policy leaders.”	3 (25)
One Size Does Not Fit All	“A one size fits all approach does not work despite the military’s preference towards this.” “They [...] cannot be one size fits all”	2 (17)

Note. Sample (*N* = 12).

Table 77*How Often Should a JLUS be Updated and Why?*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
When?		
Between 4 and 7 Years	“[W]hen large communities update their plans every four (4) to six (6) years.” “Five (5) years like regular plans is likely the best practice pending significant changes.”	5 (42)
Every 10 Years or More	“Ten (10) years similar to comprehensive plans.” “The JLUS should probably be updated every ten (10) to 20 years which is consistent with typical general plans.”	4 (33)
Regularly/Dependent Upon Change	“They should be updated regularly especially during leadership changes at installations and to be responsive to BRAC considerations.” “Only when change is substantial. It should be entirely environment and context dependent.”	3 (25)
Why?		
Consistent with Comprehensive/General Plans	“Probably every ten (10) years which is equivalent to comprehensive plan updates and the provision of new census data.” “Every five (5) years we should look at it and see if an update is needed like comprehensive plans.”	7 (58)
Responsive to Change	“Context might require it to be sooner. Reviewing and making minor edits every two (2) to three (3) years as changes occur might also be an ideal approach.” “It really depends as environments are dynamic. If growth is rapid (i.e. greater and five percent annually), then probably every three (3) to five (5) years. If growth is static (i.e. less than five percent annually), then updates may not be needed for seven (7) to ten (10) years.”	7 (58)
Time Intensive	“Every five (5) to seven (7) years is probably best as they are time and resource intensive to produce.”	1 (8)

Note. Sample (*N* = 12).

The next group of questions asked the interviewees to describe the extent to which they believe communities would benefit from joint studies from a list of various planning contexts. The findings for these questions are outlined in Tables 78 through 83. For land use planning, the majority of planners (i.e. 67 percent) rated the prospective benefits of joint studies as high (see

Table 78). The skew from the remaining participants favors an even higher rating. Similarly, for transportation planning, the majority of interviewees (i.e. 58 percent) rated the prospective benefits of joint studies as high (see Table 78). The skew from the remaining participants however favors a lower rating. For resilience planning, most participants (i.e. 42 percent) rated the prospective benefits of joint studies as high (see Table 79). However, an equal percentage of interviewees rated the prospective benefits as being mixed, low, or moderate. For environmental planning, most participants (i.e. 42 percent) rated the prospective benefits of joint studies as high (see Table 80). However, all remaining planners rated the prospective benefits below this rating. For housing affordability and diversity, most participants (i.e. 33 percent) rated the prospective benefits of joint studies between moderate and high (see Table 81). The skew from the remaining participants favors a lower rating. For capital improvement planning, the majority of planners (i.e. 58 percent) rated the prospective benefits of joint studies as moderate (see Table 82). The remaining interviewees were generally split with a slight skew towards a lower rating. Finally, for economic development, the majority of participants split their ratings between high and very high at 42 percent respectively (see Table 83).

Table 78*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part I*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Land Use Planning		
Very High	“I would rate the benefits as very high. Our region has a population of over 900,000 with ten (10) cities and mostly agricultural counties. Joint studies allow everyone to maintain their identity.” “I would rate the benefits as very high since it has the greatest impact.”	3 (25)
High	“I would rate the benefits as high especially where there are a lot of changes.” “I would rate the benefits as high. This is commonly known but not commonly practiced, only when forced.”	8 (67)
Moderate	“I would rate the benefits as moderate. Localism or the prioritization of local interests is hard to overcome. There is a lack of homogeneity when it comes to dealing with different issues.”	1 (8)
Transportation Planning		
Very High	“I would rate the benefits as very high since travel occurs in and out of the region.”	1 (8)
High	“I would rate the benefits as high. Funding is often limited and joint studies offers a means to combine each other’s resources.” “I would also rate the benefits as high since it complements land use planning.”	7 (58)
Moderate	“I would rate the benefits as moderate.” “I would rate the benefits as moderate based on personal experience.”	3 (25)
Low	“I would rate the benefits as low since it involves many elements moving to and from various jurisdictions despite many of the fundamentals being consistent across the board.”	1 (8)

Note. Sample (*N* = 12).

Table 79*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part II*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Resilience Planning		
Very High	“I would rate the benefits as very high. Minnesota is a great example of how to plan for fire safety, development, flooding, etc. It helped set up the right tools, resources, and assessments of risk.”	2 (17)
	“I would rate the benefits as very high. Its application potential struggles to overcome political barriers which requires education.”	
High	“I would rate the benefits as high since it provides a means to share personnel, knowledge, and experience.”	5 (42)
	“This has the potential to be high, but a regional effort may be a struggle. Many resilience issues are viewed as crystal ball issues, are expensive to address, and selling it politically is hard.”	
Moderate	“For us, I would rate the benefits as moderate since flooding and sea level rise is not an issue but for others it may vary (i.e. context is important).”	3 (25)
	“I would rate the benefits as moderate, but it remains an individual, local issues where I am.”	
Mixed or Low	“I would rate the benefits between low and moderate. This might become bigger in the future. We are already doing it now but locally.”	2 (17)
	“I think the benefits would be mixed since it is hard to predict.”	

Table 80*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part III*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Environmental Planning		
High	“Similar to resilience planning, this has the potential to be high. For example, we have brownfields in seven counties within the region. These could be redeveloped for the economic benefit of the region.” “I would rate the benefits as high since environmental issues cross boundaries even states.”	5 (42)
Moderate to High	“I would rate the benefits between moderate and high. The protection of natural resources, which crosses traditional boundaries, is a great example of a potential regional focus.” “I would rate the benefits between moderate to high. Similar to resilience planning, this has an issue with being out of sight out of mind.”	3 (25)
Moderate	“I would rate the benefits as moderate. Joint efforts to protect wetlands, conform to federal regulations, and combat environmental contaminations are examples where it could be done.” “I would rate the benefits as moderate since other state and federal programs are already addressing it.”	3 (25)
Low	“I would rate the benefits as limited or low. Things like wind, solar, etc. can be done regionally but most work is done locally.”	1 (8)

Note. Sample ($N = 12$).

Table 81*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part IV*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Housing Affordability and Diversity		
High to Very High	“I would rate the benefits as high. Housing studies can inform local policies and budget constraints.” “I would rate the benefits between high and very high. Growth, rent, and the market rates are too high. We need to catch up.”	3 (25)
Moderate to High	“I would rate the benefits between moderate and high. This should be addressed more similar to schools and education. It would also help increase the tax base.” “I would rate the benefits between moderate and high. This could help the homeless and veterans in our community.”	4 (33)
Moderate	“I would rate the benefits as moderate. It is ultimately up to the local jurisdictions. The state informs housing needs so relations between the state and locals may be more important.” “I would rate the benefits as moderate but context matters. Recent experience has shown that it can be used to reduce rents and increase subsidies for housing.”	3 (25)
Low to Moderate	“I would rate the benefits as low. Housing is inexpensive and there is not much competition in our region.” “I would rate the benefits between low and moderate since it is a local issue.”	2 (17)

Note. Sample ($N = 12$).

Table 82*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part V*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Capital Improvement Planning		
Moderate to High	“I would rate the benefits as high and it needs to be more important. There is a clear connection between this and resilience planning regarding the impacts of growth and who benefits. This is especially not done enough in small communities.” “I would rate the benefits between moderate and high but the context matters.”	2 (17)
Moderate	“I would rate the benefits as moderate. Some examples of such efforts might be aimed at water and sewer infrastructure, school districts, meeting EPA rules, or annexation studies responding to future growth.” “I would rate the benefits as moderate. It would likely improve the connections between infrastructural elements and input/output considerations, but rural communities may be unsure of their role.”	7 (58)
Low to Moderate	“I would rate the benefits between low and moderate. The status quo is well established and would be very challenging to overcome.” “I would rate the benefits as low. There are currently not very many opportunities for such efforts, although, the context does matter. Might be an option more in the future.”	3 (25)

Note. Sample ($N = 12$).

Table 83*Rating Prospective Benefits of Joint Studies: Various Planning Contexts – Part VI*

Shared Response	Example Quote	Frequency, <i>n</i> (%)
Economic Development		
Very High	“I would rate the benefits as very high. Such efforts have been critical and have had a large economic impact. It provides a means to feed off each other in a positive way.”	5 (42)
	“I would rate the benefits as very high. Large institutions, such as military installations and other federal facilities benefit the locals, regional businesses, and overall growth.”	
High	“I would rate the benefits as high since it has worked well in the past and provides us a means to share resources and knowledge.”	5 (42)
	“I would rate the benefits as high. It helps identify and support economic drivers with the goal of reaching shared successes.”	
Moderate to High	“I would rate the benefits between moderate and high since it would benefit the region at large. It can help diversify the economy, present more education and training opportunities, etc.”	2 (17)
	“I would rate the benefits as moderate and it could be higher if communities would listen to each other. There is often not enough representation and rural voices are often discounted.”	

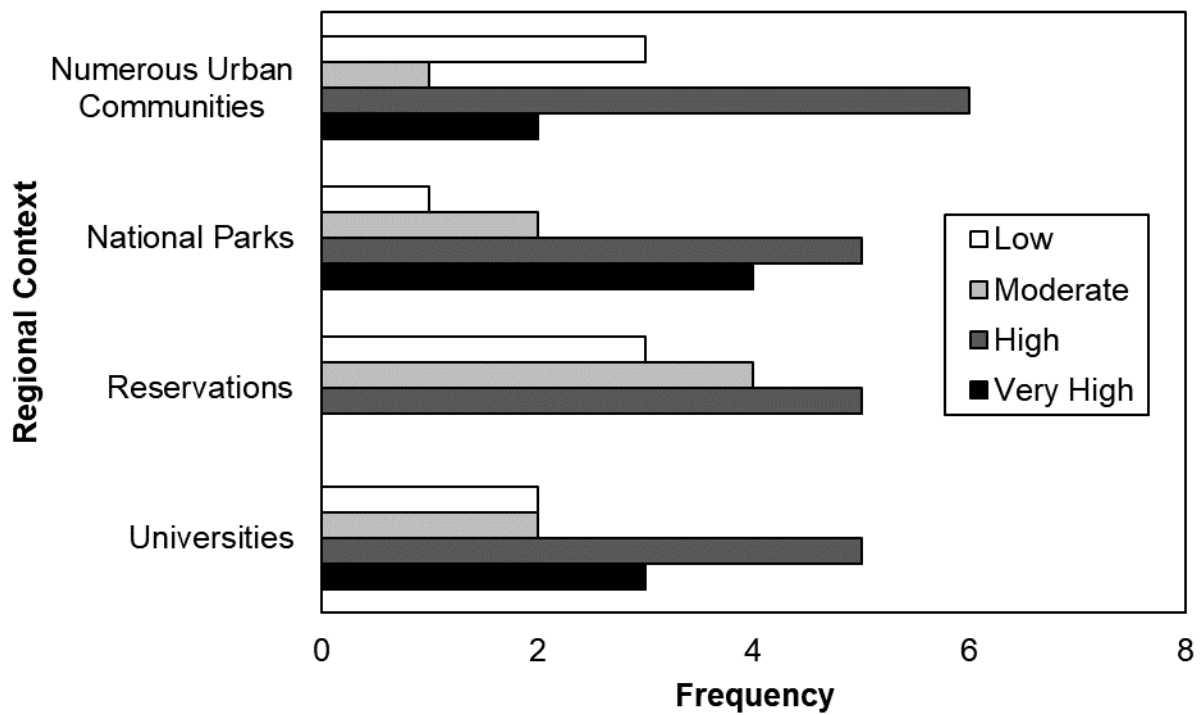
Note. Sample ($N = 12$).

The subsequent group of questions asked the interviewees to describe the extent to which they believe communities would benefit from joint studies under other regional contexts. The findings for this question are displayed in Figure 24 and Table 84. As depicted in Figure 24, the prospective benefits of producing joint studies with national parks has the most “very high” ratings with the least amount of “low” ratings. Numerous urban communities received the most “high” ratings with the least amount of “moderate” ratings. Reservations acquired the most “moderate” ratings and is the only option with no “very high” ratings. Lastly, the ratings for universities were generally average and never dominate or underperform compared to the other options examined. Where needed and if the participant was willing, interviewees were asked to rank the four options for additional clarification (see Table 84). The descriptive statistics reveal that universities on average were ranked the highest (i.e. 2.18) while reservations averaged the lowest rank (i.e. 3.00).

The interview's sample standard deviation (s) from each option reveals that the participants were the most consistent in their assessments of universities and the least consistent when assessing numerous urban communities.

Figure 24

Rating Prospective Benefits of Joint Studies: Other Regional Contexts



Note. Sample ($N = 12$).

Table 84*Raking Prospective Benefits of Joint Studies: Other Regional Contexts*

Ranking	Regional Context			
	Numerous Urban Communities	National Parks	Reservations	Universities
1 (Most)	4	4	2	2
2	3	2	1	5
3	1	3	3	4
4 (Least)	4	2	5	0
Descriptive Statistics				
$\bar{x}$	2.42	2.27	3.00	2.18
<i>Md</i>	2.00	2.00	3.00	2.00
<i>Mo</i>	1.00	1.00	4.00	2.00
<i>s</i>	1.31	1.19	1.18	0.75

Note. Sample ($N = 12$). $\bar{x}$ = sample mean. *Md* = sample median. *Mo* = sample mode. *s* = sample standard deviation.

The final question asked the interviewees to describe any other instances in which they think joint studies can be beneficial for regional planning. Participants were encouraged to focus on topics not yet talked about during the interview. With that said, some of the planners still verbalized items previously discussed. The following bullets outline the list of contexts in which the participants felt would benefit from joint studies in the future:

- Recreational Planning;
- Disaster Response Planning;
- Hospital and Other Medical Facilities;
- Federal Buildings;
- Big Industrial Activities (e.g. oil, gas, etc.);
- Airports (x2);
- Sanitary/Septic Infrastructure (x2);
- Housing;
- Stormwater;
- Transit;
- Regional Landfills;
- Compatible Land Use;
- Economic Development (x2);
- Landscape/Wildlife Management;
- State Parks;
- Tourism;
- Conversation;
- Resiliency (x2);
- Environmental Planning (x2);
- Energy Uses (e.g. solar, wind, etc.);
- Coastal and Shoreline Planning;
- Education Facilities; and
- Water Infrastructure.

Chapter 5 - Analysis and Conclusions

This dissertation underscores the significance of physical incompatibilities in defense communities, the lack of planning scholarship on defense communities and their relations with military institutions, and the benefits of evaluating past planning and policy actions. Current scholarship on defense community has largely focused on the Base Realignment and Closure (BRAC) process and its implications on communities. While warranted, today's planning scholars and practitioners must recognize that physical incompatibilities between military installations and their surrounding defense communities is a rising criterion for future BRAC consideration. Local planning actions and recommendations have and continue to shape the country's larger approach to military readiness and planning. Some planners may argue that such considerations are beyond their role, responsibilities, and/or jurisdiction. Although certainly worthy of debate in a planning forum, the expectation by community leaders that planners are informed on such issues and how their community might respond is only rising. This study bridges this knowledge gap by examining the regulatory history behind the policy problem, outlining the vast policy and planning alternatives available, evaluating one of these alternatives *ex-post* (i.e. the JLUS program), and sharing the stories of defense communities from current planning officials. Chapter 5 presents a summary of key findings, links the findings to existing literature, reflects upon the objectives and hypotheses of this study's research questions, considers the practical implications of the findings, identifies this study's empirical limitations, suggests areas for further research, and concludes with final remarks.

Phase One – Stakeholder Survey on JLUS Implementation

Prologue

Currently, established government practice has neglected to identify any possible deficiencies with the Joint Land Use Study (JLUS) program (some of which may be amendable) opting instead for retaining an unchecked formula and applying it to the next defense community. To overcome this deficiency, this study applied both the *performance* and *conformance*-based approaches to plan evaluation. The *primary* research question driving this evaluation consisted of the following:

- *How do local stakeholders assess the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; and (d) civilian development?*

Results from the stakeholder survey are measured to reject or fail to reject the primary research question's null hypothesis. The tested *null* hypothesis for the primary research question was:

- Less than or equal to half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment regarding the JLUS program's ability to progress a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_0: } p_a \leq 0.5 \text{ and/or } p_b \leq 0.5 \text{ and/or } p_c \leq 0.5 \text{ and/or } p_d \leq 0.5$$

$$H_0: JLUS \text{ Proportion of Positive Assessments}_{(Evaluation \text{ Criteria})} \leq 0.5 \text{ or } 50\%$$

The *alterative* hypothesis tested for the primary research questions is:

- Greater than half (i.e. 0.5 or 50%) of local stakeholders offer a positive assessment that the JLUS program progresses a region's (a) democratic participation; (b) intergovernmental cooperation; (c) military readiness; *and/or* (d) civilian development.

$$\mathbf{H_A: } p_a > 0.5 \text{ and/or } p_b > 0.5 \text{ and/or } p_c > 0.5 \text{ and/or } p_d > 0.5$$

$$H_1: JLUS \text{ Proportion of Positive Assessments}_{(Evaluation \text{ Criteria})} > 0.5 \text{ or } 50\%$$

For each evaluation criterion, the study hypothesized that more than half of local stakeholders will offer a positive assessment of the JLUS program.

Recognizing that stakeholder groups can also offer different conclusions (Rossi et al., 2019), prioritize their self-interest (Weimer and Vining, 2017), and influence policy implementation (Mazmanian and Sabatier, 1989), it was critical for this study to be “concerned with fairness [and] equity so that no group is given an unfair preference in the evaluation” (Patton et al., 2016, p. 349). While this study could not possibly test the differences and similarities of every possible stakeholder group, prioritization was devoted to characteristics which applied to all JLUS cases and were likely to enhance the prospect of future research. The stakeholder characteristics chosen based upon these considerations were military status (i.e. civilian vs. military employment), length of residency, military service department (i.e. Army, Navy, etc.), geography, institutional involvement, and program/study familiarity. The findings in this subsection address this study's supplementary research question:

➤ *How, if at all, does the following stakeholder characteristics influence differences in local assessments of the JLUS program:*

i. <i>Military Status;</i>	iv. <i>Geography;</i>
ii. <i>Length of Residency;</i>	v. <i>Institutional Involvement; and</i>
iii. <i>Military Service Department;</i>	vi. <i>Program/Study Familiarity.</i>

Results from the stakeholder survey are measured to reject or fail to reject this supplementary research question's null hypothesis. The tested *null* hypothesis consisted of the following:

H₀: *Distributions from stakeholder characteristic **will be homogeneous.***

The *alterative* hypothesis tested for this supplementary research questions is:

H_a: *Distributions from stakeholder characteristic **will not be homogenous.***

For each evaluation criterion, the study hypothesized that stakeholder groups from each characteristic will offer different assessments of the JLUS program.

Summary and Analysis of Key Findings

To enhance the reliability and validity of this study's collective conclusions regarding the stakeholder survey, factor analyses were first conducted to assess whether the variables examined reasonably load to their assigned survey scheme, evaluation criteria, and collective measures (i.e. performance or conformance) for addressing the research questions. The initial factor analysis ultimately revealed that responses to the core survey questions, at least initially, load consistently to their assigned survey scheme. This indicates that the survey scheme functioned as intended (i.e. measuring effect vs. relevancy). While the primary research question is chiefly focused on the program's effect, the inclusion of relevancy questions was intended to support the findings by assessing the perceived long-term practicality of the JLUS program and indirectly measuring whether the program likely contributed to its intended change. The dissertation found that JLUS stakeholders are consistently optimistic about the program's future and its potential application at other military installations. In addition, albeit more positive than negative, stakeholders are comparatively more pessimistic in their assessments of the program's effect on their own community than elsewhere. Future studies might explore and confirm potential explanations, but this study expects the plausible explanation may originate from: 1) a slight misperception by stakeholders of the program's capacity to generate change elsewhere; 2) the stakeholders accept the fact that change takes time so they anticipate their local views will become more positive in

the future; or 3) some combination thereof. Complementing the factor analyses, this study also measured internal consistency to ensure collective conclusions about each construct (i.e. evaluation criteria and measures of success) is as reliable as possible. Nearly every construct, except for democratic participation, was able to meet the acceptable or better consistency thresholds. These efforts not only serve as a means for additional quality control but further facilitate our understanding of these constructs and their complexities within this planning and policymaking arena.

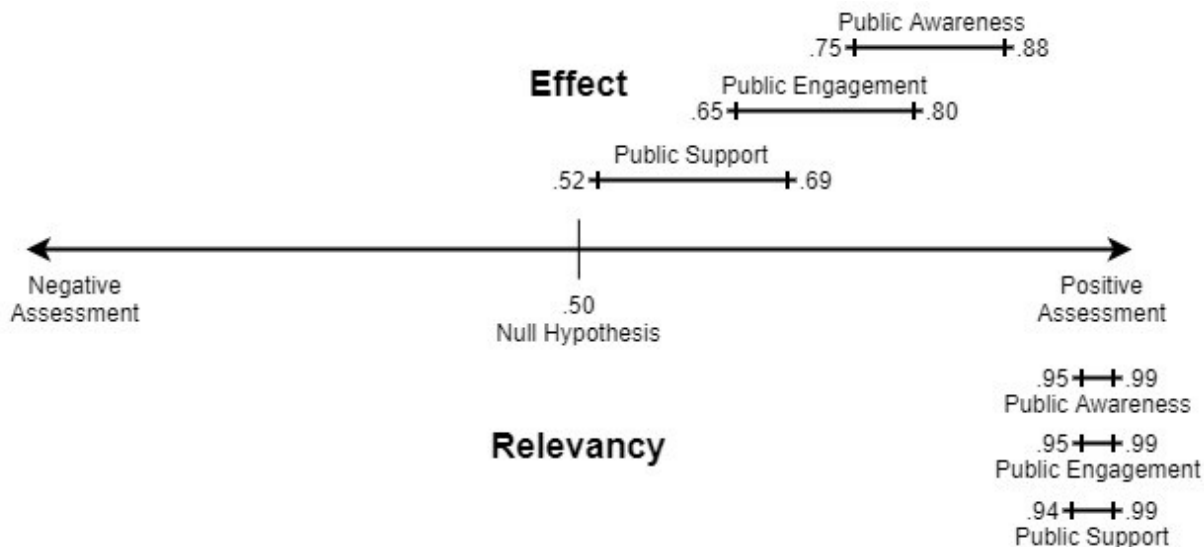
Neutral response rates were nearly double for substantive (i.e. conformance) criteria compared to procedural criteria (i.e. performance) in most cases. Recall that Gormley criticized institutional policy analysis for disproportionately prioritizing procedural criteria over substantive (1987). The visible reluctance by stakeholders to offer feedback on conformance criteria may contribute to this past prioritization by scholars and policy analysts. This finding is not particularly surprising since material development in the field of planning can often take years if not decades to result in the desired change. Longer implementation lag times for conformance variables, shifting community capitals, personnel turnover, and recall bias are some of the key mechanisms this study believes are contributing to this finding. This is further supported by the findings from phase three's interviews with civilian planners. Finally, when given the choice between two negative options, stakeholders in most cases selected the "no change" option regardless of evaluation criteria, variable, etc. This may indicate that despite these sites having at minimum three (3) years for implementation, the lag time may be significantly longer which the policy Delphi at least partially confirms. Discussions from the interviews reveal that many communities wait for implementation grants a few years after adoption, a visible limitation of the program. Other limitations of the program which may also be contributing to the greater selection of the "no change" option is further discussed in a later section (e.g. personnel turnover, leadership changes, erosion of support, etc.).

The dissertation found that on average, 84 percent of stakeholders provide a *positive* assessment of the JLUS program in terms of progressing democratic participation in their region. This average is the *highest* among all evaluation criteria. Future studies might explore and confirm potential explanations, but this study expects the plausible explanation is associated with its function as a performance criterion. As previously noted, stakeholders were more apt to offer positive and negative assessments for the performance criteria compared to conformance. In

addition, democratic participation is arguably the simplest criterion to fulfill since conformance criteria requires change in material development and intergovernmental cooperation necessitates change via relations which may be hindered by past confrontations. Hypothesis testing confirms the null hypothesis can be rejected for *all* survey questions assigned to democratic participation at the .05 significance level. Confidence intervals for each variable assigned to democratic participation are shown in Figure 25 by their respective survey scheme. These intervals depict the approximate proportions we expect to find in the overall target population. While the raw data, factor loading, hypothesis testing, and confidence intervals provide ample evidence that the null hypothesis can be rejected, this study still recognizes that internal consistency for democratic participation is below the desired threshold. The visibly wider alignment between the effect confidence intervals likely provides some evidence that selecting variables to exemplify democratic participation is more challenging than the other evaluation criteria. Consequently, in an abundance of caution, this study recommends interpreting the findings at the variable or survey scheme level as opposed to the evaluation criterion. Discussions on how future studies might expand upon and the practical implications of these findings are addressed in later sections.

Figure 25

Confidence Intervals by Democratic Participation Survey Questions

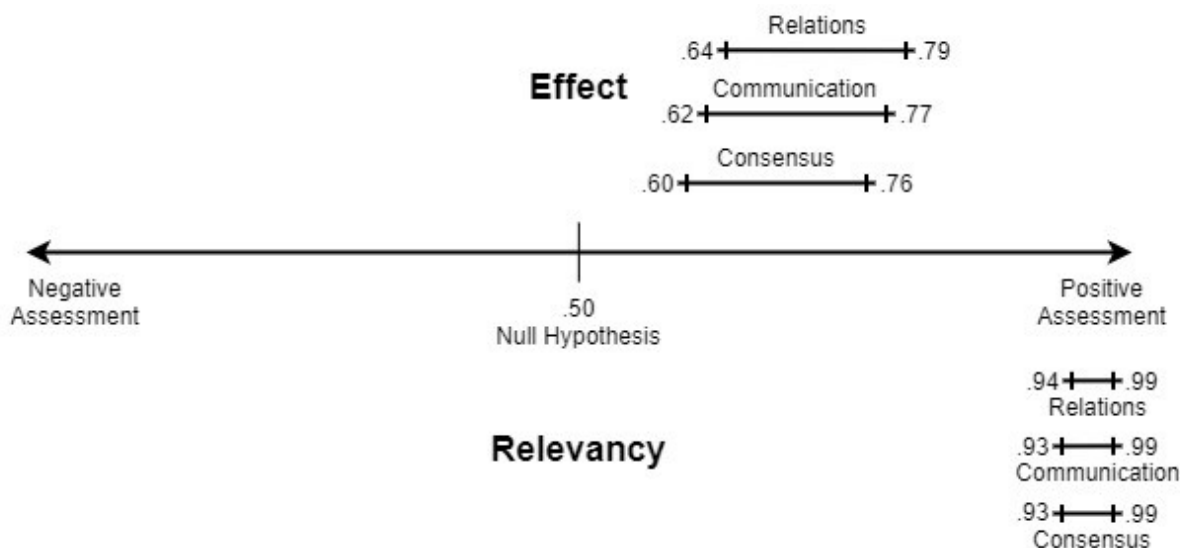


Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. Either the relevancy survey question on public engagement or support should be excluded when considering collective conclusions for democratic participation to increase internal consistency.

For intergovernmental cooperation, the dissertation found that on average 83 percent of stakeholders provide a *positive* assessment of the JLUS program. Comparable to democratic participation, hypothesis testing confirms the null hypothesis can be rejected for *all* survey questions assigned to intergovernmental cooperation at the .05 significance level. Confidence intervals for each variable assigned to intergovernmental cooperation are shown in Figure 26 by their respective survey scheme. These intervals depict the approximate proportions we expect to find in the overall target population. The raw data, factor loading, internal consistency, hypothesis testing, and confidence intervals provide ample evidence that the null hypothesis can be rejected for intergovernmental cooperation. Unlike democratic participation, the confidence intervals generally align for both relevancy and effect questions. This, along with the measures of internal consistency, suggests the chosen variables for intergovernmental cooperation were appropriate. This is further supported by the finding that the difference between the largest (i.e. 28 percent) and smallest (i.e. 25 percent) ranges when comparing effect and relevancy questions is minimal. Discussions on how future studies might expand upon and the practical implications of these findings are addressed in later sections.

Figure 26

Confidence Intervals by Intergovernmental Cooperation Survey Questions

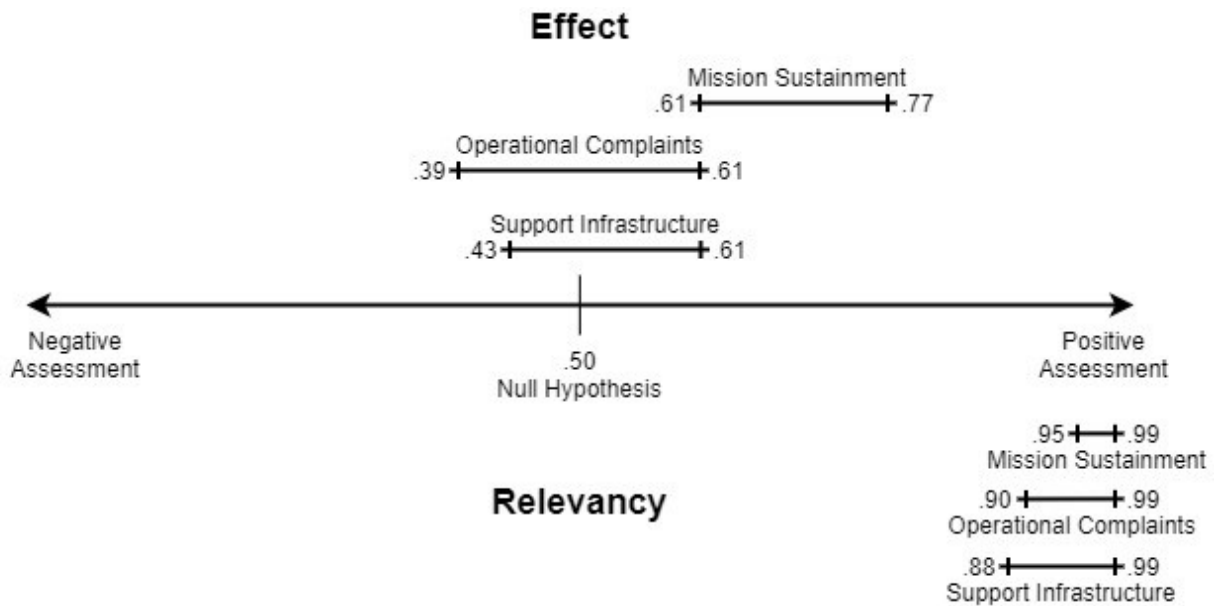


Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. Excluding the relevancy survey question on communication from intergovernmental cooperation's collective conclusions increases internal consistency.

For military readiness, the dissertation found that on average 76 percent of stakeholders provide a *positive* assessment of the JLUS program. Contrasting democratic participation and intergovernmental cooperation, hypothesis testing confirms the null hypothesis can be rejected for *most* but not all survey questions assigned to military readiness at the .05 significance level (3 out of 5 when Q16 is excluded). Confidence intervals for each variable assigned to military readiness are shown in Figure 27 by their respective survey scheme. These intervals depict the approximate proportions we expect to find in the overall target population. As evident by Figure 27, confidence intervals for both operational complaints and support infrastructure still have the possibility of being above half, however; they are not sufficient to reject the null hypothesis at any reasonable significance level. The raw data, factor loading, internal consistency, hypothesis testing, and confidence intervals ultimately provide mixed evidence that the null hypothesis can be rejected for military readiness. Unlike democratic participation, military readiness just meets the acceptable internal consistency threshold. Review of the confidence intervals in Figure 27 reveals they generally align for both relevancy and effect questions except for the effect on mission sustainment. The misalignment of mission sustainment compared to the other military readiness variables may indicate that stakeholders misperceive the program's effect on mission sustainment. Since the survey was completed primarily by civilian stakeholders, this seems even more plausible. However, upon comparing military and civilian stakeholders for this and the other military readiness variables, the study found no statistically significant differences between the two groups. Future studies will be needed to explore other plausible explanations. Another particularly interesting finding is how low the confidence interval spans for operational complaints considering how high the interval is for public awareness. This may suggest that simply increasing public awareness is not enough to reduce operational complaints or there is a misperception of one of the variables by stakeholders. Discussions on how future studies might expand upon and the practical implications of these findings are addressed in later sections.

Figure 27

Confidence Intervals by Military Readiness Survey Questions



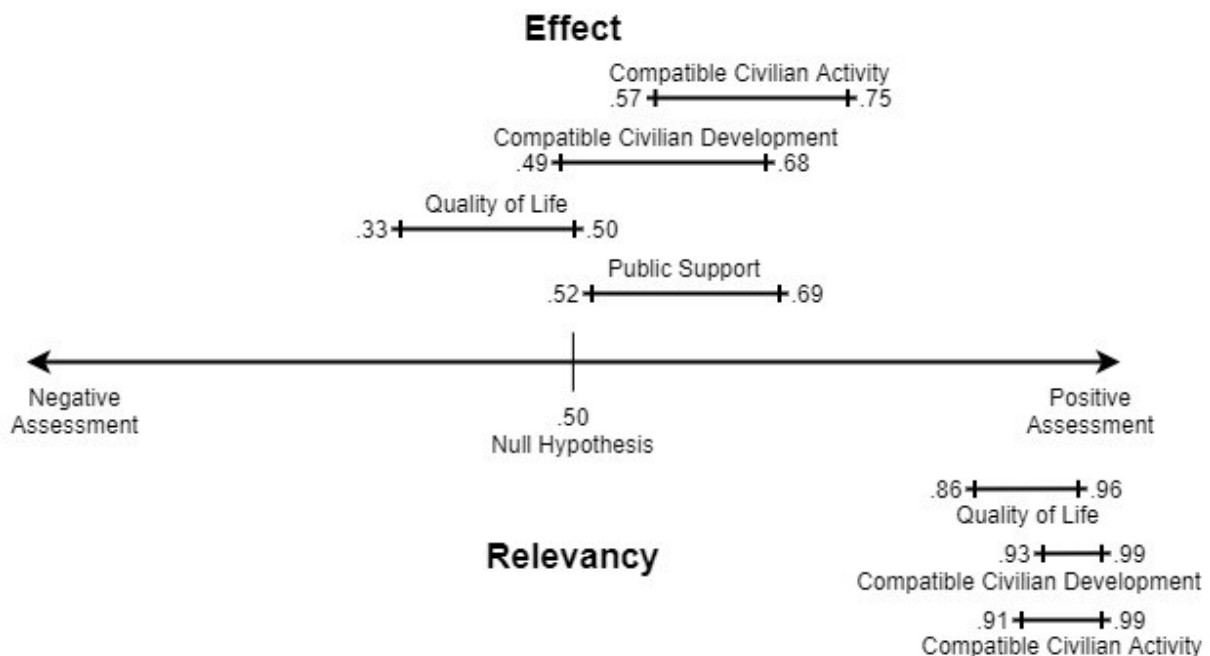
Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. Excluding the relevancy survey question on operational complaints from military readiness' collective conclusions increases internal consistency.

For civilian development, the dissertation found that on average 73 percent of stakeholders provide a *positive* assessment of the JLUS program. This average is the *lowest* among all evaluation criteria. Future studies might explore and confirm potential explanations, but this study expects the plausible explanation is associated with its function as a conformance criterion. As previously noted, stakeholders were less apt to offer positive and negative assessments for the conformance criteria compared to performance. In addition, civilian development is arguably the most challenging criterion to fulfill since it requires change in material development over a long period of time with many stakeholders involved. Comparable to military readiness, hypothesis testing confirms the null hypothesis can be rejected for *most* but not all survey questions assigned to civilian development at the .05 significance level (4 out of 6 when Q29 is excluded). Confidence intervals for each variable assigned to civilian development are shown in Figure 28 by their respective survey scheme. These intervals depict the approximate proportions we expect to find in the overall target population. As evident by Figure 28, quality of life's upper confidence limit barely reaches half of stakeholders while compatible civilian development's lower confidence

limit is just below half. Both failed to reject the null hypothesis at the .05 significance level. The raw data, factor loading, internal consistency, hypothesis testing, and confidence intervals ultimately provide mixed evidence that the null hypothesis can be rejected for civilian development. Review of the confidence intervals in Figure 28 reveals they generally align for both relevancy and effect questions except for the effect on quality of life. Future studies will be needed to explore plausible explanations. Finally, to improve internal consistency and avoid the severe multicollinearity between compatible civilian development and activity, activity was recommended for removal when considering collective conclusions for civilian development. However, it should be noted that the program's effect on compatible civilian development failed to reject the null hypothesis while compatible civilian development can reject the null hypothesis. Discussions on how future studies might expand upon and the practical implications of these findings are addressed in later sections.

Figure 28

Confidence Intervals by Civilian Development Survey Questions

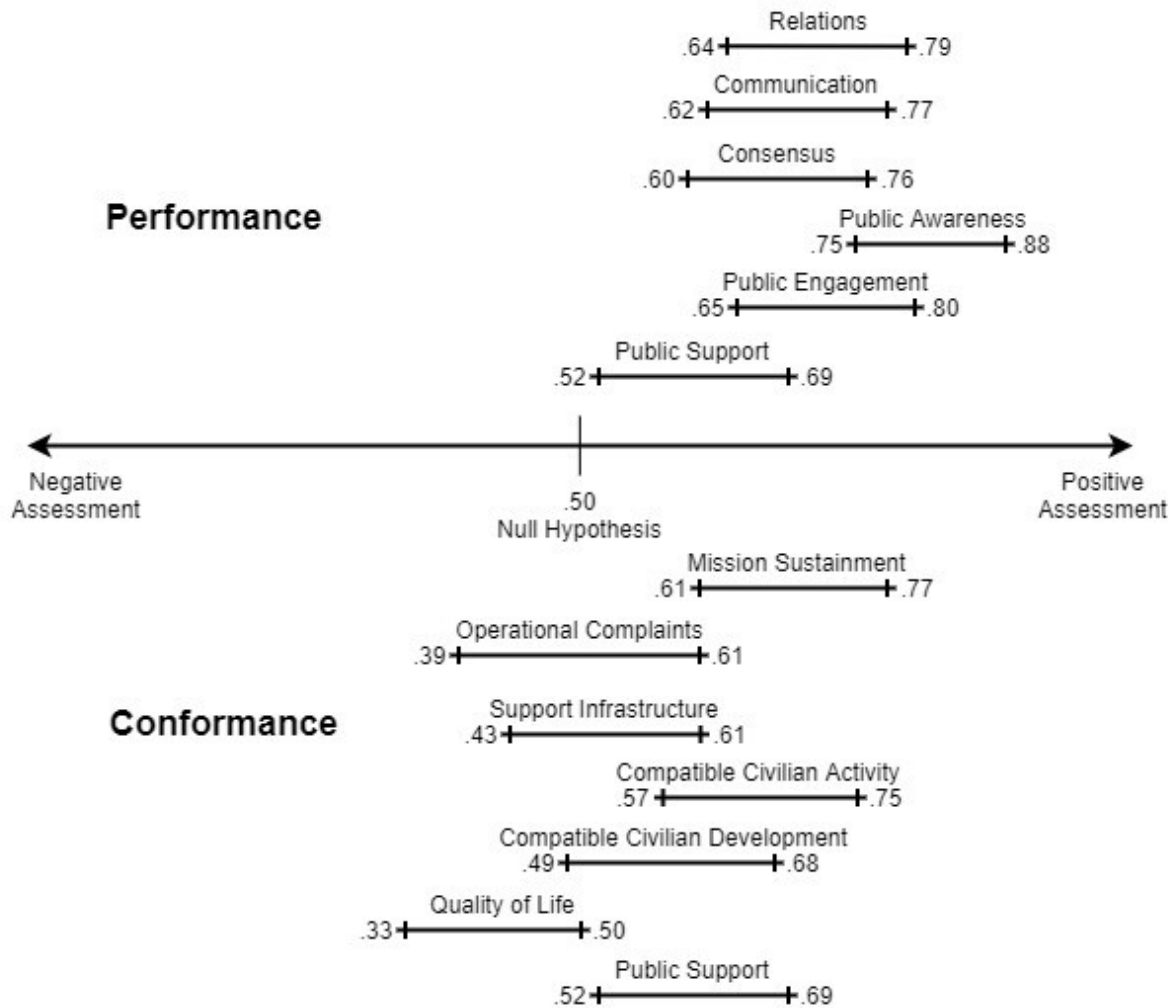


Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. Excluding the effect survey question on compatible civilian activity (i.e. Q27) from civilian development's collective conclusions increases internal consistency due to its severe multicollinearity with compatible civilian development (i.e. Q28).

When comparing the program's performance and conformance overall, 74 percent of stakeholders on average expressed a positive assessment of the JLUS program's performance compared to 68 percent for conformance. If the relevancy survey questions are excluded, the averages are 71 percent and 57 percent respectively. This again shows stakeholders agree far more on the relevancy and prospect of the JLUS program elsewhere compared to its current effect on their own community. Confidence intervals for the *effect* survey questions are shown in Figure 29 by their assigned measure of performance and conformance. These intervals depict the approximate proportions we expect to find in the overall target population. Since half of stakeholders was the minimal acceptable threshold for this study, the dissertation concludes that the JLUS program does in fact perform as intended. Stakeholders are visibly the most confident concerning the JLUS program's ability to foster public awareness while they are less confident in its ability to generate and maintain public support. Regardless, all variables assigned to measure performance reject the null hypothesis at a .05 significance level. In comparison, stakeholders are discernibly more pessimistic in terms of the program's conformance. While stakeholders are optimistic of its diffusion potential and demonstrate a belief that the JLUS program *can* foster material development to mitigate physical incompatibilities, their assessments of existing conditions reveal a different story. Four (4) of the seven (7) conformance variables, when assessing the program's current effect, fail to reject the null hypothesis at a .05 significance level. For conformance variables, stakeholders are most confident in the JLUS program's ability to facilitate mission sustainment while they are less confident in its ability to enhance quality of life. Future studies might explore potential explanations as to why the program seems to perform well but not conform, but this study expects the plausible explanation likely originates from some combination of longer implementation lag times for conformance variables, shifting community capitals, personnel turnover, leadership changes, erosion of support, and recall bias based on the findings from the interviews. Discussions on how future studies might expand upon and the practical implications of these findings are addressed in later sections.

Figure 29

Confidence Intervals by Performance and Conformance Measures



Note. Total sample ($N = 156$). Significance level ($\alpha = .05$). Null hypothesis: $p \leq 0.5$. Effect questions only.

After extensive review of the current discourse, there was ample evidence to conclude that a single theory could not adequately explain the rise and persistence of physical incompatibilities and the historical responses by institutions. To construct a theoretical framework capable of defining, identifying, and visualizing historic change, it was necessary to consolidate topical theories of policymaking, political relations, and planning. This review introduced the military readiness and local land use planning triaxial spectrum as its theoretical framework (Figure 11). The three axes of the diagram include a land use policy goal, governance, and planning model spectrum. Creation of this diagram offers a framework, from which, individual policy alternatives

or policy eras can be measured and compared. If we apply the findings from the stakeholder survey (see Figure 30), the dissertation finds that the JLUS program is most characteristic of the liberty-participatory-collaborative octant (see Figure 31). This finding confirms Loomis' hypothesis and hope that planning in defense community would become more open, cooperative, and democratic in the future (1993). While future empirical studies are needed to test other defense land use policies aimed at mitigating physical incompatibilities, this study provides the first evidence-based finding of a paradigm shift. I encourage future scholars interested in comparing historic change, individual policy alternatives, vertical policymaking, or describing the functional mechanisms and motivations of past policy actions aimed at mitigating physical incompatibilities to apply, expand upon, and even challenge this framework. Doing so will further expand the planning discourse on defense communities which today remains relatively scarce despite the abundance of installations throughout the country.

Figure 30

JLUS Program on the Triaxial Spectrum

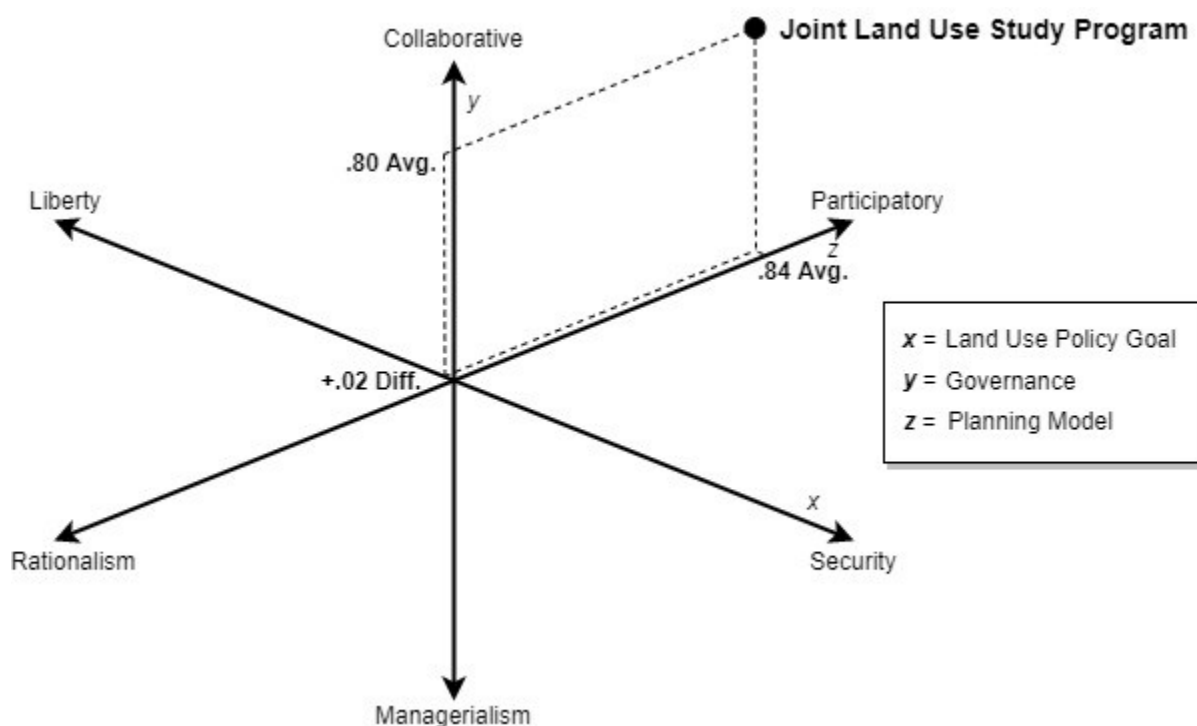
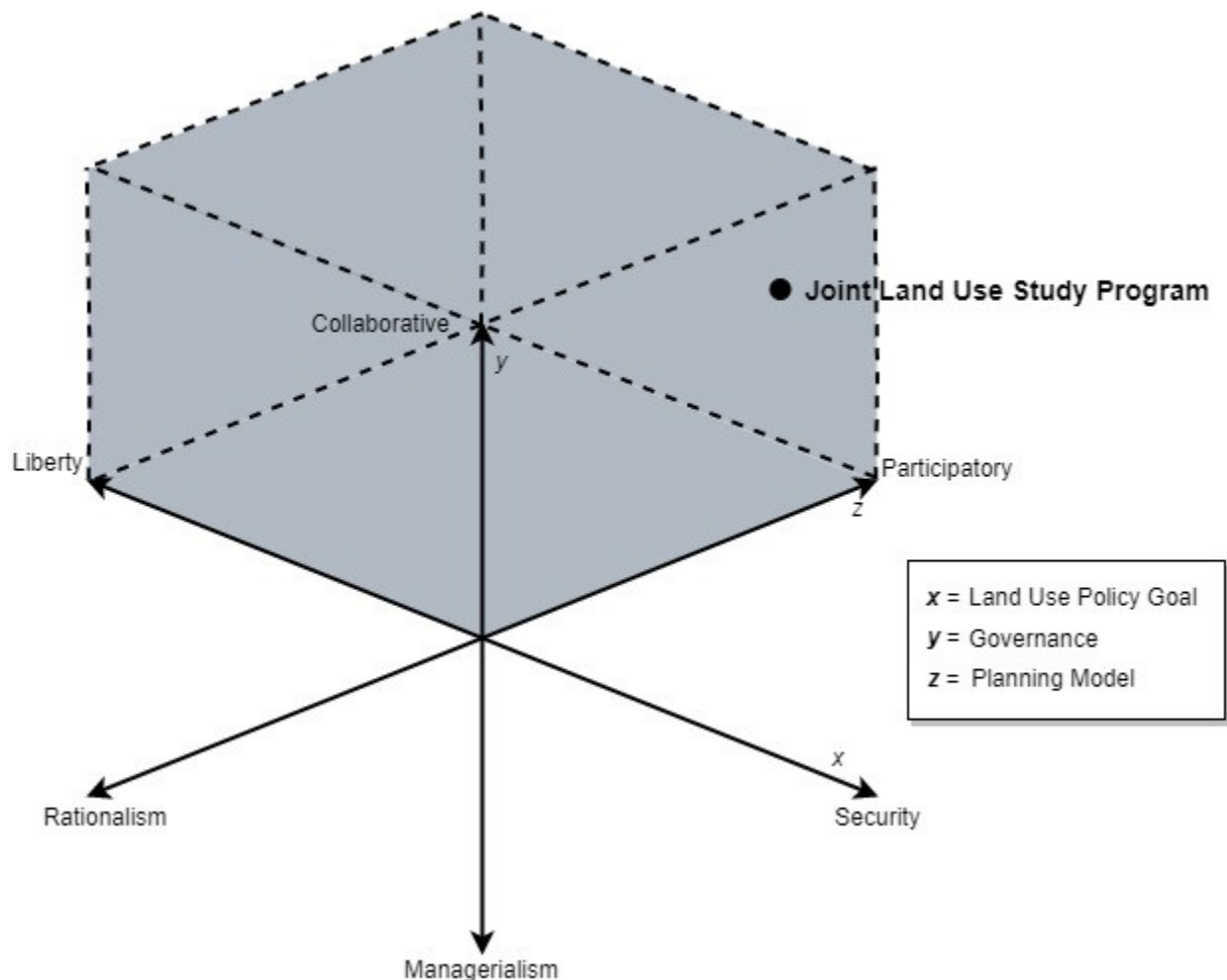


Figure 31

JLUS Program's Octant on the Theoretical Framework



The dissertation found that for the characteristics examined stakeholders do in fact offer statistically different assessments on occasion. Tables 85 and 86 summarize the results from testing the homogeneity of stakeholder assessments by each characteristic. Military service department is the only characteristic where the groups are never statistically heterogeneous in their assessments. This is particularly interesting given that the JLUS program is one of few the programs and policy responses which encompasses all branches of service. The findings from this study also concur with Cloutier's conclusion that military and civilian partners generally perceive "consistent levels of efficacy" (2020, p. 127). In comparison, institutional involvement and program/study familiarity exhibit greater influence on stakeholder assessments; however, the variables in which they effect are not always the same. When examined closer, the dissertation finds those from institutions with

less involvement and those with less familiarity with the program are typically more pessimistic about the program's performance and conformance. This is consistent with Cloutier's study which found "a positive relationship between efficacy and stakeholder familiarity with compatibility issues, processes, and tools" (2020, p. 132). Future studies might explore this further, but this study expects the plausible explanation is likely attributable to the fact that these individuals are simply unaware of the program's success since they are not actively involved or familiar with the program. Despite these findings, the dissertation found length of residency generally has no effect on stakeholder assessments.

Finally, visibly the most divisive variables for stakeholders from various groups were public awareness, public support, relations, and consensus. Differences in assessments for public awareness and relations were largely driven by institutional involvement and program/study familiarity. In comparison, differences in assessments for public support were largely driven by military status and program/study familiarity whereas consensus differences derived from geography and institutional involvement. Another compelling finding is stakeholder groups were more heterogeneous in their assessment for performance variables than conformance. Future studies might explore this further, but this study expects the plausible explanation is likely attributable the challenges inherent to conformance variables. The final finding which stands out is the influence of geography. While not quite as impactful as institutional involvement and program/study familiarity, geography influenced two performance and two conformance variables. When examined further, it appears much of this effect is attributable to stakeholders from western defense communities who are generally more pessimistic about the program's effect. Future studies are needed to investigate plausible explanations. Discussions on how future studies might expand upon and the practical implications of all these findings are addressed in the subsequent sections.

Table 85

Testing the Homogeneity of Stakeholder Assessments by Characteristics Part I

Survey Question	Stakeholder Characteristic					
	Military Status	Length of Residency	Military Service Department	Geography	Institutional Involvement	Program/Study Familiarity
Public Awareness						
Q7 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous	Heterogeneous
Q8 – Relevancy	Homogenous	Heterogeneous	Homogenous	Homogenous	Homogenous	Homogenous
Public Engagement						
Q9 – Effect	Homogenous	Homogenous	Homogenous	Heterogeneous	Homogenous	Homogenous
Q10 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Public Support						
Q11 – Effect	Heterogeneous	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous
Q12 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Relations						
Q13 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous	Heterogeneous
Q14 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Communication						
Q15 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous	Homogenous
Q16 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Consensus						
Q17 – Effect	Homogenous	Homogenous	Homogenous	Heterogeneous	Heterogeneous	Homogenous
Q18 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$).

Table 86

Testing the Homogeneity of Stakeholder Assessments by Characteristics Part II

Survey Question	Stakeholder Characteristic					
	Military Status	Length of Residency	Military Service Department	Geography	Institutional Involvement	Program/Study Familiarity
Mission Sustainment						
Q19 – Effect	Homogenous	Homogenous	Homogenous	Heterogeneous	Homogenous	Homogenous
Q20 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Operational Complaints						
Q21 – Effect	Homogenous	Homogenous	Homogenous	Heterogeneous	Homogenous	Homogenous
Q22 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Support Infrastructure						
Q23 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Q24 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Quality of Life						
Q25 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous	Homogenous
Q26 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Compatible Civilian Development						
Q27 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous
Q28 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous
Compatible Civilian Activity						
Q29 – Effect	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Heterogeneous
Q30 – Relevancy	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous	Homogenous

Note. Total sample ($N = 156$). Significance level ($\alpha = .05$).

Policy and Professional Practice Implications

To date, established government practice has neglected to identify any potential deficiencies with the JLUS program (some of which may be amendable) opting instead for retaining an unchecked formula and applying it to the next defense community. While this study recognizes the extensive efforts taken by the federal government to customize JLUSs for each local region, there is a clear imbalance between *ex-ante* and *ex-post* efforts to ensure implementation success is as universal as possible. In the absence of a structured accountability system, the JLUS program's long-term implementation potentially remains exposed to perpetual limitations (i.e. process) and shortfalls (i.e. goals). The dissertation found that JLUS stakeholders are consistently optimistic about the JLUS program's future and its potential application at other military installations. This suggests the program has a bright future and strong diffusion potential. In addition, albeit more positive than negative, stakeholders are comparatively more pessimistic in their assessments of the program's effect on their own community than elsewhere. Being more open about the implementation lag of JLUSs and having other JLUS communities share their stories of implementation successes and failures with communities about to start their own JLUS are sensible recommendations the Department of Defense's (DoD) Office of Economic Adjustment (OEA) might consider to alleviate these concerns. This recommendation may also increase the willingness of stakeholders to offer assessments on conformance criteria comparable to that of performance criteria.

Another recommendation to foster reflection on conformance criteria in the future is ensuring existing conditions described in JLUSs are detailed across all topics, are data-driven with the sources or data readily available, and all assumptions are made transparent in the document. As new civilian staff and military personnel are introduced, reviewing these existing conditions is critical for educating them as to where the region has been, where it wanted to go, and reflection on where they are now. Perhaps the most critical recommendation of this study which applies to nearly every evaluation criterion, variable, etc. is defense communities and OEA need to, as much as possible, accelerate their efforts to pursue or distribute implementation grants. Both through email correspondence for the survey and discussions from the interviews revealed that despite a minimum lag time of three years, many JLUS sites had yet to pursue or receive an implementation grant. Considering defense communities are heavily influenced by shifting community capitals, personnel turnover, and leadership changes, defense communities and OEA must recognize the

likelihood and significance of eroding support. Defense communities and OEA invest a lot of time and resources to complete these studies and this dissertation confirms they can have an impact. Being proactive and confronting barriers to implementation early is much easier when everyone knows each other and the critical staff, personnel, and leaders are informed compared to later where this may no longer be the case.

This dissertation applied four evaluation criteria to evaluate the JLUS program and provide findings which can inform specific program adjustments, policy formulation, and professional planning practice. The first evaluation criterion of interest was democratic participation. The dissertation found that stakeholders are most optimistic about the program's ability to progress democratic participation in their region. This shows the program does a great job at improving public awareness and engagement following adoption. However, this study also finds that public support is falling behind. Defense communities, the military, and OEA need to be more proactive in updating and remarketing the study to maintain these elements particularly when key leadership changes. The findings also suggest that when developing a JLUS, defense communities, OEA, and the military need to devote more of their efforts into assessing what hinders public support in that specific community and developing strategies to maintain it. Since public support is the most political of the three variables, the challenges inherent to garnering public support are acknowledged. Nevertheless, if the program continues to be invested in promoting democratic participation in the planning process, regularly educating the public along with current and future leaders as to why the JLUS is important is critical for sustaining *long-term* public support. Other recommended strategies to maintain program support are inspired by Rossi et al. and include (2019):

- Fund-raising opportunities;
- Transparent public relations;
- Staff training;
- Recruiting and retention of key personnel;
- Developing and maintaining relationships;
- Foster the sharing of materials, services, and resources; and
- Advocacy planning.

The second evaluation criterion of interest was intergovernmental cooperation. The dissertation found that stakeholders are almost as optimistic about the program's ability to progress intergovernmental cooperation in their region as democratic participation. These findings indicate that OEA and defense communities currently without a JLUS can have confidence that the

program is capable of and likely to improve intergovernmental cooperation. Based on the results of the stakeholder survey, the JLUS program's most consistent benefit is linked to enhanced intergovernmental cooperation. This however does not necessarily mean the program is not in need of some adjustments but rather any recommended adjustments are less critical in terms of priority. Recommendations on how the program can improve to enhance intergovernmental cooperation even further originate from the findings of the interviews and thus are discussed in a later section.

The third evaluation criterion of interest was military readiness. The dissertation found that stakeholders are mixed in their assessment about the program's ability to progress military readiness in their region. Despite being relatively optimistic in their assessment of mission sustainment, stakeholders were more skeptical of the program's ability to reduce operational complaints and promote the provision of support infrastructure. Discovering that stakeholders are mixed in their assessments regarding the reduction of operational complaints is particularly interesting given how optimistic their assessments are towards the program's ability to enhance public awareness. This evidence likely indicates that simply spreading public awareness is not enough and that certain strategies need to become a greater priority. Examples of actions that defense communities, OEA, and the military might consider when making program adjustments, formulating policy, or bolstering their planning practices include:

- Prioritizing the recording of complaints and sharing them regionally;
- Identifying what the consistent complaints are;
- Determining the frequency of complaints;
- Verifying where the complaints originate from;
- Regularly relaying the complaints to military and local leaders;
- Attempting to mitigate complaints through operational scheduling where possible;
- Applying some of the many policy tools (i.e. local, state, federal, etc.) available which can supplement the JLUS (see Chapter 2);
- Obtaining the complainant's contact information and creating an accountability system which responds within a reasonable time to inform/educate the complainant on what the community, military, and region are doing to address their complaint;
- Providing complainants information about the JLUS and various opportunities in which they can engage in the planning process; and
- Asking complainants for feedback and any constructive suggestions they may have.

These recommendations are not intended to imply defense communities, OEA, and the military are not trying some or many of these actions, but rather identify these actions as needing prioritization in order to improve some of the program's shortfalls regarding military readiness. Another approach defense communities, OEA, and the military can take to improve the program's ability to progress military readiness, albeit indirectly, is promoting the provision of support infrastructure (e.g. education, healthcare, housing, etc.). Examples of actions they might consider when making program adjustments, formulating policy, or bolstering their planning practices include:

- Determining what military personnel and their families need most;
- Striving to improve the sense of community and place for military personnel and their families;
- Considering policies which incentivize developers to develop uses which support the needs of military personnel and their families;
- Applying land use, zoning, and subdivision policy tools to promote desired uses which can support the needs of military personnel and their families;
- Regularly educating current and future local leaders as to why supporting compatible development is important and beneficial to the community and region;
- Encouraging diverse residential, commercial, and industrial uses to promote housing affordability and a better quality of life for military personnel and their families;
- Avoiding cultural dominance; and
- Fostering a regional market which can not only support the local installation but can, if needed, function independently from it.

The final evaluation criterion of interest was civilian development. The dissertation found that stakeholders are mixed and comparatively the most pessimistic in their assessment about the program's ability to progress compatible civilian development in their region. Earlier, this study recommended the need for better transparency regarding implementation lag, a greater emphasis on the significance of detailed existing conditions, and an acceleration of efforts to pursue or distribute implementation grants. These recommendations are not only applicable to sustain military readiness but are vital towards making civilian development and activities more compatible in the future. As previously noted, there are also many policy tools available which can supplement a JLUS (see Chapter 2) to foster compatible development. For regions currently

without, perhaps one of the best actions a region can take is creating an advisory board specifically designed to aid the formulation and implementation of planning efforts, inform decision-making processes, and disseminate information concerning cases, conflicts, and complaints related to the local installation. Advisory boards are beneficial since they are less likely to be dismantled due to political challenges compared to other options and they provide a forum for smoother leadership transitions. Finally, of all the variables examined, quality of life (a variable linked to civilian development for this study) scored the worst. While quality of life may be less critical since it is not a core objective of JLUSs and it is not a driving motivation for OEA and the military, quality of life is not solely a local or civilian measure of health, comfort, and happiness. As a result, this study recommends defense communities, OEA, and the military utilize the unique opportunities JLUSs provide to discuss regional quality of life which does not necessarily terminate at traditional jurisdictional boundaries.

The supplementary research question of this study investigated where stakeholder groups agree or disagree in their assessments. Review of the findings reveals that stakeholder groups from military service departments exhibit the most consensus while stakeholder groups assigned by geography share the least. Finding that military service department has no statistically significant effect on varying assessments is excellent news for universal policies and programs of the future. Each branch of service currently has their own policies and programs designed to mitigate incompatibilities, but this evidence shows that despite their differences in approach and the issues they face they generally come to the same conclusion about the JLUS program. By strategically avoiding the one shoe fits all approach, the JLUS program exemplifies a universal framework from which other policies and programs can become more efficient than the separate branch specific counterparts of today. Conversely, finding that geography does have a statistically significant effect on varying assessments suggests the program needs to be more responsive to constraints, barriers, and challenges inherent to geography. Further examination into the finding reveals that stakeholders from western defense communities are visibly more pessimistic about the program's effect compared to other regions of the country. As previously noted, regardless of whether it is due to an already established progressive planning agenda or significant barriers to implementation found in western defense communities, it is in OEA's interest to keep this finding on their radar when making program adjustments, developing JLUSs in the west, and when formulating policies and programs in the future. Beyond OEA, these results provide an opportunity for civilian and

military actors to reflect on and compare their own practices and outcomes to others, adopt policies or procedures that have been successful elsewhere, and address any contradictions between stakeholder groups.

A final call to action this dissertation recommends to policymakers, leaders, and planners of defense communities, OEA, and the military is for them to reflect on what they consider an acceptable *ex-post* evaluation threshold to be. While this study applied a .50 positive proportion for empirical purposes, this study acknowledges this may not be an acceptable bottom threshold for OEA, the military, or defense communities. For example, if 40 percent of stakeholders was considered a more reasonable threshold justified by the abundance of personnel turnover found in defense communities, then the program is performing and conforming even better. On the other hand, if the acceptable threshold were increased to 60 percent, the performance of the program would start to become mixed and conformance more questionable. Regardless of the desired threshold for practical policymaking purposes, the variables and stakeholder groups identified in this study as needing greater prioritization remains unchanged.

Study Limitations and Suggestions for Future Research

The findings from this dissertation are intended to contribute to the discourse on physical incompatibilities in defense communities. Nevertheless, there are some noteworthy limitations of the stakeholder survey that must be acknowledged. More specifically, the limitations discussed in this section are derived from the completion of the survey and not the general limitations identified in Chapter 3. The purpose of identifying these limitations is to inform future scholars and help them anticipate/avoid similar shortcomings. In addition, while the stakeholder survey is adequate for assessing the research questions at hand, the method may be expanded upon in the future to develop additional findings.

The first and most apparent limitation is a discussion on sample composition and representation. This study concedes that participation by military stakeholders was lower than desired. With that said, this limitation was anticipated. The data collection strategy was strategically designed to have multiple mechanisms to engage military stakeholders as much as possible. However, upon dissemination of the survey, it was discovered that lower participation was not necessarily driven entirely by an unwillingness or unavailability of military stakeholders but rather the federal bureaucratic barriers hindering their ability to participate. Evidently, requesting assistance with non-sponsored survey dissemination within installations requires *each*

branch of service to authorize the study based upon their own requirements and stipulations (which may also be limited to individual installations). Such action is time and resource intensive and well beyond the scope of this study. Even if these efforts were pursued in a future study, there is no guarantee that the benefits would be significant enough to justify the investment, it is entirely possible, if not likely, that the findings would remain unchanged, and the influence from each department would only raise concerns of reliability.

While this study concedes these as empirical limitations, it is important to emphasize that the barriers imposed by the Department of Defense (DoD) counteract any efforts to conduct constructive evaluations of policies, programs, and planning practices aimed at combating physical incompatibilities in defense communities. If the DoD's JLUS program insists on maintaining no mechanism for surveying their own military personnel, these bureaucratic barriers render it nearly impossible to perform any national evaluation of planning practices which engage the military. The study does not attribute low participation by military personnel to solely this barrier. Other plausible explanations for lower than desired military participation that scholars should be aware of include the culture at military institutions as being protectors of information and/or the perception by military stakeholders that they lack the necessary information from the past to provide worthwhile assessments (i.e. attributable to high personnel turnover at military installations). Despite being the most significant limitation, this study remains confident in the findings since: 1) numerous participants are retired military personnel; 2) nearly 80 percent of those that participate in JLUS development are civilian; 3) low military participation was always anticipated; 4) the current findings reveal almost no statistical differences between civilian and military stakeholder assessments; and 5) the alternative of choosing to exclude or disregard responses from military personnel entirely is fundamentally contradictory to the intergovernmental objectives of the program; therefore, striving for any participation, however challenging it was to obtain, is arguably better than none at all.

Another challenge found in the survey composition is the higher than expected representation of joint base stakeholders. This may simply indicate a higher participation of this group or a misunderstanding/misperception by participants. Further review of stakeholder groups by military service department reveals that Air Force stakeholders are comparatively underrepresented. This may indicate Air Force participation was simply lower or the possibility that they were being captured by the joint category, of which, the Air Force is the only department

found in all joint sites for this study. These limitations are not considered detrimental to the findings however since the study finds no statistical difference in assessments based on military service department. To avoid the challenges inherent to joint installations, this study recommends future scholars require stakeholders to pick a specific department which they believe best reflects the installation's operations or simply apply exclusions as needed.

The next potential limitation future scholars can learn from this study is the frequency at which the relevancy survey questions resulted in consistently high positive findings. This warrants attention due to the severe multicollinearities that can result. Recognizing this limitation while performing data analysis, this study eliminated any potential redundancy and unreliability within the data, as needed, generated by the relevancy survey questions. However, as was shown in Table 24, the results from *every* survey question were still applicable with some more so than others. The relevancy survey questions and their findings are not consider unusable or detrimental to the overall conclusions of this study due to the following: 1) they were strategically designed not to lead a participant one way or the other, comparable to the effect questions, which includes a neutral option; 2) the sample size ($N = 156$) is considered large enough to produce approximately normal results; 3) the sample's composition is not dominated by one specific stakeholder group; 4) measures of institutional involvement and program/study familiarity confirm the stakeholder survey extracted a sample from the specified target population; and 5) the results from the effect questions shows that the participants were willing to offer candid assessments of the program. To avoid such concerns altogether, this study recommends that future scholars generally follow the more direct approach to relevancy questions comparable to Manley (2013). However, this study's target population demonstrates the potential need for scholars to be flexible and innovative during instrument development.

As alluded in Chapter 1, the primary goals of the stakeholder survey were to: 1) address the primary and supplementary research questions; 2) deliver the contextual information necessary for generating other compelling research questions such as "why do we see this" and "why do we see certain similarities or differences;" 3) conduct a nationwide evaluation of a planning program from both the performance and conformance-based approaches; and 4) fulfill a visible gap in knowledge. Some additional research questions future scholars might consider in order to further the discourse are outlined in Table 87. Findings which may inform potential hypotheses to some of these questions are discussed in a later section on phase three's interviews.

Table 87

Potential Research Questions for Future Studies – Part I

Discussion Questions

- Why do local stakeholders believe the JLUS program performs sufficiently?
 - Why do local stakeholders have mixed assessments of the JLUS program's conformance?
 - Why do local stakeholders believe the JLUS program performs sufficiently but are mixed on conformance?
 - Why do local stakeholders perceive some goals being conformed more than others?
 - Why do local stakeholders perceive some goals are performing more than others?
 - How do other policies and programs of the policymaking arena compare to the JLUS program on the triaxial spectrum?
 - Why are stakeholders comparatively more pessimistic in their assessment of the program's effect on their own community than elsewhere?
 - Why does democratic participation receive the highest positive feedback from stakeholders of the JLUS program compared to other evaluation criteria?
 - Does democratic participation continue to receive the highest positive feedback from stakeholders of the JLUS program over time or is it overcome by another evaluation criterion?
 - Does positive feedback from stakeholders of the JLUS program increase, decrease, or generally remain the same as the implementation time lag from adoption increases?
 - Why does civilian development receive the lowest positive feedback from stakeholders of the JLUS program compared to other evaluation criteria?
 - Does civilian development continue to receive the lowest positive feedback from stakeholders of the JLUS program over time or is it overcome by another evaluation criterion?
 - Why are stakeholders with less institutional involvement and program/study familiarity more pessimistic about the program's effect on the evaluation criteria?
 - Why are stakeholder groups more heterogeneous in their assessments of performance criteria compared to conformance criteria?
 - Why are western JLUS stakeholders less optimistic about the program's effect compared to stakeholders from other geographic regions?
-

Phase Two – Policy Delphi as an Empirical Instrument (Pilot Study)

Prologue

Expanding upon phase one, phase two constructed, disseminated, and analyzed the results of two structured, stakeholder surveys (i.e. control and treatment) to assess the validity of the policy Delphi as a methodological instrument in planning policy research. Traditionally, policy Delphi are used by policy analysts and decision-makers to generate and select from a variety of policy alternatives. However, this pilot study experiments with the instrument to evaluate the *ex-post* performance and conformance of the JLUS program. By comparing the results from the control and treatment surveys, this pilot study gauges the extent to which the provision of information significantly influences stakeholder assessments of the program and whether it may be a viable instrument for future scholars.

Summary of Key Findings

Assessing the validity of the policy Delphi as a prospective empirical instrument for evaluating past policy actions required a comparative analysis of the treatment and control surveys. Figures 32 and 33 illustrate the sampled proportions from each instrument. Evident by the figures, the treatment instrument often produced findings counter to the control survey. For the *effect* questions, the treatment survey resulted in greater consensus in most cases (see Figure 32). In comparison, *relevancy* questions from the treatment survey exhibit greater dissent compared to the control survey (see Figure 33). These contrasting results are also compelling due to their influence on the overall averages. Phase one's stakeholder survey averaged a majority assessment of 68 percent which is analogous to both the control and treatment surveys. The pilot study finds almost no difference in their frequency at which the two instruments reach convergence by evaluation criteria. However, the frequency of group agreement or dissent do differ for the *conformance* criteria. The treatment group not only dissented more when assessing the conformance criteria, but most of the treatment instrument's dissent derives from conformance questions. Despite the ranges shown in the figures, 33 percent of the questions shared the same outcomes in terms of their convergence status and the group's opinion compared to phase one's stakeholder survey.

Figure 32

Survey Comparison by Evaluation Criteria – Effect Questions

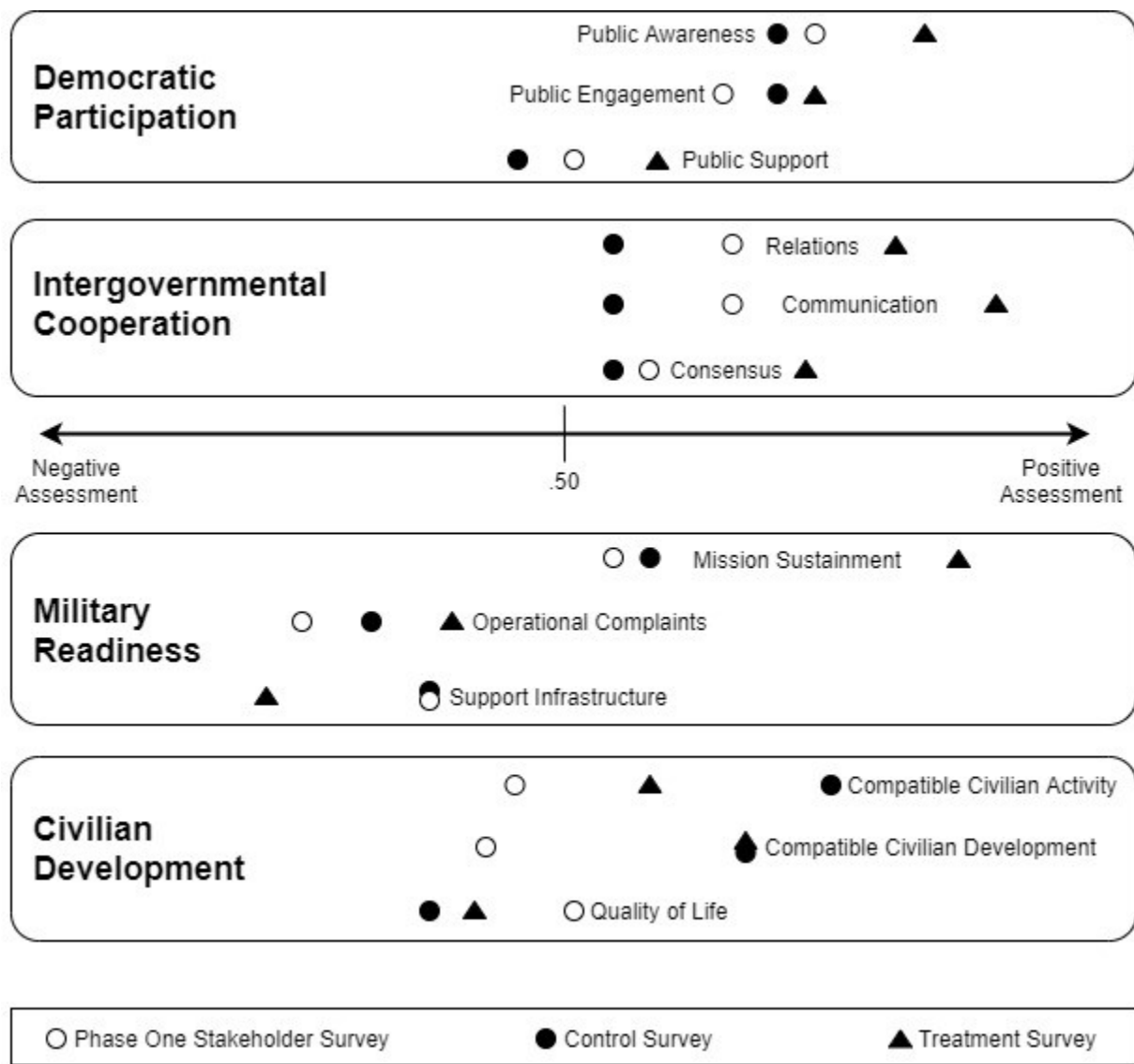
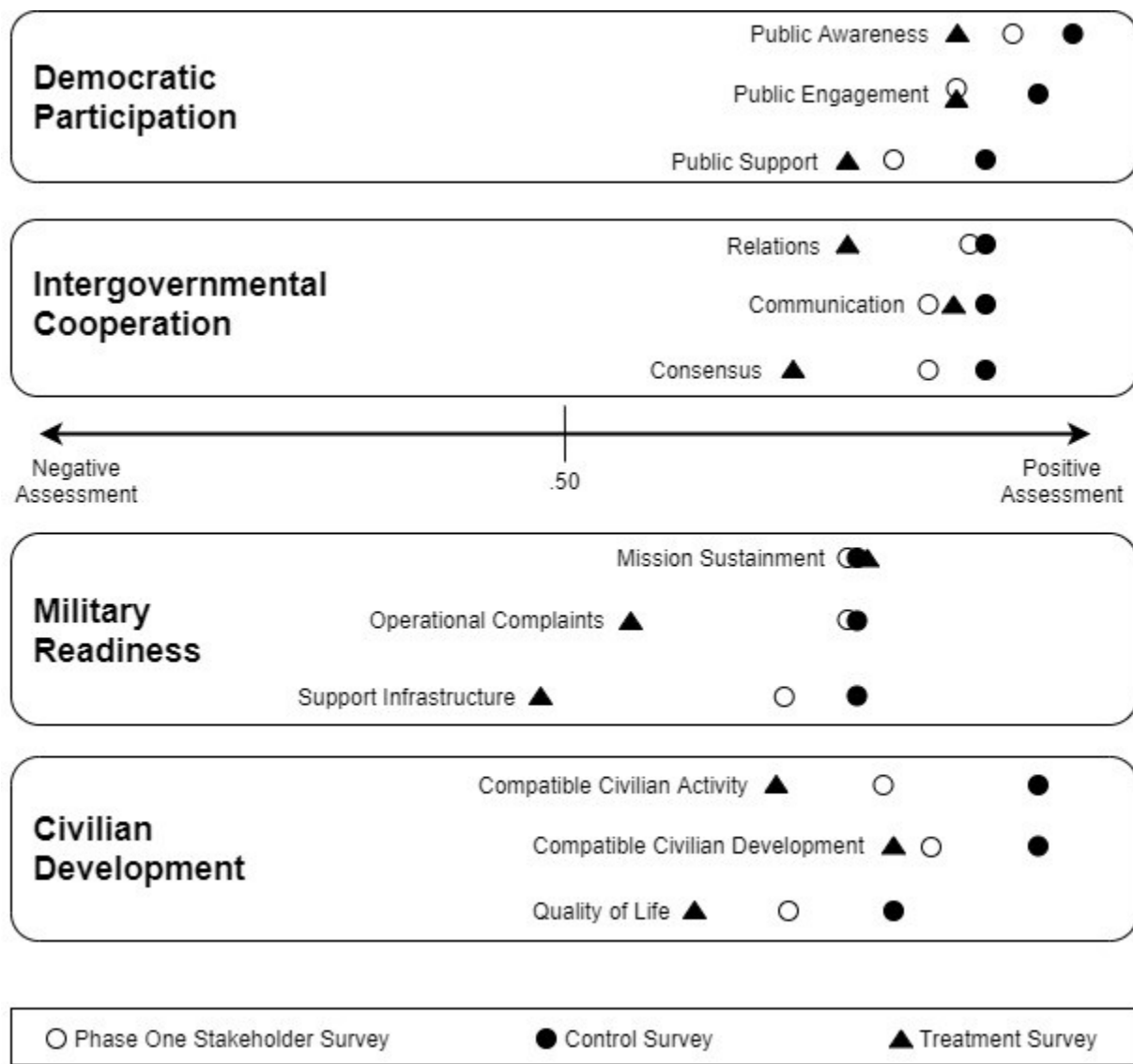


Figure 33

Survey Comparison by Evaluation Criteria – Relevancy Questions



To further assess the implications and validity of the treatment instrument, the stability of each instrument was examined. The control survey was stable for nearly every question with only two exceptions (i.e. the effect questions on compatible civilian development and activity). There was enough evidence to conclude that these two instances of instability contain proportions which statistically differ between the two “rounds” at the .05 significance level. The pilot study found that the instability stemmed from the control group verbalizing more *positive* assessments than phase one’s stakeholder survey. A leading hypothesis for this phenomenon may be the reduced

implications of implementation lag. Since the control and treatment groups are from defense communities with older JLUSs, their optimistic views towards conformance may be attributable to their longer implementation duration. The treatment survey was also largely stable but did have instances of instability for 21 percent of questions. There was enough evidence to conclude that all cases of instability from the treatment survey also contain proportions which statistically differ between the two “rounds” at the .05 significance level. Critical examination of stability however reveals the treatment instrument’s influence is marginal and likely driven by its intended design. Of the 24 survey questions posed, there was only sufficient empirical evidence to conclude the treatment instrument resulted in statistically different results for six (6) questions. In addition, the impact of the treatment instrument on these six (6) questions varied. Three (3) of the questions generated more *consensus* and the other three (3) more *dissent*. The only consistency among those generating more consensus was their *effect* survey scheme. Those generating dissent shared the *relevancy* survey scheme and their examination of *conformance* criteria. While the policy Delphi (most notably its provision of information in subsequent rounds) may have some occasional influence on stakeholder assessments, the pilot study finds no overwhelming evidence that the instrument’s validity is empirically weak. Full-scale studies are still needed to confirm the conclusions of this pilot study; however, the findings thus far should encourage scholars to be cautiously optimistic. Discussions on limitations and how future studies might expand upon these findings are addressed in the subsequent section.

Study Limitations and Suggestions for Future Research

The purpose of phase two’s pilot study was to provide a preliminary assessment of the policy Delphi as a prospective empirical instrument aimed at evaluating past policy and planning actions. Testing this methodological instrument naturally placed the focus of the pilot study mostly on the implications of applying the instrument over producing generalizable findings to the research questions. In Chapter 3, general limitations inherent to Delphi methods were discussed. To inform future scholarship, help scholars anticipate/avoid similar shortcomings when applying a policy Delphi, and to provide additional clarity, other noteworthy limitations should be noted. The first limitation worth emphasizing is the decision to conduct phase two in the form of a pilot study. Pilot studies are small-scale, preliminary studies designed to gauge the feasibility or necessity of pursuing traditional full-scale research. Consequently, scholars should be cautious that these findings derive from limited samples. As previously stated, this study highly encourages

future scholars to perform full-scale studies on the policy Delphi to confirm its methodological suitability for evaluating past planning and policy actions.

Another element of this pilot study warranting reclarification is its approach to iterative surveying. Traditionally, Delphi survey the same group each round providing them data from the previous round. To avoid stakeholder fatigue and interested in specifically testing the potential consequences of providing results to other fellow stakeholders who have yet to engage, a direct iterative approach was not taken. This is another area future scholars might consider investigating (i.e. assessing the *direct* iterative approach in a policy Delphi used for evaluating past policy actions). Scholars should also note that consensus is always a *conceivable* outcome of the policy Delphi despite its efforts to identify dissent. By granting stakeholders an opportunity to criticize the assessments of their colleagues, the goal of this policy Delphi was to help scholars, policy analysts, and others recognize and understand any divergences policy stakeholders might share to “gain a firmer grasp” as to where and why the program may be unsuccessful (Buck et al., 1993, p. 271). This can not only foster greater political support for any actions that follow but it promotes the development of highly targeted mitigation strategies aimed at the stakeholders’ greatest concerns. Some additional research questions future scholars might consider to further the discourse are outlined in Table 88. While some of these questions can be partially informed via the findings of this study, future scholars are encouraged to investigate them as they are anticipated to reveal other compelling findings.

Table 88

Potential Research Questions for Future Studies – Part II

<u>Discussion Questions</u>
▪ How do effect and relevancy questions in a policy Delphi compare in a full-scale study compared to this pilot study? ▪ How do conformance and performance criteria in a policy Delphi compare in a full-scale study compared to this pilot study? ▪ Why do conformance criteria appear to generate greater dissent in stakeholders according to the pilot study? ▪ What happens to convergence and stability for compatible civilian development and activity when the iterative approach is direct? ▪ Does the validity between a direct and indirect iterative approach to a policy Delphi change, and if so, how? ▪ Does the validity of a policy Delphi diminish with larger sample sizes, and if so, why? ▪ How does the validity of a policy Delphi change with additional survey rounds? ▪ Does changing the data collection strategy affect the policy Delphi's validity, and if so, how? ▪ What impact, if any, does stakeholder characteristics and representation have on the speed of reaching convergence and the stability between rounds? ▪ Based on the pilot study, why do relevancy questions receive greater dissent and effect questions greater consensus in a policy Delphi? ▪ What impact, if any, does the scope of a policy Delphi (i.e. national, state, regional, community, neighborhood, etc.) influence the validity of the instrument? ▪ What are stakeholder opinions of the policy Delphi for both <i>ex-ante</i> and <i>ex-post</i> efforts and if they differ how so? ▪ To what degree can the policy Delphi be shaped to aid current and long-range planning processes?

Phase Three – Interviews on JLUS Application Generalizability

Prologue

In addition to the primary and supplementary research questions, this study offered a *secondary* research question consisting of the following:

- *How can the democratic, cooperative, and regional characteristics of the JLUS program extend beyond its current application to other forms of regional and intergovernmental planning?*

This secondary research question is designed to expand the discourse and qualitatively test the potential for replicating the methodological characteristics established in the Joint Land Use Study (JLUS) program to other forms of intergovernmental planning beyond defense communities.

Summary of Key Findings

To enhance the reliability and validity of this study's conclusions regarding the interviews, the first two interview questions were general questions intended to gauge the experience and typical role of the planners related to JLUSs. The first question asked the interviewees about their typical role related to JLUSs. Although their roles varied, most interviewees (i.e. 58 percent) served as technical/policy committee members during plan development. The remaining participants played other critical roles in JLUS development as well. For plan implementation, most interviewees currently serve as a consultant or in local government administration with others holding roles in grant administration and serving on implementation committees. The second question asked interviewees to approximate when the most recent JLUS was adopted in their region. Most interviewees (i.e. 42 percent) said their studies were completed between 2014 and 2015 and three (3) stated that they were currently contributing to the development of a new JLUS. All participants estimated that implementation efforts initiated sometime between 2017 and 2018. These results along with their participation in the stakeholder survey confirm that the findings from the interviews were extracted from the targeted population.

The next set of questions were aimed at obtaining more thorough responses related to the JLUS program. The first question asked how, if at all, did the JLUS program change their views or approaches towards planning. Review of the responses through the application of inductive coding revealed four themes including: 1) recognized the importance of regional context and

planning; 2) increased awareness for the need to include and consider military installations in the planning process; 3) it did not change their view or approach towards planning; and 4) fostered shared regional goals and visions. The second question asked the interviewees to identify what they believed would make the program more effective during the initial production of a JLUS. Review of the responses revealed three themes including the need for: 1) more effective outreach, engagement, and buy-in efforts; 2) better communication, coordination, and consideration of regional implications; and 3) an improved consultant selection process. Finally, the last question asked the planners to identify what they believed would make the program more effective for long-term implementation. Review of the responses revealed four themes including the need for: 1) better leadership and staff continuity; 2) establishing committees which promote frequent interaction; 3) improving political viability; and 4) simplifying the process. Collectively, these findings set the foundation for many of the policy and professional practice recommendations presented in this study. They also provide some clues as to why some areas of the JLUS program may be underperforming or limited in their conformance.

The final set of questions were aimed at addressing the secondary research question to better understand how characteristics of the JLUS program might extend beyond its current application to other forms of regional and intergovernmental planning if at all. The first question asked what the benefits are for communities to produce and implement a JLUS. Review of the responses revealed four themes including: 1) establishing better regional relations, cooperation, and engagement; 2) promoting regional thinking; 3) increasing awareness of regional issues and fostering of a shared response; and 4) addressing compatibility and sustainability issues. The second and third questions asked the interviewees to assess what the major challenges are when producing and implementing a JLUS. Review of the responses revealed multiple themes some of which were shared by both questions. The themes found regarding challenges in production include the following: 1) lack of engagement, public support, and education efforts; 2) power struggles; 3) political viability barriers; 4) time-consuming; 5) consultant familiarity limitations; and 6) limited military role. Similarly, the themes found regarding challenges during implementation include the following: 1) lack of public support and outreach; 2) political viability barriers and competition; 3) limited military role; 4) financial support; 5) leadership and personnel continuity; and 6) legal challenges. Comparable to the questions on how the JLUS program can be more effective, these questions provide further insight for this study's policy and professional

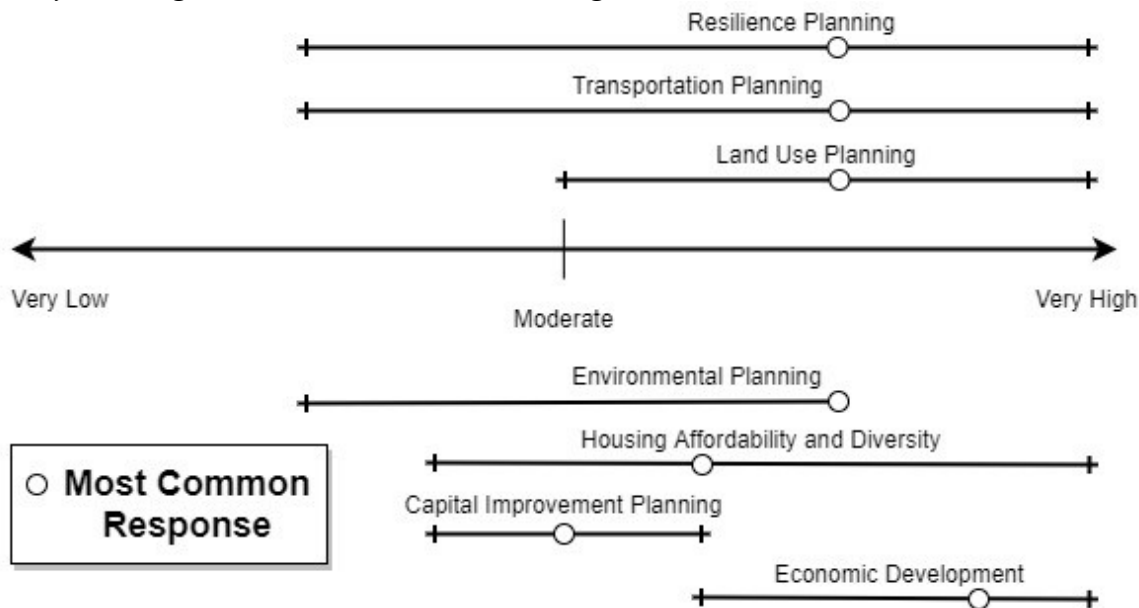
practice recommendations. They also provide some additional clues as to why some areas of the JLUS program may be underperforming or limited in their conformance and where other joint studies might as well.

The next two questions asked the interviewees to describe what makes an effective JLUS strategy or recommendation and how often they believe a JLUS should be updated and why. When it comes to what makes an effective strategy or recommendation, multiple themes were found including: 1) shaped by engagement and good planning practices; 2) clarity and specificity; 3) politically viable, ease of administrative operability, and possesses a mechanism for accountability; 4) relatable to the public; 5) stakeholder and leadership support; and 6) one size does not fit all. When asked how often a JLUS should be updated, 42 percent of participants stated somewhere between 4 and 7 years, 33 percent every ten (1) years or more, and the remaining 25 percent either regularly or dependent upon change. The two most prevalent justifications stemmed from matching the update timeline for traditional comprehensive/general plans and being responsive to change over time. These findings not only provide further insight applicable to JLUSs but potentially to other joint planning studies.

The following group of questions asked the interviewees to describe the extent to which they believe communities would benefit from joint studies from a list of various planning contexts including: land use planning; transportation planning, resilience planning; environmental planning; housing affordability and diversity; capital improvement planning; and economic development. A summary of how the participants rated each planning context is illustrated in Figure 34. The subsequent group of questions asked the interviewees to describe the extent to which they believe communities would benefit from joint studies under other regional contexts including numerous urban communities, national parks, reservations, and universities. When converted to rankings, the results revealed that universities on average ranked the highest in terms of prospective benefits while reservations averaged the lowest. The interview's sample standard deviation revealed that the participants were the most consistent in their assessments of universities and the least consistent when assessing numerous urban communities. The final question asked the interviewees to describe any other instances in which they think joint studies can be beneficial for regional planning. The results revealed a large variety of planning topics including recreational planning, airports, education facilities, coastal and shoreline planning, tourism, and many more.

Figure 34

Summary – Rating Joint Studies: Various Planning Contexts



Note. Sample ($N = 12$).

Policy and Professional Practice Implications

The findings from the interviews inform planning policy and professional practice in four fundamental ways: 1) they reveal some preliminary clues or explanations as to why the JLUS program is experiencing the limitations and shortfalls identified (see Phase One's findings); 2) they provide additional verification of where and how the JLUS program can improve; 3) they explore the prospects of applying joint studies under alternative scenarios, and 4) they offer lessons from the JLUS program which may enlighten other joint planning ventures. When asked to share what they believed would make the JLUS program more effective for long-term implementation, the planners had multiple suggestions. Table 89 outlines this study's policy and professional practice recommendations for fostering more effective long-term implementation of joint planning studies including JLUSs. Many of these recommendations are also applicable to the challenges found for implementation. These targeted recommendations are not intended to imply that such practices are not already occurring but rather that placing more emphasis on them will help mitigate these issues and strengthen the capacity for such plans to deliver on their intended outcomes.

Table 89*Recommendations for More Effective Long-Term Implementation*

Shared Response	Policy/Professional Practice Recommendations
Better Leadership and Staff Continuity	▪ Staff and Leadership Transition Training ▪ Annually or Semi-regularly Revisiting Planning Agenda ▪ Establish an Implementation Committee ▪ Conduct Exit Interviews ▪ Promote Personnel and Leadership Mentor Initiatives ▪ Consider Aid from Consulting Services ▪ Encourage Retirees to Remain Engaged
Establishing Committees which Promote Frequent Interaction	▪ Set an Agenda for Each Meeting ▪ Record Meeting Minutes ▪ Hire or Involve Local Civilian Planning Staff or Consulting Services ▪ Schedule Regular Meetings ▪ Provide Committee Members Agenda Materials before Meeting ▪ Involve Committee Member in Developing Annual Planning Agenda ▪ Actively Engage all Committee Members ▪ Members are Appointed Thoughtfully ▪ Arrange Training for New Committee Members ▪ Review Comprehensive/General Plans and Offer Recommendations
Improving Political Viability	▪ Integrate Official/Formal Agreements ▪ Link Grant/Funding Opportunities to Implementation ▪ Engage and Inform Local Leaders Early and Often ▪ Obtain Confirmation from the Public ▪ Involve Legal Experts to Address Concerns ▪ Actively Inform New Leaders and Personnel ▪ Establish an Implementation Committee ▪ Consider Aid from Consulting Services ▪ Mandate Adoption of Strategies into Comprehensive/General Plans
Simplify the Process	▪ Consider Applying Consensus Methods ▪ Expand Phasing during Plan Development ▪ Integrate Strategies into Community's Comprehensive/General Plans ▪ Establish an Implementation Committee ▪ Involve Legal Experts to Address Concerns ▪ Develop Ordinance Templates or Models for Rapid Adoption ▪ Increase Specificity of Roles and Responsibilities ▪ Consider Aid from Consulting Services ▪ Offer Regular Grant Assistance

Similarly, policy and professional practice recommendations aimed at promoting more effective plan development are outlined in Table 90. As before, most of these recommendations are also pertinent to the challenges found for plan development. Another finding applicable to joint plan development was the identification of what planners believe makes an effective strategy or recommendation. Over half of the participants stated they need to be shaped by engagement and good planning practices. According to the interviewees, this includes engaging all communities and institutions in the region and formulating policy around reliable and transparent data analysis. Half of the planners also emphasized the need for strategies and recommendations to be as clear and specific as possible. The participants stressed that effective planning policies in joint studies need to answer core questions including: what is the purpose of the policy; who is responsible for each policy; what is the potential cost of the policy; what is the expected timeline of the policy; does everyone recognize the need for such policy; does everyone understand the policy's intent; and is there a clear path or template as to how the policy should be implemented. Comparable to the overall program, the interviewees noted that effective joint strategies also need to be politically viable (i.e. easily adoptable), have minimal issues related to administration operability (i.e. can the staff/personal implement it with few obstacles), and have mechanisms for accountability (i.e. who is responsible for its implementation). Finally, some other characteristics of effective policies planners and policymakers should aim for in joint studies include being relatable to the public, has broad stakeholder and leadership support, and does not follow a one size fits all approach.

Table 90*Recommendations for More Effective Plan Development*

Shared Response	Policy/Professional Practice Recommendations
More Effective Outreach, Engagement, and Buy-in Efforts	▪ Expand and Diversify Marketing Efforts ▪ Conduct Engagement Efforts Throughout the Region ▪ Actively Engage Stakeholders and Property Owners ▪ Remove Barriers to Participation ▪ Know the Target Population ▪ Emphasize why People should Attend ▪ Encourage Non-Technical Language ▪ Consider Mechanisms for Anonymous Input ▪ Provide Roadmaps ▪ Show what was Learned from Previous Input ▪ Demonstrate how Previous Input has been Applied
Better Communication, Coordination, and Consideration of Regional Implications	▪ Set an Agenda for Each Meeting ▪ Actively Engage Stakeholders and Property Owners ▪ Record and Share Meeting Minutes ▪ Diversify Methods from which Committee Members can Participate ▪ Get to Know the Audience and Status of Regional Relations Early ▪ Provide Roadmaps ▪ Emphasize why People should Attend ▪ Consider Mechanisms for Anonymous Input ▪ Ensure all Communities have a Chance to Participate at each Meeting ▪ Encourage Non-Technical Language ▪ Gauge the Communities Capacity to Participate Early
Improve Consultant Selection Process	▪ Consider a Blind Review of Candidates ▪ Rank Local Knowledge and Experience as a Higher Qualification ▪ Provide Resources Designated for Increasing Consultant Familiarity ▪ Promote Diversity in Consulting Firm Selection ▪ Engage all Communities in the Selection Process ▪ Place Greater Emphasis on the Need for Local Planning Experience ▪ Emphasize to the Consultant that the Client is Not One Institution

Shifting towards assessing the prospective benefits of applying joint studies in other planning and regional contexts, the planners were generally optimistic across the board. When comparing various planning contexts, the interviewees were most optimistic about applying joint studies for economic development. This position stems from perspectives that economic development is discernibly in the benefit of everyone and it is perhaps the least politically controversial. Although moderate, the participants were least optimistic towards the prospective benefits of joint studies for capital improvement planning. This position stems from perspectives that infrastructure is heavily linked to local funding sources, political viability would need to overcome significant competition barriers, and gaining public support would be a challenge. When asked to compare other regional contexts beyond defense communities, the interviewees were most

consistently optimistic about applying joint studies with universities. This position stems from perspectives that there is comparatively more to be gained from it economically, it is the least politically controversial, it has historically paid off, and it encourages student engagement in the planning process. Participants were least optimistic towards the prospective benefits of joint studies conducted with reservations. This position stems from perspectives that power differences, legal authority issues, cultural differences, and apprehensions from the past would be challenging to overcome. Perhaps the most applicable lessons from these findings are rooted in the planners' justifications. The wider application of joint planning ventures and the prospective benefits are clearly dependent upon numerous factors. Those most apparent from this study are the ability for planners and their communities to confront the real and/or perceived concerns of regionalism, to expand beyond the out of sight out of mind psychology, and to recognize that the benefits can in fact be multilateral.

When asked to describe other instances in which they believed joint studies can be beneficial for regional planning, the planners verbalized a large variety of planning topics including recreational planning, airports, education facilities, coastal and shoreline planning, tourism, and many more. These findings suggest the diffusion potential of JLUSs, including its framework and methodologies, are not only promising for other defense communities but also for addressing other regional planning issues. Despite any criticisms they might have shared regarding the JLUS program, the interviewees regularly framed their assessments of alternative joint planning scenarios around the benefits they observed from their JLUS. This study's findings should not only motivate planners and their communities to consider the prospective benefits of applying joint studies to combat known regional issues but recognize that it will likely identify those which are currently unknown that may be easily mitigated through collaboration.

Study Limitations and Suggestions for Future Research

In order to inform future scholarship on the topic of joint planning studies, some noteworthy limitations from this study's interviews must be acknowledged. More specifically, the limitations discussed in this section are derived from the completion of the interviews and are more specific than the general limitations identified in Chapter 3. The purpose of identifying these limitations is to help future scholars anticipate and/or avoid similar shortcomings. The first potential limitation is linked to the sample's geographic representation. From an ideal empirical perspective, the geographic spread of the interviewees would be about the same for each region of

the country. However, this study targeted a minimum of one (1) from each region since participation was voluntary, the transient nature of potential participants was unfeasible to account for, and the positioning of military installations throughout the country is asymmetrical. Comparable to the stakeholder survey, this study recommends future researchers of defense communities present each region of the country ample opportunities to participate to combat the aforementioned barriers.

Another potential limitation of the interviews was the structured approach. Since this study aimed to ensure “any variations among responses can be attributed to the actual difference among the respondents and not to variations in the interview,” the structured approach was pursued (Frankfort-Nachmias & Nachmias, 2008, p. 213). While follow up questions were posed when clarity was needed, no unstructured questions were asked to expand upon the dialog. By choosing not to pose unstructured questions, there may be some richer information that could have been extracted that was not. Furthermore, as information was gained, there is no mechanism in a structured approach to ask newer and/or adjusted questions without starting over. This limitation became more apparent throughout the interviews since much of the information obtained has not been published to date. Consequently, this study recommends future scholars of defense communities interested in conducting interviews consider either an unstructured approach or performing pilot interviews as part of the methodological instrument’s development.

As alluded in Chapter 1, the main goals of the secondary research question were to: 1) fulfill a visible gap in knowledge; 2) reintroduce defense communities as a significant setting of regional planning; and 3) offer the necessary contextual information for generating other compelling research questions related to the application of joint studies. Some additional research questions future scholars might consider in order to further the discourse are outlined in Table 91. While some of these questions can be partially informed via the findings of this study, future scholars are encouraged to investigate them as they are anticipated to reveal compelling findings and they will further the discourse on joint planning practices.

Table 91

Potential Research Questions for Future Studies – Part III

Discussion Questions

- What methods are most/least effective at generating community outreach, engagement, and buy-in for joint planning studies and why?
 - What methods are most/least effective at fostering better communication and coordination for joint planning studies and why?
 - How can the consultant selection process for joint planning studies be improved?
 - What strengths and weaknesses are apparent across various joint planning studies?
 - How do local stakeholders assess the performance and conformance of joint planning studies in other planning contexts (e.g. transportation planning, environmental, resiliency planning, etc.)?
 - How do local stakeholders assess the performance and conformance of joint planning studies in other regional contexts (e.g. numerous urban communities, universities, etc.)?
 - Do stakeholders, community leaders, property owners, etc. hold similar or dissimilar views towards the prospective benefits of joint studies as planners, and if so, how are they similar or dissimilar?
 - How does favorability towards the policy recommendations of this study vary and do various stakeholder groups share similar or dissimilar positions?
 - How do international stakeholders perceive the prospective or historical benefits of joint planning studies with U.S. military installations?
 - How have/do planners' perceptions of joint studies and their benefits change from a longitudinal perspective?
 - Do planners experienced with other joint planning ventures hold similar or dissimilar views towards the prospective benefits of joint studies as planners from defense communities, and if so, how are they similar or dissimilar?
-

Concluding Remarks

Collectively, this dissertation was inspired by my own professional curiosity in determining whether my own experiences with the Joint Land Use Study (JLUS) program align with the stories of others. My own experiences suggested the JLUS program was generally producing the change it seeks to foster. This study provides empirical evidence that this position largely holds true in most defense communities throughout the country. While these conclusions are encouraging for this program's future, this study identifies multiple areas where the JLUS program can improve upon in a targeted fashion. Doing so will allow the JLUS program to reach its full potential. I encourage future planning scholars and practitioners to conduct their own *ex-post* evaluations on policies and planning actions in defense communities and beyond since it can enhance the credibility/legitimacy of planning efforts, aid our ability to distinguish between "good" and "bad" plans, avoid future damage to political and professional reputations, prevent the misallocation of future resources, improve future planning endeavors, and increase procedural efficiency.

References

- Agresti, A., & Finlay, B. (2009). *Statistical Methods for the Social Sciences* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Alexandrov, A. V., Pullicino, P. M., Meslin, E. M., & Norris, J. W. (1996). Agreement on disease-specific criteria for do-not-resuscitate orders in acute stroke. *Stroke*, 27(2), 232-237.
- American Farmland Trust. (2011). *Working to Preserve Farm, Forest and Ranch Lands: A Guide for Military Installations*. Washington, DC: U.S. Department of Defense.
- American Farmland Trust. (2018). Purchase of Agricultural Conservation Easement Programs: Laws. In *Farmland Information Center*. Retrieved August 2, 2018, from https://www.farmlandinfo.org/law?field_law_category_tid=289&field_topic_tid=242&field_state_tid=All&page=1
- Ansell, C, & Gash, A. (2007). Collaborative Governance in Theory and Practice. *Journal of Public Administration Research and Theory*, 18(4), 543-571.
- Appel, R., & Smith, T. (2011). Compatible Land Use Near Military Installations: The Problem and the Local Government Response. *Planning & Environmental Law*, 63(4), 3-10.
- Antwerp, R. L. (2001). Encroachment Impacts on Army Installations and How to Deal with Them. *Federal Facilities Environmental Journal*, 19-32.
- Army Environmental Policy Institute. (1999). *Army Operational Noise Management Program Review*. Atlanta, GA: U.S. Army.
- Ashley, A. J., & Touchton, M. (2015). Reconceiving Military Base Redevelopment: Land Use on Mothballed U.S. Bases. *Urban Affairs Review*, 1-30.
- Association of Defense Communities. (2016). *The Base of the Future: A Call for Action by States and Communities*. Washington, D. C.: Association of Defense Communities.
- Association of Defense Communities. (2007). *Advancing Public-Private Partnerships in Defense Communities: An ADC Policy Paper*. Washington, D. C.: Association of Defense Communities.
- Bagaeen, S. G. (2006). Brownfield Sites as Building Blocks for Sustainable Urban Environments: A View on International Experience in Redeveloping Former Military Sites. *Urban Design International*, 11, 117-128.
- Bailey, K. (2008). *Methods of social research*. Simon and Schuster.

- Baker, P. M., & Moon, N. W. (2010). Policy development and access to wireless technologies for people with disabilities: Results of policy Delphi research. *Universal Access in the Information Society*, 9(3), 227-237.
- Bonner, S., & Dolesh, R. J. (2005). Selling Out Military Bases for Parkland. *Parks & Recreation*, 40(10), 66-70.
- Bouché, V., & Volden, C. (2011). Privatization and the Diffusion of Innovations. *The Journal of Politics*, 73(2), 428-442.
- Bozarth, G. (2016). Winning on All Fronts: A Case Study of the Army's Compatible Use Buffer Program at Fort Riley, Kansas. *The Urban Lawyer*, 48(1), 143.
- Bradshaw, T. (1999). Communities Not Fazed. *Journal of the American Planning Association*, 65(2), 193-206.
- Bradshaw, T. K., Kroll, C. A., Corley, M., Kirschenbaum, J., & Harlan, L. (1994). Defense industry conversion, base closure, and the California economy: A review of the literature and annotated bibliography.
- Briffault, Richard. (2000). Localism and regionalism. *Buffalo Law Review*, 48(1), 1-30.
- Brody, S. D., & Highfield, W. E. (2005). Does Planning Work?: Testing the Implementation of Local Environmental Planning in Florida. *Journal of the American Planning Association*, 71(2), 159-175.
- Buck, A. J., Gross, M., Hakim, S., & Weinblatt, J. (1993). Using the Delphi process to analyze social policy implementation: a post hoc case from vocational rehabilitation. *Policy Sciences*, 26(4), 271-288.
- Bugday, A. (2014). Environmental Problems and Surge in Civil-Military Cooperation: The Case of the Botswana Defense Force. *Armed Forces & Society*, 42(1), 192-210.
- Butler, T. A. (2004). *State Strategies to Address Encroachment at Military Installations*. Washington, D. C.: NGA Center for Best Practices.
- Butler, T. A. (2006). *Planning Tools and Policies to Encourage Compatible Development near Military Installations*. Washington, D. C.: NGA Center for Best Practices.
- Cloutier, D. (2020). *Efficacy of Military and Community Compatibility Planning in the Puget Sound Region* (Doctoral dissertation).

- Cotter, P., McKee, J., McMillen, J., Meck, S., Morandi, L., Salkin, P., & Schilling, J. (Eds.). (2005). *Compatible Civilian Development Near Military Installations*. N.p.: Office of Economic Adjustment.
- Cowan, T., & Gonzales, O. R. (2010). *Military Base Closures: Socioeconomic Impacts* (pp. 1-9) (United States, Congressional Research Service).
- Daicoff, D. W., McCluggage, M. M., Warriner, C. K., & Olsen, R. R. (1971). *Economic Impact of Military Base Closings. Volume I. Adjustments by Communities and Workers*. Lawrence, KS: United States Arms Control and Disarmament Agency.
- Dardia, M., McCarthy, K. F., Malkin, J. D., & Vernez, G. (1996). *The Effects of Military Base Closures on Local Communities: A Short-Term Perspective*. Santa Monica, CA: RAND Corporation.
- Davenport, J. (2007). *Encouraging Compatible Land Use between Local Governments and Military Installations: A Best Practices Guide* (pp. 1-18). Washington, DC: National Association of Counties Research Foundation.
- Dawson, Y. (2005). When an Installation Grows: The Impact of Expanding Missions on Communities. *Infobrief*, 1-16.
- Deger, S., & Sen, S. (1983). Military Expenditure, Spin-Off and Economic Development. *Journal of Development Economics*, 13, 67-83.
- DISDI Program Manager. (2017). Military Installations, Ranges, and Training Areas. In *DATA.GOV*. Retrieved August 10, 2018, from <https://catalog.data.gov/dataset/military-installations-ranges-and-training-areas>.
- Drucker, J. (2015). Economic Impact Analysis amid Rapid Change: Challenges, Strategies, and Examples from Defense Communities. *Journal of Planning Education and Research*, 35(4), 401-418.
- Dunn, K. (2000). Interviewing. In Hay, I., *Qualitative Research Methods in Human Geography* (2nd ed., pp. 50-80). Oxford, UK: Oxford University Press.
- Eitler, C. C., (2017). *Compatible Use Strategic Planning: Joint Land Use Study a Tool to Promote Mission Sustainment*. Presentation provided by U.S. Department of Defense's Office of Economic Adjustment. Washington, D.C.

- Elwood, J. (2008). Too Close for Comfort Encroachment on Military Lands. *Conserving biodiversity on military lands: A guide for natural resources managers*. Arlington, VA: NatureServe.
- Elliott, R. (1973). *History of Nevada*. Lincoln, NE: University of Nebraska Press.
- Farley, S. M., & Belfit, S. C. (2001). Addressing encroachment with cooperative agreements and conservation. *Federal Facilities Environmental Journal*, 12(2), 33-44.
- Fink, A., Kosecoff, J., Chassin, M., & Brook, R. H. (1984). Consensus methods: characteristics and guidelines for use. *American Journal of Public Health*, 74(9), 979-983.
- Flint Hills Regional Council. (2017). *Flint Hills/Fort Riey JLUS*. Tallahassee, FL: Stantec and the Urban Collaborative.
- Flora, C. B., Flora, J. L., & Gasteyer, S. P. (2016). *Rural Communities* (5th ed.). Boulder, CO: Westview Press.
- Foster, K. A. (2001). *Regionalism on Purpose*. Lincoln Institute of Land Policy.
- Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and Health*, 25(10), 1229-1245.
- Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research Methods in the Social Sciences* (7th ed.). New York, NY: Worth Publishers.
- Futrell, R. (2003). Technical Adversarialism and Participatory Collaboration in the U.S. Chemical Weapons Disposal Program. *Science, Technology, & Human Values*, 28(4), 451-482.
- Gainsborough, J. F. (2001). Bridging the city-suburb divide: States and the politics of regional cooperation. *Journal of Urban Affairs*, 23(5), 497-512.
- Gillman, M. (2011). *A Win-Win– A Military Program with Environmental Benefits: A Look at Encroachment and the Readiness and Environmental Protection Initiative* (Master's thesis).
- Glassberg, A. D. (1995). Intergovernmental relations and base closing. *The Journal of Federalism*, 25(3), 87-98.
- Gormley Jr, W. T. (1987). Institutional policy analysis: A critical review. *Journal of Policy Analysis and Management*, 6(2), 153-169.
- Green, G. P., & Haines, A. (2012). *Asset Building and Community Development* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews are Enough? An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59-82.
- Hansen, K. N. (2004). *The Greening of Pentagon Brownfields*. Oxford, UK: Lexington Books.
- Havlick, D. G. (2014). Opportunistic Conservation at Former Military Sites in the United States. *Progress in Physical Geography*, 38(3), 271-285.
- Havlick, D. G. (2018). *Bombs away: Militarization, Conservation, and Ecological Restoration*. University of Chicago Press.
- Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code saturation versus meaning saturation: how many interviews are enough?. *Qualitative health research*, 27(4), 591-608.
- Hicks, L., & Raney, C. (2003). The Social Impact of Military Growth in St. Mary's County, Maryland, 1940-1995. *Armed Forces & Society*, 29(3), 353-371.
- Hock Ong, M. E., Shin, S. D., Sung, S. S., Tanaka, H., Huei-Ming, M., Song, K. J., ... & Ryoo, H. W. (2013). Recommendations on ambulance cardiopulmonary resuscitation in basic life support systems. *Prehospital Emergency Care*, 17(4), 491-500.
- Holman, B. W. (2002). *Military Training: DoD Lacks a Comprehensive Plan to Manage Encroachment on Training Ranges* (pp. 1-44) (U.S., General Accounting Office). Washington D.C.: GAO.
- Hooker Jr., R. D. (2003). Soldiers of the State: Reconsidering American Civil-Military Relations. *Parameters*, 1-15.
- Hooks, G. (2003). Military and Civilian Dimensions of America's Regional Policy, 1972-1994. *Armed Forces & Society*, 29(2), 227-251.
- Ichter, Cary. (1984). "Beyond judicial scrutiny": Military compliance with NEPA. *Georgia Law Review*, 18(3), 690.
- International City/County Management Association & Metropolitan Institute at Virginia Tech. (2005). *Collaborative Land Use Planning: A Guide for Military Installations and Local Governments*. Washington, DC: U.S. Department of Defense.
- Knott, J. L., & Natoli, N. (2004). *Compatible use buffers: a new weapon to battle encroachment*. Army Engineer School Fort Leonard Wood MO.
- Kuder, G. F., & Richardson, M. W. (1937). The theory of the estimation of test reliability. *Psychometrika*, 2(3), 151-160.

- Kuhn, T. J., & Duane, T. P. (2015). Partial Eclipse: Obstacles to Solar Energy Development on Military Withdrawn Lands. *Geo. Wash. J. Energy & Envtl. L.*, 6, 32.
- Lachman, B. E., Pint, E. M., Cecchine, G., & Colloton, K. (2009). *Developing Headquarters Guidance for Army Installation Sustainability Plans in 2007*. Santa Monica, CA: RAND Corporation.
- Lachman, B. E., Resetar, S. A., & Camm, F. (2016). *Military Installation Public-to-Public Partnerships: Lessons from Past and Current Experiences*. RAND Corporation.
- Lachman, B. E., Schaefer, A. G., Kalra, N., Hassell, S., Hall, K. C., Curtright, A. E., & Mosher, D. E. (2013). *Key Trends that will Shape Army Installations of Tomorrow* (pp. 1-349). Santa Monica, CA: RAND Corporation.
- Lachman, B. E., Wong, A., & Resetar, S. A. (2007). *The Thin Green Line: An Assessment of DoD's Readiness and Environmental Protection Initiative to Buffer Installation Encroachment*. Santa Monica, CA: RAND Corporation.
- Lahoud, P., Zehrt, & Corps of Engineers Huntsville AL. (1992). *Inhabited Building Distance Criteria and Modern Construction*.
- Land Trust Alliance. (2010). *Working with Land Trusts: A Guide for Military Installations*. Washington, DC: U.S. Department of Defense.
- Lockwood, D. E., & Siehl, G. (2004). *Military base closures: A historical review from 1988 to 1995*. (). Washington, DC: The Library of Congress.
- Loomis, D. (1993). *Combat Zoning: Military Land-Use Planning in Nevada*. University of Nevada Press.
- Lutz, C. (2001). *Homefront: A Military City and the American Twentieth Century*. Boston, MA: Beacon Press.
- Lynch, J. E., Arvin, B., Bludau, O., Boese, L., Donohoe, J., Houlemard Jr., M. A., ... Walker, J. (2004). *The Community Base Reuse Planning Process: A layman's guide*. Washington, D.C.: National Association of Installation Developers.
- Lynch, M. J., & Omans, J. D. (2004). Encroachment: The silent Readiness Degradar. *Marine Corps Gazette*, 88, 25.
- Manley, R. A. (2013). The Policy Delphi: a method for identifying intended and unintended consequences of educational policy. *Policy Futures in Education*, 11(6), 755-768.

- Markusen, A. (1991). *The Rise of the Gunbelt: The Military Remapping of Industrial America*. New York: Oxford University Press.
- Martin, L. L., Smith, H., & Phillips, W. (2005). Bridging “town & gown” through innovative university-community partnerships. *The Innovation Journal: The Public Sector Innovation Journal*, 10(2), 1-16.
- Mazmanian, D. A., & Sabatier, P. A. (1989). *Implementation and Public Policy*. Lanham, MD: University Press of America.
- McCullagh, C. (2000). Bias in Historical Description, Interpretation, and Explanation. *History and Theory*, 39(1), 39-66.
- McDuffie, J. A. (2009). *Actual encroachment v. perceived encroachment: A case study of Fort Jackson, South Carolina*. (Doctoral dissertation, University of South Carolina).
- Meinig, D. W. (2010). *The Shaping of America: A Geographical Perspective on 500 Years of History: Volume 4: Global America, 1915–2000* (Vol. 4). Yale University Press.
- Meurer, F., Bonner, S., Rowe, W., Morris, S., & Zgabay, C. (2012). Installation-Community Partnerships: A New Paradigm for Collaborating in the 21st Century. *Journal of Defense Communities Online*.
- Minichiello, V. (1995). Designing qualitative research. *CRC Seminar Series*. Victoria University of Technology, Qualitative Research Forum.
- Mundfrom, D., Shaw, D., & Ke, T. (2005). Minimum Sample Size Recommendations for Conducting Factor Analyses. *International Journal of Testing*, 5(2), 159-168.
- Musoke, E. (2017). *Understanding the adoption of soil and water conservation practices: The role of social capital*(Doctoral dissertation, Kansas State University).
- National Association of Conservation Districts. (2013). *Working with Conservation Districts: A Guide for Military Installations*. Washington, DC: U.S. Department of Defense.
- National Association of Regional Councils. (2009). *Working with Regional Councils: A Guide for DoD Installations*. Washington, DC: U.S. Department of Defense.
- Nelson, B. W. (1978). Statistical manipulation of Delphi statements: its success and effects on convergence and stability. *Technological Forecasting and Social Change*, 12(1), 41-60.
- Newell, C. E., Rosenfeld, P., Harris, R. N., & Hindelang, R. L. (2004). Reasons for nonresponse on US Navy surveys: A closer look. *Military psychology*, 16(4), 265-276.

- O'Brien, P. J. (2006). *Joint Land Use Study Program Guidance Manual*. Office of Economic Adjustment.
- Oliveira, V., & Pinho, P. (2010). Evaluation in urban planning: Advances and prospects. *Journal of Planning Literature*, 24(4), 343-361.
- Omans, J. (2002). Preventing Urban Sprawl while Preserving Military Readiness. *Journal of Forestry*, 100(3), 60.
- O'Mara, M. P. (2015). *Cities of Knowledge: Cold War Science and the Search for the Next Silicon Valley*. Princeton University Press.
- Orr, K., McKinley, N., & Driemeyer, J. (2017). *Community and Military Compatibility Planning: Supplement to the General Plan Guidelines*. Sacramento: California Governor's Office of Planning and Research.
- O'Toole, L. J., & Christensen, R. K. (2012). *American intergovernmental relations: Foundations, perspectives, and issues*. Cq Press.
- Ott, R., & Longnecker, M. T. (2004). *A First Course in Statistical Methods*. Belmont, CA: Brooks/Cole Cengage Learning.
- Pacheco, J. (2012). The social contagion model: Exploring the role of public opinion on the diffusion of antismoking legislation across the American states. *The Journal of Politics*, 74(1), 187-202.
- Plinske, K., & Packard, W. J. (2010). Trustees' perceptions of the desired qualifications for the next generation of community college presidents. *Community College Review*, 37(4), 291-312.
- Poppert, P. E. (2001). *Base closure impacts and the general effects of military installations on local private employment*.
- Poppert, P. E., & Herzog Jr., H. W. (2003). Force reduction, base closure, and the indirect effects of military installations on local employment growth. *Journal of Regional Science*, 43(3), 459-481.
- Range Commanders Council. (2012). *Commander's Guide to Community Involvement*. Washington, DC: U.S. Department of Defense.
- Rayens, M. K., & Hahn, E. J. (2000). Building consensus using the policy Delphi method. *Policy, politics, & nursing practice*, 1(4), 308-315.

- REPI Interactive Map. (2018). In *Readiness and Environmental Protection Integration*. Retrieved August 9, 2018, from <https://repimap.org/>.
- Rietjens, S. J. (2008). Managing Civil-Military Cooperation: Experiences from the Dutch Provincial Reconstruction Team in Afghanistan. *Armed Forces & Society*, 34(2), 173-207.
- Ritter, N. L. (2010). Understanding a widely misunderstood statistic: Cronbach's. *Online Submission*.
- Rivlin, A. M. (2012). Rethinking federalism for more effective governance. *Publius: The Journal of Federalism*, 42(3), 387-400.
- Rossi, P. H., Lipsey, M. W., & Henry, G. T. (2019). *Evaluation: A Systematic Approach* (8th ed.). SAGE Publications Inc.
- Roylance, H. M. (1968). Quantity-distance protection. *Annals of the New York Academy of Sciences*, 152(1), 10-17.
- Sabatier, P., & Mazmanian, D. (1980). The implementation of public policy: A framework of analysis. *Policy studies journal*, 8(4), 538-560.
- Sabatier, P., & Mazmanian, D. (1986). Top-Down and Bottom-Up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*, 6(1), 21-48.
- Santicola, R. (2006). Encroachment: Where National Security, Land Use, and the Environment Collide. *The Army Lawyer*, 1-13.
- Savage, M. (2010). Making Peace: Lawmakers are looking for ways to resolve land-use conflicts between civilian communities and military bases. In *National Conference of State Legislatures*. Retrieved July 26, 2018, from <http://www.ncsl.org/research/military-and-veterans-affairs/making-peace-article.aspx>.
- Seasons, M. (2003). Monitoring and evaluation in municipal planning: Considering the realities. *Journal of the American Planning Association*, 69(4), 430-440.
- Schiff, R. L. (1995). Civil-Military Relations Reconsidered: A Theory of Concordance. *Armed Forces & Society*, 22(1), 7-24.
- Schiff, R. L. (1996). Concordance Theory: A Response to Recent Criticism. *Armed Forces & Society*, 23(2), 277-283.
- Schlossberg, G. (2012). How Congress Cleared the Bases: A Legislative History of BRAC. *Journal of Defense Communities*, 1, 1-12.

- Schultz, J. (2016). *Preparing for Duty: State Policy Options to Sustain Military Installations*. Washington, D.C.: National Conference of State Legislatures.
- Squillace, Mark. (2019). Rethinking Public Land Use Planning. *Harvard Environmental Law Review*, 43(2), 415-478.
- Sorenson, D. (1998). *Shutting down the Cold War : The Politics of Military Base Closure* (1st ed.). New York: St. Martin's Press.
- Souris Basin Planning Council. (2015). *Minot Air Force Base Joint Land Use Study*. Bismark, ND: SRF Consulting Group, Inc. and HDR.
- Stark, Susan Perkins. (2016). Environmental law - the Department of Defense natural resources conservation program: How military environmental activists conserved thirty million acres for military use and the protection of endangered species. *Western New England Law Review*, 38(3), 375.
- Stenberg, P. L., & Rowley, T. D. (1993). A comparison of military base closures in metro and nonmetro counties. *Government Finance Review*, 9, 11-11.
- Stone, D. (2001). *Policy Paradox: The Art of Political Decision Making* (pp. 123-127). New York, NY: W.W. Norton & Company.
- Talen, E. (1997). Success, failure, and conformance: an alternative approach to planning evaluation. *Environment and Planning B: Planning and Design*, 24(4), 573-587.
- Thanner, M. H., & Segal, M. W. (2008). When the Military Leaves and Places Change. *Armed Forces & Society*, 34(4), 662-681.
- Thee, M. (1977). Militarism and Militarization in Contemporary International Relations. *Bulletin of Peace Proposals*, 8(4), 296-309.
- Thomas, J. S., & Mouat, D. (2011). Alternative Futures Analysis as a Complement to Planning Processes for the Use of Military Land. *Air & Space Power Journal*, 25(3), 100-109.
- Touchton, M., & Ashley, A. J. (2019). *Salvaging Community: How American Cities Rebuild Closed Military Bases*. Cornell University Press.
- Turoff, M., & Linstone, H. A. (2002). The Delphi method techniques and applications.
- U.S. Air Force. (2015). *Air Force Instruction AFI 32-7063: Air Installations Compatible Use Zones Program*.
- U.S. Army. (1997). *Army Regulation 200-1*.

- U.S. Army Corps of Engineers. (2017). Combat and Military Construction. *A Brief History of the Corps*. Retrieved October 5, 2017, from <http://www.usace.army.mil/About/History/Brief-History-of-the-Corps/Combat-and-Military-Construction>.
- U.S. Department of Defense. (1977). *Department of Defense Instruction: Air Installations Compatible Use Zones (AICUZ)* (Ser. 4165.57). Washington D.C.
- U.S. Department of Defense. (1994). *The Relationship between Base Closures/Realignments and Non-DoD Federal Costs*. Washington, D.C.
- U.S. Department of Defense. (2016). *DoD Base Realignment and Closure: Fiscal Year 2017 Budget Estimates*.
- U.S. Department of Defense. (2016b). *The Department of Defense's Readiness and Environmental Protection Integration (REPI) Program Buffer Partnerships: A Guide for State, Local, and Private Partners*.
- U.S. Department of Defense. (2017). Military Installations, Ranges, and Training Areas. In *Data.gov*. Retrieved from <https://catalog.data.gov/dataset/military-installations-ranges-and-training-areas>
- U.S. Department of Defense. (2017b). *Report to Congress 2017 Sustainable Ranges*.
- U.S. Department of Defense. (2018). About the Department of Defense (DoD). In *Department of Defense*. Retrieved February 25, 2018, from <https://www.defense.gov/About/>.
- U.S. Department of Defense, Office of Economic Adjustment. (2018b). *Fiscal Year (FY) 2019 President's Budget Operation and Maintenance, Defense-Wide*. Office of Economic Adjustment.
- U.S. Navy. (2002). *OPNAV Instruction 10010.36B & Marine Corps Order 11010.16*.
- U.S. Navy. (2007). *OPNAV Instruction 10010.40*.
- U.S. Navy. (2015). *Marine Corps Order 11011.23*.
- Waldner, L. S. (2004). Planning to Perform: Evaluation Models for City Planners. *Berkeley Planning Journal*, 17(1).
- Weimer, D. L., & Vining, A. R. (2017). *Policy Analysis Concepts and Practice* (6th ed.). New York, NY: Routledge.
- Whealdon, J. Y. (2018). A Primer in Eminent Domain and Takings Law under the U.S. Constitution. In *American Bar Association: Defending Liberty Pursuing Justice*. Retrieved

February 24, 2018, from

https://www.americanbar.org/groups/young_lawyers/publications/the_101_201_practice_series/primer_important_domain_takings_law_under_us_constitution.html.

Wiley, K. B., & Rhodes, S. L. (1998). From Weapons to Wildlife: The Transformation of the Rocky Mountain Arsenal. *Environment*, 40(5), 4-35.

Woodward, R. (2004). *Military Geographies*. Malden, MA: Blackwell Publishing.

Young, R. K. (2008). *Shared Land Use Impacts between Military Installations and Contiguous Communities (Post -BRAC): Fact and Opinion Differences in Planning and Public Policy* (Doctoral dissertation).

Appendix A – Stakeholder Survey

Survey Introduction, Instructions, and Informed Consent

Greetings Military/Civilian Stakeholder,

Thank you in advance for taking the time and effort to respond to this questionnaire. The purpose of this survey is to obtain your assessment of the Joint Land Use Study (JLUS) program and its effects on democratic participation, intergovernmental cooperation, military readiness, and civilian development in defense communities. If you were not living/working in your current position during or prior to the JLUS's completion, please provide your best assessment based on your initial arrival to the community. Your responses are confidential, will never be linked to you personally, and are purely intended for academic publication. As a result, please provide your most candid answers to the questions posed. If there are items you do not feel comfortable answering, please skip them. Access to participate in the survey will conclude on December 16, 2019. Thank you again for your participation.

Risks Anticipated:

This study is purely for academic use and is deliberately designed to minimize any potential risks resulting from your participation. Since the background information asked in this survey will never be directly linked to you, your community, or installation no risks are anticipated.

Benefits Anticipated:

This survey offers you the opportunity to share, confidentially, your experiences and assessment of the JLUS program. Being a national study, your contributions may indirectly encourage additional political, financial, and other support towards the program's implementation. Alternatively, it may also pinpoint necessary adjustments for improving the program's implementation both for your community and other defense communities throughout the country.

Confidentiality Protocol and De-identifying Your Data:

This study takes the confidentiality of your participation seriously by minimizing identifying characteristics to solely your military status, military service department, residency tenure, and geography. Data obtained for these characteristics will be strategically aggregated to the national level based upon the corresponding group (e.g. military status will identify the overall percentage of participants which represent military *or* civilian interests). Recognizing that some areas of the

country have fewer installations than others, geography has been divided regionally by states to ensure your assessments remain confidential. If you choose to volunteer for the follow-up interview by providing your email address in question 31, your anonymity will not be compromised since it will only be used as a means for communication *not* data collection. The information that will be collected as part of this research could be used for future research studies or distributed to other investigators for future research studies without additional informed consent.

Terms of participation:

By completing this survey, I understand this project is research and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled. My participation indicates that I have read and understand this consent form and willingly agree to participate in this study under the terms described.

Contact Information:

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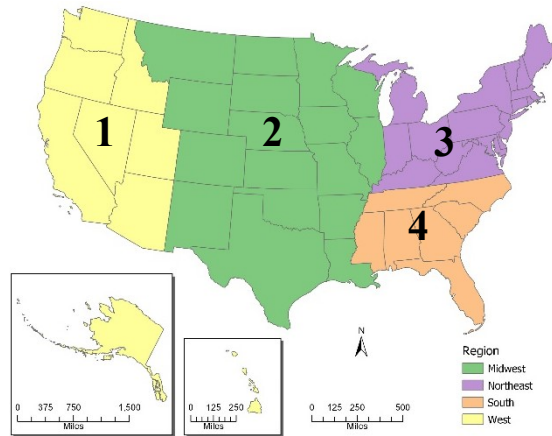
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Background Information

1. Which of the following best describes the institution you represent?
 - ☐ Military (e.g. Air Force, Army, etc.)
 - ☐ Civilian (e.g. Private and Public Sector)
2. Approximately how long have you worked/lived in your current community?
 - ☐ Less than 1 year
 - ☐ Between 1 and 3 years
 - ☐ Between 4 and 10 years
 - ☐ Greater than 10 years
3. Which of the following best reflects the branch of service for your local military installation?
 - ☐ Air Force
 - ☐ Army
 - ☐ Marine Corps
 - ☐ Navy
 - ☐ Joint Base
4. Which of the geographic regions in the illustration best reflects the location of your local military installation?
 - ☐ 1 – West
 - ☐ 2 – Midwest
 - ☐ 3 – Northeast
 - ☐ 4 – South



JLUS Implementation & Familiarity

5. To what degree is your institution currently involved in the implementation of the region's Joint Land Use Study?
 - ☐ Heavily Involved
 - ☐ Somewhat Involved
 - ☐ Rarely Involved
 - ☐ Not Involved
6. Overall, how would you describe your familiarity with your region's Joint Land Use Study?
 - ☐ Extremely Familiar
 - ☐ Moderately Familiar
 - ☐ Slightly Familiar
 - ☐ Not at all Familiar

Democratic Participation

-
7. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has <u>awareness</u> of incompatibility issues (e.g. land use, transportation, etc.) between civilian development and the local military installation changed throughout the region? ☐ Increased ☐ Declined ☐ No Change ☐ Don't Know or Prefer not to Answer	8. Do you believe the Joint Land Use Study program can be an effective resource for improving <u>awareness</u> of incompatibility issues at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
-
9. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has <u>engagement</u> by the public and military changed during the planning process for development proposals that may affect the local military installation? ☐ Increased ☐ Declined ☐ No Change ☐ Don't Know or Prefer not to Answer	10. Do you believe the Joint Land Use Study program can be an effective resource for promoting <u>engagement</u> by the public and military at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
-
11. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has <u>public support</u> towards mitigating incompatibilities (e.g. land use, transportation, etc.) between civilian development and the military installation changed? ☐ Increased ☐ Declined ☐ No Change ☐ Don't Know or Prefer not to Answer	12. Do you believe the Joint Land Use Study program can be an effective resource for generating <u>public support</u> at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
-

Intergovernmental Cooperation

13. Since the completion of the Joint Land Use Study or your initial arrival to the community, how have relations between your institution and others within the region (e.g. cities, counties, and the local military installation) changed?

- ☐ Improved
- ☐ Deteriorated
- ☐ No Change
- ☐ Don't Know or Prefer not to Answer

14. Do you believe the Joint Land Use Study program can be an effective resource for enhancing intergovernmental relations at other military installations?

- ☐ Yes
- ☐ No
- ☐ Don't Know or Prefer not to Answer

15. Since the completion of the Joint Land Use Study, how has communication between your institution and others within the region (e.g. cities, counties, and the local military installation) changed?

- ☐ Improved
- ☐ Declined
- ☐ No Change
- ☐ Don't Know or Prefer not to Answer

16. Do you believe the Joint Land Use Study program can be an effective resource for improving intergovernmental communication at other military installations?

- ☐ Yes
- ☐ No
- ☐ Don't Know or Prefer not to Answer

17. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has the original consensus among leaders for mitigating incompatibilities between civilian development and the military installation changed?

- ☐ Improved
- ☐ Deteriorated
- ☐ No Change
- ☐ Don't Know or Prefer not to Answer

18. Do you believe the Joint Land Use Study program can be an effective resource for improving intergovernmental consensus at other military installations?

- ☐ Yes
 - ☐ No
 - ☐ Don't Know or Prefer not to Answer
-

Military Readiness

19. Since the completion of the Joint Land Use Study or your initial arrival to the community, how would you describe the overall change in your local military installation's ability to sustain its mission?

- ☐ Improved
- ☐ Deteriorated
- ☐ No Change
- ☐ Don't Know or Prefer not to Answer

20. Do you believe the Joint Land Use Study program can be an effective resource for sustaining military missions at other installations?

- ☐ Yes
- ☐ No
- ☐ Don't Know or Prefer not to Answer

21. Since the completion of the Joint Land Use Study or your initial arrival to the community, have you observed fewer complaints about military operations near your local military installation?

- ☐ Yes
- ☐ No
- ☐ Don't Know or Prefer not to Answer

22. Do you believe the Joint Land Use Study program can be an effective resource for reducing complaints about military operations at other installations?

- ☐ Yes
- ☐ No
- ☐ Don't Know or Prefer not to Answer

23. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has the military's support infrastructure provided by local civilian institutions (e.g. education, healthcare, housing, etc.) changed?

- ☐ Improved
- ☐ Deteriorated
- ☐ No Change
- ☐ Don't Know or Prefer not to Answer

24. Do you believe the Joint Land Use Study program can be an effective resource for expanding the support infrastructure at other installations?

- ☐ Yes
 - ☐ No
 - ☐ Don't Know or Prefer not to Answer
-

Civilian Development

-
25. Since the completion of the Joint Land Use Study or your initial arrival to the community, how has <u>quality of life</u> near your local military installation changed? ☐ Improved ☐ Declined ☐ No Change ☐ Don't Know or Prefer not to Answer	26. Do you believe the Joint Land Use Study program can be an effective resource for improving <u>quality of life</u> at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
27. Since the completion of the Joint Land Use Study or your initial arrival to the community, have you observed more <u>compatible civilian development</u> near your local military installation? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer	28. Do you believe the Joint Land Use Study program can be an effective resource for promoting <u>compatible civilian development</u> at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
29. Since the completion of the Joint Land Use Study or your initial arrival to the community, have you observed more <u>compatible civilian activity</u> near your local military installation? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer	30. Do you believe the Joint Land Use Study program can be an effective resource for promoting <u>compatible civilian activity</u> at other military installations? ☐ Yes ☐ No ☐ Don't Know or Prefer not to Answer
-

31. If you consider yourself a civilian planner and would be willing to conduct a supplementary research interview, please leave your email below. Provision of your email will not negate your anonymity in this study.

Debriefing

Thank you for your participation in this study. Your responses will be compiled with your colleagues throughout the country to identify where the program can be improved, augmented, and further supported. Your name will not be used in any publication. If you have any questions, please contact Christopher Clanahan (cclanahan@ksu.edu). You may also contact the Compliance Office at Kansas State University with questions about the study (comply@ksu.edu).

Appendix B – Policy Delphi Survey

Survey Introduction, Instructions, and Informed Consent

Greetings Military/Civilian Stakeholder,

Thank you in advance for taking the time and effort to respond to this questionnaire. This study is investigating the implementation of the Joint Land Use Study (JLUS) program and its effects on democratic participation, intergovernmental cooperation, military readiness, and civilian development in defense communities. The purpose of this survey is to measure the level of concurrence or dissention towards responses collected in an earlier survey round from your colleagues throughout the United States. When applicable, try to apply your experiences with JLUSs and its implementation to each question. If you were not living/working in your current position during or prior to the JLUS's completion, please provide your best assessment based on your initial arrival to the community. Your responses are confidential, will never be linked to you personally, and are purely intended for academic publication. As a result, please provide your most candid answers to the questions posed. If there are items you do not feel comfortable answering, please skip them. Access to participate in the survey will conclude on December 6, 2020. Thank you again for your participation.

Risks Anticipated:

This study is purely for academic use and is deliberately designed to minimize any potential risks resulting from your participation. Since the background information asked in this survey will never be directly linked to you, your community, or installation no risks are anticipated.

Benefits Anticipated:

This survey offers you the opportunity to share, confidentially, your experiences and assessment of the JLUS program. Being a national study, your contributions may indirectly encourage additional political, financial, and other support towards the program's implementation. Alternatively, it may also pinpoint necessary adjustments for improving the program's implementation both for your community and other defense communities throughout the country.

Confidentiality Protocol and De-identifying Your Data:

This study takes the confidentiality of your participation seriously by minimizing identifying characteristics to solely your military status and residency tenure. Data obtained for these characteristics will be strategically aggregated to the community level based upon the corresponding group (e.g. military status will identify the overall percentage of participants which represent military *or* civilian interests). The information that will be collected as part of this research could be used for future research studies or distributed to other investigators for future research studies without additional informed consent.

Terms of participation:

By completing this survey, I understand this project is research and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled. My participation indicates that I have read and understand this consent form and willingly agree to participate in this study under the terms described.

Contact Information:

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IRB Committee Chair
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(785) 532-1483

Associate Vice President of Research
Cheryl Doeer
cdoerr@ksu.edu
(785) 532-3224

Background Information

1. Which of the following best describes the institution you represent? ☐ Military (e.g. Air Force, Army, etc.) ☐ Civilian (e.g. Private and Public Sector)	2. Approximately how long have you worked/lived in your current community? ☐ Less than 1 year ☐ Between 1 and 3 years ☐ Between 4 and 10 years ☐ Greater than 10 years
-

JLUS Implementation & Familiarity

3. To what degree is your institution currently involved in the implementation of the region's Joint Land Use Study? ☐ Heavily Involved ☐ Somewhat Involved ☐ Rarely Involved ☐ Not Involved	4. Overall, how would you describe your familiarity with your region's Joint Land Use Study? ☐ Extremely Familiar ☐ Moderately Familiar ☐ Slightly Familiar ☐ Not at all Familiar
-

Democratic Participation

5. According to 74% of your colleagues, <u>awareness</u> of incompatibility issues (e.g. land use, transportation, etc.) between civilian development and local military installations increased following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer	6. According to 94% of your colleagues, the Joint Land Use Study program will be an effective resource for improving <u>awareness</u> of incompatibility issues at other military installations. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer
7. According to 65% of your colleagues, <u>engagement</u> by the public and military during development proposals which may affect an installation increased following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer	8. According to 89% of your colleagues, the Joint Land Use Study program will be an effective resource for promoting <u>engagement</u> during development proposals which may affect other military installations. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer
-

-
9. According to 51% of your colleagues, <u>public support</u> towards mitigating incompatibilities (e.g. land use, transportation, etc.) between civilian development and military installations have increased following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer	10. According to 83% of your colleagues, the Joint Land Use Study program will be an effective resource for generating <u>public support</u> at other military installations. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer
-

Intergovernmental Cooperation

-
11. According to 66% of your colleagues, <u>intergovernmental relations</u> improved following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer	12. According to 90% of your colleagues, the Joint Land Use Study program will be an effective resource for enhancing <u>intergovernmental relations</u> at other military installations. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer
-
13. According to 66% of your colleagues, <u>communication</u> between local governments and military installations improved following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer	14. According to 86% of your colleagues, the Joint Land Use Study program will be an effective resource for improving intergovernmental <u>communication</u> at other military installations. From your experience, do you agree or disagree with this assessment? ☐ Agree ☐ Disagree ☐ Don't Know or Prefer not to Answer
-

15. According to **58%** of your colleagues, consensus among leaders to mitigate incompatibilities between civilian development and military installations **improved** following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

16. According to **86%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for improving intergovernmental consensus at other military installations. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

Military Readiness

17. According to **54%** of your colleagues, the ability for military installations to sustain their mission **improved** following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

18. According to **78%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for sustaining the missions of other military installations. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

19. According to **27%** of your colleagues, they observed **fewer** complaints about military operations following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

20. According to **78%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for reducing complaints about military operations at other military installations. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer
-

21. According to **38%** of your colleagues, support infrastructure provided by local civilian institutions (e.g. education, healthcare, housing, etc.) **improved** following the completion of a Joint Land Use Study. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer

22. According to **72%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for expanding support infrastructure at other installations. From your experience, do you agree or disagree with this assessment?

- ☐ Agree
☐ Disagree
☐ Don't Know or Prefer not to Answer
-

Civilian Development

23. According to **51%** of your colleagues, quality of life near military installations **did not change or declined** following the completion of a Joint Land Use Study. From your experience, do you agree with this assessment?

- ☐ Yes
☐ No
☐ Don't Know or Prefer not to Answer

24. According to **72%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for improving quality of life at other military installations. From your experience, do you agree with this assessment?

- ☐ Yes
☐ No
☐ Don't Know or Prefer not to Answer
-

25. According to **43%** of your colleagues, they observed **more compatible civilian development** near their local military installation following completion of a Joint Land Use Study. From your experience, do you agree with this assessment?

- ☐ Yes
☐ No
☐ Don't Know or Prefer not to Answer

26. According to **86%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for promoting compatible civilian development at other military installations. From your experience, do you agree with this assessment?

- ☐ Yes
☐ No
☐ Don't Know or Prefer not to Answer
-

27. According to **46%** of your colleagues, they observed **more compatible civilian activity** near their local military installation following completion of a Joint Land Use Study. From your experience, do you agree with this assessment?

☐ Yes

☐ No

☐ Don't Know or Prefer not to Answer

28. According to **82%** of your colleagues, the Joint Land Use Study program **will** be an effective resource for promoting **compatible civilian activity** at other military installations. From your experience, do you agree with this assessment?

☐ Yes

☐ No

☐ Don't Know or Prefer not to Answer

Debriefing

Thank you for your participation in this study. Your responses will be compiled with your colleagues throughout the country to identify where the program can be improved, augmented, and further supported. Your name will not be used in any publication. If you have any questions, please contact Christopher Clanahan (cclanahan@ksu.edu). You may also contact the Compliance Office at Kansas State University with questions about the study (comply@ksu.edu).

Appendix C – Interview Questions

Introduction, Instructions, and Informed Consent

Greetings:

Thank you in advance for taking the time to conduct this interview. This interview is intended to gauge how characteristics of the JLUS program might extend beyond its current application in defense communities to other forms of regional and intergovernmental planning. Your responses are confidential. They will never be linked to you personally, your community, or your organization and are purely intended for academic use. As a result, please provide your most candid answers to each question posed.

Risks Anticipated:

This study is purely for academic use and is deliberately designed to minimize any potential risks resulting from your participation. Since information asked during the interview will *never* be directly linked to you, no risks are anticipated.

Benefits Anticipated:

This interview offers you the opportunity to share, confidentially, your experiences and assessment of the JLUS program and apply it to other contexts of regional planning. Your experience with the JLUS program renders you an ideal candidate to discuss the prospects of joint studies, from which, planners from around the country might learn from.

Confidentiality Protocol and De-identifying Your Data:

The study takes the confidentiality of your participation seriously by minimizing identifying characteristics to solely your experiences with a JLUS. The information that will be collected as part of this research could be used for future research studies or distributed to other investigators for future research studies without additional informed consent. Your recorded responses will never be linked back to you in this or any future publications.

Terms of participation:

By conducting this interview, you understand this project is research and that participation is voluntary. You also understand that you may withdraw your consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to

which you may otherwise be entitled. Your participation indicates that you have read and understand this consent form and willingly agree to participate in this study under the terms described. If you agree to this and are ready, we can begin.

Contact Information:

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General Questions

1. What has been your typical role related to Joint Land Use Studies?
2. To the best of your knowledge, approximately how long ago was the most recent JLUS completed that you produced or are currently implementing?

JLUS Program

3. How, if at all, has the JLUS program changed your views and approach towards planning?
Please explain.
4. What would make the JLUS program more effective during the initial production of a study?
5. What would make the JLUS program more effective for long-term implementation?

JLUSs as an Intergovernmental Planning Tool

6. If any, what do you believe are the benefits for communities to produce and implement a JLUS?
7. What would you describe are the major challenges of *producing* a JLUS?
8. What would you describe are the major challenges of *implementing* a JLUS?
9. What makes a JLUS strategy or recommendation effective?
10. How often do you believe JLUSs should be updated and why?
11. To what extent do you believe communities within a region can benefit from joint studies for the following and why?
 - a. Land use planning?
 - b. Transportation planning?
 - c. Resilience planning?
 - d. Environmental planning?
 - e. Housing affordability and diversity?
 - f. Capital improvement planning?
 - g. Economic Development?
12. To what extent do you believe joint studies might be beneficial for regions with the following and why?
 - a. Numerous urban communities?
 - b. National parks?
 - c. Reservations?

d. Universities?

13. Are there any other instances in which you think joint studies can be beneficial for regional planning, and if so, what are they?

Debriefing

Thank you for your participation in this study. Your responses will be compiled with your colleagues throughout the country to identify where the program can be improved, augmented, and further supported. Your name will not be used in any publication. If you have any questions, please contact Christopher Clanahan (cclanahan@ksu.edu). You may also contact the Compliance Office at Kansas State University with questions about the study (comply@ksu.edu).

Appendix D – Stakeholder Survey Raw Data

Table 92

Stakeholder Survey Raw Data: Questions 1 – 3 Part I

Participant ID	Background Information		
	Q1	Q2	Q3
1	Civilian	Greater than 10 years	Army
2	Civilian	Greater than 10 years	Air Force
3	Civilian	Greater than 10 years	Air Force
4	Civilian	Greater than 10 years	Navy
5	Civilian	Greater than 10 years	Air Force
6	Civilian	Greater than 10 years	Joint Base
7	Civilian	Greater than 10 years	Army
8	Civilian	Between 1 and 3 years	Army
9	Civilian	Greater than 10 years	Navy
10	Civilian	Between 1 and 3 years	Army
11	Civilian	Between 1 and 3 years	Air Force
12	Civilian	Between 4 and 10 years	Army
13	Civilian	Greater than 10 years	Army
14	Civilian	Greater than 10 years	Army
15	Civilian	Greater than 10 years	Air Force
16	Civilian	Greater than 10 years	Joint Base
17	Military	Greater than 10 years	Army
18	Civilian	Between 1 and 3 years	Army
19	Civilian	Between 4 and 10 years	Air Force
20	Civilian	Between 1 and 3 years	Army
21	Civilian	Greater than 10 years	Army
22	Civilian	Between 4 and 10 years	Army
23	Civilian	Greater than 10 years	Army
24	Civilian	Between 4 and 10 years	Air Force
25	Civilian	Between 4 and 10 years	Army
26	Civilian	Between 4 and 10 years	Marine Corps
27	Civilian	Greater than 10 years	Joint Base
28	Civilian	Greater than 10 years	Air Force
29	Civilian	Greater than 10 years	Army
30	Civilian	Greater than 10 years	Air Force
31	Military	Between 4 and 10 years	Air Force
32	Civilian	Greater than 10 years	Army
33	Civilian	Greater than 10 years	Air Force
34	Civilian	Greater than 10 years	Marine Corps
35	Military	Greater than 10 years	Air Force
36	Civilian	Between 4 and 10 years	Joint Base
37	Civilian	Greater than 10 years	Joint Base
38	Civilian	Between 4 and 10 years	Joint Base
39	Civilian	Between 4 and 10 years	Navy
40	Civilian	Between 4 and 10 years	Joint Base

Note. Partial data from the total sample ($N = 156$).

Table 93*Stakeholder Survey Raw Data: Questions 1 – 3 Part II*

Participant ID	Background Information		
	Q1	Q2	Q3
41	Civilian	Greater than 10 years	Navy
42	Civilian	Between 1 and 3 years	Army
43	Civilian	Between 1 and 3 years	Marine Corps
44	Civilian	Greater than 10 years	Navy
45	Civilian	Greater than 10 years	Navy
46	Civilian	Greater than 10 years	Navy
47	Civilian	Greater than 10 years	Navy
48	Military	Greater than 10 years	Navy
49	Civilian	Between 4 and 10 years	Navy
50	Civilian	Between 1 and 3 years	Navy
51	Civilian	Greater than 10 years	Joint Base
52	Civilian	Greater than 10 years	Army
53	Civilian	Greater than 10 years	Navy
54	Civilian	Greater than 10 years	Air Force
55	Civilian	Greater than 10 years	Navy
56	Civilian	Greater than 10 years	Air Force
57	Civilian	Greater than 10 years	Navy
58	Civilian	Greater than 10 years	Navy
59	Civilian	Greater than 10 years	Navy
60	Civilian	Greater than 10 years	Joint Base
61	Civilian	Between 4 and 10 years	Air Force
62	Civilian	Greater than 10 years	Joint Base
63	Civilian	Greater than 10 years	Air Force
64	Civilian	Greater than 10 years	Joint Base
65	Civilian	Greater than 10 years	Army
66	Civilian	Between 4 and 10 years	Navy
67	Civilian	Between 4 and 10 years	Marine Corps
68	Civilian	Greater than 10 years	Marine Corps
69	Civilian	Between 4 and 10 years	Joint Base
70	Civilian	Greater than 10 years	Navy
71	Civilian	Greater than 10 years	Joint Base
72	Civilian	Greater than 10 years	Navy
73	Civilian	Greater than 10 years	Marine Corps
74	Civilian	Greater than 10 years	Marine Corps
75	Civilian	Greater than 10 years	Navy
76	Civilian	Greater than 10 years	Joint Base
77	Civilian	Greater than 10 years	Navy
78	Civilian	Greater than 10 years	Army
79	Military	Greater than 10 years	Joint Base
80	Civilian	Greater than 10 years	Navy

Note. Partial data from the total sample ($N = 156$).

Table 94*Stakeholder Survey Raw Data: Questions 1 – 3 Part III*

Participant ID	Background Information		
	Q1	Q2	Q3
81	Civilian	Greater than 10 years	Air Force
82	Civilian	Greater than 10 years	Air Force
83	Civilian	Greater than 10 years	Army
84	Civilian	Greater than 10 years	Air Force
85	Civilian	Between 1 and 3 years	Joint Base
86	Civilian	Greater than 10 years	Navy
87	Civilian	Between 4 and 10 years	Army
88	Civilian	Greater than 10 years	Joint Base
89	Civilian	Between 4 and 10 years	Marine Corps
90	Civilian	Greater than 10 years	Navy
91	Civilian	Greater than 10 years	Navy
92	Civilian	Between 4 and 10 years	Air Force
93	Civilian	Greater than 10 years	Air Force
94	Civilian	Between 4 and 10 years	Navy
95	Civilian	Greater than 10 years	Joint Base
96	Civilian	Greater than 10 years	Army
97	Civilian	Greater than 10 years	Navy
98	Civilian	Greater than 10 years	Navy
99	Civilian	Greater than 10 years	Navy
100	Civilian	Greater than 10 years	--
101	Civilian	Greater than 10 years	Army
102	Civilian	Between 4 and 10 years	Army
103	Civilian	Greater than 10 years	Army
104	Civilian	Between 4 and 10 years	--
105	Civilian	Greater than 10 years	Joint Base
106	Civilian	Between 1 and 3 years	Army
107	Civilian	Greater than 10 years	Army
108	Civilian	Greater than 10 years	Army
109	Civilian	Greater than 10 years	Army
110	Civilian	Greater than 10 years	Army
111	Civilian	Greater than 10 years	Army
112	Civilian	Greater than 10 years	Army
113	Civilian	Greater than 10 years	Navy
114	Military	Greater than 10 years	Army
115	Civilian	Greater than 10 years	Joint Base
116	Civilian	Between 4 and 10 years	Navy
117	Civilian	Between 4 and 10 years	Army
118	Civilian	Between 4 and 10 years	Joint Base
119	Civilian	Greater than 10 years	Army
120	Civilian	Greater than 10 years	Navy

Note. Partial data from the total sample ($N = 156$).

Table 95*Stakeholder Survey Raw Data: Questions 1 – 3 Part IV*

Participant ID	Background Information		
	Q1	Q2	Q3
121	Civilian	Between 4 and 10 years	Navy
122	Civilian	Greater than 10 years	--
123	Civilian	Between 4 and 10 years	Army
124	Civilian	Greater than 10 years	Army
125	Civilian	Between 4 and 10 years	Air Force
126	Military	Between 4 and 10 years	Army
127	Civilian	Greater than 10 years	Marine Corps
128	Civilian	Greater than 10 years	Joint Base
129	Civilian	Greater than 10 years	Army
130	Civilian	Between 4 and 10 years	Army
131	Civilian	Between 4 and 10 years	Army
132	Civilian	Greater than 10 years	Army
133	Civilian	Greater than 10 years	Army
134	Civilian	Between 4 and 10 years	Army
135	Civilian	Greater than 10 years	Joint Base
136	Civilian	Greater than 10 years	Army
137	Civilian	Greater than 10 years	Army
138	Civilian	Greater than 10 years	Army
139	Civilian	Greater than 10 years	Army
140	Civilian	Greater than 10 years	Army
141	Military	Greater than 10 years	Navy
142	Civilian	Greater than 10 years	Joint Base
143	Civilian	Greater than 10 years	Air Force
144	Civilian	Greater than 10 years	Navy
145	Civilian	Greater than 10 years	Army
146	Civilian	Between 4 and 10 years	Army
147	Civilian	Greater than 10 years	--
148	Civilian	Greater than 10 years	Joint Base
149	Civilian	Greater than 10 years	Air Force
150	Civilian	Between 1 and 3 years	Air Force
151	Civilian	Greater than 10 years	Army
152	Military	Between 4 and 10 years	Army
153	Military	Greater than 10 years	Army
154	Civilian	Greater than 10 years	Air Force
155	Civilian	Greater than 10 years	Joint Base
156	Civilian	Greater than 10 years	Joint Base

Note. Partial data from the total sample ($N = 156$).

Table 96*Stakeholder Survey Raw Data: Questions 4 – 6 Part I*

Participant ID	Background Information and JLUS Implementation & Familiarity		
	Q4	Q5	Q6
1	3	Somewhat Involved	Extremely Familiar
2	2	Somewhat Involved	Extremely Familiar
3	2	Somewhat Involved	Moderately Familiar
4	4	Heavily Involved	Moderately Familiar
5	2	Heavily Involved	Extremely Familiar
6	4	Heavily Involved	Extremely Familiar
7	3	Heavily Involved	Extremely Familiar
8	3	Somewhat Involved	Slightly Familiar
9	1	Somewhat Involved	Moderately Familiar
10	2	Somewhat Involved	Moderately Familiar
11	2	Somewhat Involved	Extremely Familiar
12	2	Heavily Involved	Extremely Familiar
13	3	Heavily Involved	Extremely Familiar
14	2	Not Involved	Not at all Familiar
15	4	Heavily Involved	Extremely Familiar
16	4	Heavily Involved	Extremely Familiar
17	4	Heavily Involved	Extremely Familiar
18	2	Heavily Involved	Extremely Familiar
19	4	Heavily Involved	Extremely Familiar
20	4	Somewhat Involved	Moderately Familiar
21	4	Rarely Involved	Extremely Familiar
22	4	Heavily Involved	Extremely Familiar
23	2	Somewhat Involved	Extremely Familiar
24	4	Heavily Involved	Slightly Familiar
25	2	Somewhat Involved	Slightly Familiar
26	4	Heavily Involved	Extremely Familiar
27	3	Rarely Involved	Extremely Familiar
28	2	Heavily Involved	Extremely Familiar
29	3	Heavily Involved	Extremely Familiar
30	2	Somewhat Involved	Extremely Familiar
31	2	Somewhat Involved	Moderately Familiar
32	4	Somewhat Involved	Extremely Familiar
33	2	Heavily Involved	Extremely Familiar
34	3	Somewhat Involved	Extremely Familiar
35	2	Somewhat Involved	Moderately Familiar
36	2	Heavily Involved	Extremely Familiar
37	2	Not Involved	Extremely Familiar
38	2	Heavily Involved	Extremely Familiar
39	1	Somewhat Involved	Moderately Familiar
40	2	Heavily Involved	Extremely Familiar

Note. Partial data from the total sample ($N = 156$).

Table 97*Stakeholder Survey Raw Data: Questions 4 – 6 Part II*

Participant ID	Background Information and JLUS Implementation & Familiarity		
	Q4	Q5	Q6
41	3	Heavily Involved	Extremely Familiar
42	2	Somewhat Involved	Moderately Familiar
43	3	Heavily Involved	Moderately Familiar
44	3	Somewhat Involved	Moderately Familiar
45	3	Heavily Involved	Extremely Familiar
46	3	Somewhat Involved	Extremely Familiar
47	1	Heavily Involved	Moderately Familiar
48	3	Heavily Involved	Extremely Familiar
49	1	Somewhat Involved	Slightly Familiar
50	2	Heavily Involved	Extremely Familiar
51	2	Somewhat Involved	Extremely Familiar
52	3	Heavily Involved	Extremely Familiar
53	3	Somewhat Involved	Slightly Familiar
54	1	Somewhat Involved	Extremely Familiar
55	1	Somewhat Involved	Extremely Familiar
56	4	Heavily Involved	Extremely Familiar
57	1	Heavily Involved	Slightly Familiar
58	3	Somewhat Involved	Slightly Familiar
59	1	Rarely Involved	Moderately Familiar
60	3	Somewhat Involved	Moderately Familiar
61	1	Heavily Involved	Extremely Familiar
62	1	Somewhat Involved	Moderately Familiar
63	4	Heavily Involved	Extremely Familiar
64	2	Somewhat Involved	Moderately Familiar
65	3	Heavily Involved	Extremely Familiar
66	3	Somewhat Involved	Moderately Familiar
67	4	Heavily Involved	Extremely Familiar
68	4	Heavily Involved	Extremely Familiar
69	2	Heavily Involved	Extremely Familiar
70	3	Somewhat Involved	Moderately Familiar
71	4	Not Involved	Extremely Familiar
72	1	Heavily Involved	Extremely Familiar
73	4	Heavily Involved	Extremely Familiar
74	4	Somewhat Involved	Moderately Familiar
75	1	Somewhat Involved	Moderately Familiar
76	2	Heavily Involved	Extremely Familiar
77	3	Rarely Involved	Slightly Familiar
78	3	Somewhat Involved	Moderately Familiar
79	3	Heavily Involved	Moderately Familiar
80	3	Heavily Involved	Moderately Familiar

Note. Partial data from the total sample ($N = 156$).

Table 98*Stakeholder Survey Raw Data: Questions 4 – 6 Part III*

Participant ID	Background Information and JLUS Implementation & Familiarity		
	Q4	Q5	Q6
81	4	Somewhat Involved	Slightly Familiar
82	4	Somewhat Involved	Moderately Familiar
83	1	Rarely Involved	Slightly Familiar
84	2	Somewhat Involved	Extremely Familiar
85	3	Somewhat Involved	Moderately Familiar
86	1	Rarely Involved	Moderately Familiar
87	2	Somewhat Involved	Moderately Familiar
88	3	Somewhat Involved	Moderately Familiar
89	4	Heavily Involved	Extremely Familiar
90	1	Somewhat Involved	Extremely Familiar
91	1	Rarely Involved	Slightly Familiar
92	4	Somewhat Involved	Extremely Familiar
93	2	Not Involved	Moderately Familiar
94	2	Heavily Involved	Extremely Familiar
95	4	Heavily Involved	Extremely Familiar
96	2	Heavily Involved	Extremely Familiar
97	3	Heavily Involved	Moderately Familiar
98	4	Somewhat Involved	Slightly Familiar
99	1	Heavily Involved	Extremely Familiar
100	2	Heavily Involved	Extremely Familiar
101	3	Somewhat Involved	Extremely Familiar
102	2	Somewhat Involved	Moderately Familiar
103	3	Heavily Involved	Extremely Familiar
104		Somewhat Involved	Moderately Familiar
105	2	Not Involved	Moderately Familiar
106	2	Somewhat Involved	Moderately Familiar
107	2	Not Involved	Moderately Familiar
108	2	Somewhat Involved	Moderately Familiar
109	2	Heavily Involved	Extremely Familiar
110	2	Somewhat Involved	Slightly Familiar
111	2	Somewhat Involved	Extremely Familiar
112	2	Somewhat Involved	Extremely Familiar
113	2	Somewhat Involved	Moderately Familiar
114	2	Heavily Involved	Extremely Familiar
115	2	Rarely Involved	Slightly Familiar
116	3	Heavily Involved	Moderately Familiar
117	2	Heavily Involved	Moderately Familiar
118	3	Heavily Involved	Extremely Familiar
119	2	Heavily Involved	Extremely Familiar
120	4	Somewhat Involved	Extremely Familiar

Note. Partial data from the total sample ($N = 156$).

Table 99*Stakeholder Survey Raw Data: Questions 4 – 6 Part IV*

Participant ID	Background Information and JLUS Implementation & Familiarity		
	Q4	Q5	Q6
121	4	Somewhat Involved	Moderately Familiar
122	2	Somewhat Involved	Moderately Familiar
123	2	Somewhat Involved	Extremely Familiar
124	2	Heavily Involved	Moderately Familiar
125	4	Heavily Involved	Moderately Familiar
126	3	Somewhat Involved	Extremely Familiar
127	4	Rarely Involved	Slightly Familiar
128	2	Somewhat Involved	Moderately Familiar
129	3	Rarely Involved	Moderately Familiar
130	2	Somewhat Involved	Moderately Familiar
131	2	Rarely Involved	Slightly Familiar
132	3	Rarely Involved	Extremely Familiar
133	3	Not Involved	Moderately Familiar
134	2	Somewhat Involved	Moderately Familiar
135	2	Rarely Involved	Slightly Familiar
136	2	Somewhat Involved	Moderately Familiar
137	2	Rarely Involved	Moderately Familiar
138	2	Somewhat Involved	Moderately Familiar
139	3	Rarely Involved	Slightly Familiar
140	2	Somewhat Involved	Extremely Familiar
141	4	Heavily Involved	Extremely Familiar
142	2	Somewhat Involved	Moderately Familiar
143	2	Rarely Involved	Moderately Familiar
144	4	Rarely Involved	Moderately Familiar
145	3	Somewhat Involved	Slightly Familiar
146	2	Somewhat Involved	Moderately Familiar
147	2	Somewhat Involved	Moderately Familiar
148	4	Heavily Involved	Moderately Familiar
149	2	Somewhat Involved	Extremely Familiar
150	2	Heavily Involved	Moderately Familiar
151	2	Somewhat Involved	Extremely Familiar
152	2	Somewhat Involved	Slightly Familiar
153	2	Heavily Involved	Extremely Familiar
154	2	Somewhat Involved	Moderately Familiar
155	3	Not Involved	Slightly Familiar
156	2	Somewhat Involved	Extremely Familiar

Note. Partial data from the total sample ($N = 156$).

Table 100*Stakeholder Survey Raw Data: Questions 7 and 8 Part I*

Participant ID	Democratic Participation – Awareness	
	Q7	Q8
1	Increased	Yes
2	Increased	Yes
3	Increased	Yes
4	No Change	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Increased	Yes
7	Increased	Yes
8	Don't Know or Prefer not to Answer	Yes
9	No Change	Yes
10	Increased	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Increased	Yes
13	Increased	Yes
14	No Change	Don't Know or Prefer not to Answer
15	Don't Know or Prefer not to Answer	Yes
16	Increased	Yes
17	Increased	Yes
18	Increased	Yes
19	Increased	Yes
20	Increased	Yes
21	Increased	Yes
22	Increased	Yes
23	Increased	Yes
24	Increased	Yes
25	Increased	Yes
26	Increased	Yes
27	Increased	Yes
28	Increased	Yes
29	Increased	Yes
30	Increased	Yes
31	Don't Know or Prefer not to Answer	Yes
32	Increased	Yes
33	Increased	Yes
34	Increased	Yes
35	Increased	Yes
36	Increased	Yes
37	No Change	Yes
38	Increased	Yes
39	No Change	Yes
40	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 101*Stakeholder Survey Raw Data: Questions 7 and 8 Part II*

Participant ID	Democratic Participation – Awareness	
	Q7	Q8
41	Increased	Yes
42	No Change	No
43	Increased	Yes
44	Increased	Yes
45	No Change	Yes
46	No Change	Yes
47	Increased	Yes
48	Increased	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Increased	Yes
51	Increased	Yes
52	Increased	Yes
53	No Change	Yes
54	Increased	Yes
55	Increased	Yes
56	Increased	Yes
57	Increased	Yes
58	Increased	Yes
59	Increased	Yes
60	Increased	Yes
61	No Change	Yes
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Increased	Yes
64	Increased	Yes
65	Increased	Yes
66	Increased	Yes
67	Increased	Yes
68	Increased	Yes
69	No Change	Yes
70	Increased	Yes
71	Increased	Yes
72	Increased	Don't Know or Prefer not to Answer
73	Increased	Yes
74	Increased	Yes
75	Increased	Yes
76	Increased	Yes
77	No Change	Yes
78	No Change	Yes
79	Increased	Yes
80	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 102*Stakeholder Survey Raw Data: Questions 7 and 8 Part III*

Participant ID	Democratic Participation – Awareness	
	Q7	Q8
81	No Change	Don't Know or Prefer not to Answer
82	Increased	Yes
83	No Change	Yes
84	Increased	Yes
85	Increased	Yes
86	Increased	Yes
87	Increased	Yes
88	Increased	Yes
89	Increased	Yes
90	No Change	Yes
91	No Change	Don't Know or Prefer not to Answer
92	Increased	Yes
93	No Change	Yes
94	Increased	Yes
95	No Change	Yes
96	Increased	Yes
97	Increased	Yes
98	No Change	Yes
99	Increased	Yes
100	Increased	Yes
101	Increased	Yes
102	No Change	Yes
103	Increased	Yes
104	Increased	Yes
105	Increased	Yes
106	Increased	No
107	No Change	Yes
108	Increased	Yes
109	Increased	Yes
110	Increased	Yes
111	Increased	Yes
112	Increased	No
113	Increased	Yes
114	Increased	Yes
115	Increased	Yes
116	Increased	Yes
117	Increased	Yes
118	Increased	Yes
119	Increased	Yes
120	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 103*Stakeholder Survey Raw Data: Questions 7 and 8 Part IV*

Participant ID	Democratic Participation – Awareness	
	Q7	Q8
121	Increased	Yes
122	Increased	Yes
123	Increased	Yes
124	Increased	Yes
125	Increased	Yes
126	Increased	Yes
127	No Change	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Increased	Yes
132	Don't Know or Prefer not to Answer	Yes
133	No Change	Yes
134	Increased	Yes
135	Increased	Yes
136	Increased	Yes
137	No Change	Yes
138	Increased	Yes
139	No Change	Yes
140	Increased	Yes
141	Increased	Yes
142	Increased	Yes
143	Increased	Yes
144	Increased	Yes
145	Increased	Yes
146	Increased	Yes
147	Increased	Yes
148	Increased	Yes
149	Increased	Yes
150	Increased	Yes
151	Increased	Yes
152	Don't Know or Prefer not to Answer	Yes
153	Don't Know or Prefer not to Answer	No
154	Increased	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 104*Stakeholder Survey Raw Data: Questions 9 and 10 Part I*

Participant ID	Democratic Participation – Engagement	
	Q9	Q10
1	No Change	Yes
2	Don't Know or Prefer not to Answer	Yes
3	Increased	Yes
4	No Change	Don't Know or Prefer not to Answer
5	Don't Know or Prefer not to Answer	Yes
6	Increased	Yes
7	Increased	Yes
8	No Change	Yes
9	No Change	Yes
10	Declined	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Increased	Yes
13	Increased	Yes
14	No Change	Don't Know or Prefer not to Answer
15	No Change	Yes
16	Increased	Yes
17	Increased	Yes
18	No Change	Yes
19	Increased	Yes
20	Increased	Yes
21	Increased	Yes
22	Increased	Yes
23	Increased	Yes
24	No Change	Yes
25	Increased	Yes
26	Increased	Yes
27	No Change	No
28	Increased	Yes
29	Increased	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Don't Know or Prefer not to Answer	Yes
32	Increased	Yes
33	Increased	Yes
34	Increased	Yes
35	Increased	Yes
36	Increased	Yes
37	Increased	Yes
38	Increased	Yes
39	No Change	Yes
40	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 105*Stakeholder Survey Raw Data: Questions 9 and 10 Part II*

Participant ID	Democratic Participation – Engagement	
	Q9	Q10
41	Increased	Yes
42	Declined	No
43	Increased	Yes
44	Increased	Yes
45	No Change	Yes
46	Increased	Yes
47	No Change	Yes
48	Increased	Yes
49	Increased	Yes
50	Increased	Yes
51	Increased	Yes
52	Increased	Yes
53	No Change	Yes
54	Increased	Yes
55	No Change	Yes
56	Increased	Yes
57	No Change	Yes
58	Increased	Yes
59	No Change	Yes
60	Increased	Yes
61	No Change	Yes
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Increased	Yes
64	Increased	Yes
65	Increased	Yes
66	Increased	Yes
67	Increased	Yes
68	Increased	Yes
69	No Change	Yes
70	Increased	Yes
71	Increased	Yes
72	Increased	Don't Know or Prefer not to Answer
73	Increased	Yes
74	Increased	Yes
75	Increased	Yes
76	Increased	Yes
77	Don't Know or Prefer not to Answer	Yes
78	No Change	Yes
79	Increased	Yes
80	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 106*Stakeholder Survey Raw Data: Questions 9 and 10 Part III*

Participant ID	Democratic Participation – Engagement	
	Q9	Q10
81	No Change	Don't Know or Prefer not to Answer
82	Increased	Yes
83	Increased	Yes
84	Increased	Yes
85	Increased	Yes
86	Increased	--
87	Increased	Yes
88	Increased	Yes
89	Increased	Yes
90	No Change	No
91	No Change	Don't Know or Prefer not to Answer
92	Increased	Yes
93	No Change	Don't Know or Prefer not to Answer
94	Increased	Yes
95	Increased	Yes
96	Increased	Yes
97	Increased	Yes
98	Increased	Yes
99	Increased	Yes
100	Increased	Don't Know or Prefer not to Answer
101	Increased	Yes
102	No Change	Yes
103	Increased	Yes
104	Increased	Yes
105	Don't Know or Prefer not to Answer	Yes
106	Increased	Don't Know or Prefer not to Answer
107	No Change	Yes
108	Increased	Yes
109	Increased	Yes
110	Increased	Yes
111	Increased	Yes
112	No Change	No
113	Increased	Yes
114	Increased	Yes
115	Increased	Yes
116	Increased	Yes
117	No Change	Yes
118	Increased	Yes
119	Increased	Yes
120	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 107*Stakeholder Survey Raw Data: Questions 9 and 10 Part IV*

Participant ID	Democratic Participation – Engagement	
	Q9	Q10
121	Increased	Yes
122	Increased	Yes
123	Increased	Don't Know or Prefer not to Answer
124	Increased	Yes
125	No Change	Yes
126	No Change	Yes
127	No Change	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Increased	Yes
132	No Change	Yes
133	Increased	Yes
134	Don't Know or Prefer not to Answer	Yes
135	Don't Know or Prefer not to Answer	Yes
136	Increased	Yes
137	No Change	Yes
138	Increased	Yes
139	Increased	Yes
140	No Change	Yes
141	Increased	Yes
142	Increased	Yes
143	Don't Know or Prefer not to Answer	Yes
144	Increased	Yes
145	No Change	Yes
146	Don't Know or Prefer not to Answer	Yes
147	Increased	Yes
148	Increased	Yes
149	Increased	Yes
150	Increased	Yes
151	Increased	Yes
152	Increased	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	No Change	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	No Change	Yes

Note. Partial data from the total sample ($N = 156$).

Table 108*Stakeholder Survey Raw Data: Questions 11 and 12 Part I*

Participant ID	Democratic Participation – Public Support	
	Q11	Q12
1	No Change	Yes
2	No Change	Yes
3	Increased	Yes
4	No Change	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Increased	Yes
7	Increased	Yes
8	Increased	Don't Know or Prefer not to Answer
9	No Change	Yes
10	Declined	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Increased	Yes
13	Increased	Yes
14	No Change	Don't Know or Prefer not to Answer
15	Don't Know or Prefer not to Answer	Yes
16	Increased	Yes
17	Increased	Yes
18	Increased	Yes
19	Increased	Yes
20	Increased	Yes
21	Increased	Yes
22	Increased	Yes
23	Don't Know or Prefer not to Answer	Yes
24	No Change	Yes
25	No Change	Yes
26	Increased	Yes
27	No Change	No
28	No Change	Yes
29	No Change	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Don't Know or Prefer not to Answer	Yes
32	Don't Know or Prefer not to Answer	Yes
33	Increased	Yes
34	Increased	Yes
35	Increased	Yes
36	Declined	Yes
37	Increased	Yes
38	No Change	Yes
39	No Change	Don't Know or Prefer not to Answer
40	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 109*Stakeholder Survey Raw Data: Questions 11 and 12 Part II*

Participant ID	Democratic Participation – Public Support	
	Q11	Q12
41	Increased	Yes
42	Declined	No
43	Increased	Yes
44	Increased	Yes
45	No Change	Yes
46	No Change	Yes
47	Increased	Yes
48	Increased	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Increased	Yes
51	Increased	Yes
52	Increased	Yes
53	No Change	Yes
54	Increased	Yes
55	Declined	Yes
56	Increased	Yes
57	Increased	Yes
58	Increased	Yes
59	Increased	Yes
60	Don't Know or Prefer not to Answer	Yes
61	No Change	Yes
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Increased	Yes
64	Increased	Yes
65	Increased	Yes
66	Increased	Yes
67	Increased	Yes
68	Increased	Yes
69	No Change	Yes
70	Increased	Yes
71	Increased	Yes
72	No Change	Don't Know or Prefer not to Answer
73	Increased	Yes
74	Increased	Yes
75	Declined	Don't Know or Prefer not to Answer
76	Increased	Yes
77	No Change	Don't Know or Prefer not to Answer
78	No Change	Don't Know or Prefer not to Answer
79	Increased	Yes
80	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 110*Stakeholder Survey Raw Data: Questions 11 and 12 Part III*

Participant ID	Democratic Participation – Public Support	
	Q11	Q12
81	No Change	Don't Know or Prefer not to Answer
82	Increased	Yes
83	Increased	Yes
84	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
85	No Change	Don't Know or Prefer not to Answer
86	No Change	Yes
87	No Change	Don't Know or Prefer not to Answer
88	No Change	Yes
89	No Change	Yes
90	No Change	No
91	No Change	Don't Know or Prefer not to Answer
92	Increased	Don't Know or Prefer not to Answer
93	No Change	Don't Know or Prefer not to Answer
94	Increased	Yes
95	No Change	Yes
96	Increased	Yes
97	No Change	Yes
98	Increased	Yes
99	Increased	Yes
100	Increased	Yes
101	Don't Know or Prefer not to Answer	Yes
102	No Change	Yes
103	Increased	Yes
104	Increased	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No Change	Don't Know or Prefer not to Answer
107	No Change	Yes
108	No Change	Don't Know or Prefer not to Answer
109	Increased	Yes
110	No Change	Yes
111	Increased	Yes
112	No Change	No
113	No Change	Yes
114	Increased	Yes
115	Increased	Yes
116	No Change	Yes
117	Increased	Yes
118	Increased	Don't Know or Prefer not to Answer
119	Increased	Yes
120	Increased	Yes

Note. Partial data from the total sample ($N = 156$).

Table 111*Stakeholder Survey Raw Data: Questions 11 and 12 Part IV*

Participant ID	Democratic Participation – Public Support	
	Q11	Q12
121	Increased	Yes
122	Increased	Yes
123	Increased	Yes
124	No Change	Yes
125	Increased	Yes
126	Increased	Yes
127	Don't Know or Prefer not to Answer	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Increased	Yes
132	Don't Know or Prefer not to Answer	Yes
133	No Change	Yes
134	No Change	Yes
135	No Change	Don't Know or Prefer not to Answer
136	Increased	Yes
137	Increased	Yes
138	Increased	Yes
139	No Change	Yes
140	Increased	Yes
141	Increased	Yes
142	Increased	Yes
143	Don't Know or Prefer not to Answer	Yes
144	No Change	Yes
145	Increased	Yes
146	Increased	Yes
147	Increased	Yes
148	Increased	Yes
149	Increased	Yes
150	No Change	Yes
151	Increased	Yes
152	Don't Know or Prefer not to Answer	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	No Change	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 112*Stakeholder Survey Raw Data: Questions 13 and 14 Part I*

Participant ID	Intergovernmental Cooperation – Relations	
	Q13	Q14
1	Improved	Yes
2	Improved	Yes
3	Improved	Yes
4	No Change	Yes
5	Improved	Yes
6	Improved	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Improved	Yes
13	Improved	Yes
14	No Change	Don't Know or Prefer not to Answer
15	Don't Know or Prefer not to Answer	Yes
16	Improved	Yes
17	Improved	Yes
18	Improved	Yes
19	Improved	Yes
20	Improved	Yes
21	--	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes
25	No Change	Yes
26	Improved	Yes
27	No Change	No
28	Improved	Yes
29	No Change	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Don't Know or Prefer not to Answer	Yes
32	Improved	Yes
33	Improved	Yes
34	Improved	Yes
35	Improved	Yes
36	Improved	Yes
37	Improved	Yes
38	No Change	Yes
39	No Change	Yes
40	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 113*Stakeholder Survey Raw Data: Questions 13 and 14 Part II*

Participant ID	Intergovernmental Cooperation – Relations	
	Q13	Q14
41	Improved	Yes
42	Deteriorated	No
43	Improved	Yes
44	Improved	Yes
45	No Change	Yes
46	Improved	Yes
47	Improved	Yes
48	Improved	Yes
49	Improved	Yes
50	Improved	Yes
51	Improved	Yes
52	Improved	Yes
53	No Change	Yes
54	Improved	Yes
55	Deteriorated	Yes
56	Improved	Yes
57	No Change	Yes
58	Improved	Yes
59	No Change	Yes
60	Improved	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	Improved	Yes
65	Improved	Yes
66	Improved	Yes
67	Improved	Yes
68	Improved	Yes
69	No Change	Yes
70	Improved	Yes
71	No Change	Yes
72	No Change	Don't Know or Prefer not to Answer
73	No Change	Yes
74	Improved	Yes
75	Improved	Don't Know or Prefer not to Answer
76	Improved	Yes
77	No Change	Yes
78	Don't Know or Prefer not to Answer	Yes
79	Improved	Yes
80	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 114*Stakeholder Survey Raw Data: Questions 13 and 14 Part III*

Participant ID	Intergovernmental Cooperation – Relations	
	Q13	Q14
81	Improved	Don't Know or Prefer not to Answer
82	No Change	Yes
83	Improved	Yes
84	Improved	Yes
85	Improved	Yes
86	Improved	Yes
87	Improved	Yes
88	Improved	Yes
89	Improved	Yes
90	No Change	No
91	--	--
92	Deteriorated	No
93	No Change	Don't Know or Prefer not to Answer
94	Improved	Yes
95	Improved	Yes
96	Improved	Yes
97	Improved	Yes
98	Improved	Yes
99	Improved	Yes
100	Improved	Don't Know or Prefer not to Answer
101	Improved	Yes
102	No Change	Yes
103	No Change	Yes
104	Improved	Yes
105	No Change	Don't Know or Prefer not to Answer
106	Improved	Yes
107	No Change	Yes
108	Improved	Yes
109	Improved	Yes
110	No Change	Yes
111	Improved	Yes
112	No Change	No
113	Improved	Yes
114	No Change	Yes
115	Don't Know or Prefer not to Answer	Yes
116	Improved	Yes
117	Improved	Yes
118	Improved	Yes
119	Improved	Yes
120	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 115*Stakeholder Survey Raw Data: Questions 13 and 14 Part IV*

Participant ID	Intergovernmental Cooperation – Relations	
	Q13	Q14
121	No Change	Yes
122	Improved	Yes
123	Improved	Yes
124	Improved	Yes
125	Improved	Yes
126	Improved	Yes
127	Don't Know or Prefer not to Answer	Yes
128	Improved	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Improved	Yes
131	Improved	Yes
132	Improved	Yes
133	No Change	Yes
134	Improved	Yes
135	Improved	Yes
136	Improved	Yes
137	Improved	Yes
138	Improved	Yes
139	No Change	Yes
140	No Change	Yes
141	Improved	Yes
142	Improved	Yes
143	No Change	Yes
144	Improved	Yes
145	Improved	Yes
146	No Change	Yes
147	Improved	Yes
148	Improved	Yes
149	Don't Know or Prefer not to Answer	Yes
150	No Change	Yes
151	Improved	Yes
152	Improved	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	No Change	Yes
155	No Change	Yes
156	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 116*Stakeholder Survey Raw Data: Questions 15 and 16 Part I*

Participant ID	Intergovernmental Cooperation – Communication	
	Q15	Q16
1	No Change	Yes
2	Improved	Yes
3	Improved	Yes
4	No Change	Yes
5	Improved	Yes
6	Improved	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Yes
10	Declined	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Improved	Yes
13	Improved	Yes
14	No Change	Don't Know or Prefer not to Answer
15	Don't Know or Prefer not to Answer	Yes
16	Improved	Yes
17	Improved	Yes
18	Improved	Yes
19	Improved	Yes
20	Improved	Yes
21	Improved	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes
25	No Change	Yes
26	Improved	Yes
27	No Change	No
28	Improved	Yes
29	Improved	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Don't Know or Prefer not to Answer	Yes
32	Improved	Yes
33	Improved	Yes
34	Improved	Yes
35	Improved	Yes
36	No Change	Yes
37	Improved	Yes
38	Improved	Yes
39	No Change	Yes
40	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 117*Stakeholder Survey Raw Data: Questions 15 and 16 Part II*

Participant ID	Intergovernmental Cooperation – Communication	
	Q15	Q16
41	Improved	Yes
42	Declined	No
43	Improved	Yes
44	Improved	Yes
45	Improved	Don't Know or Prefer not to Answer
46	No Change	Yes
47	No Change	Yes
48	Improved	Yes
49	Improved	Yes
50	Improved	Yes
51	Improved	Yes
52	Improved	Yes
53	Improved	Yes
54	Improved	Yes
55	Improved	Yes
56	Improved	Yes
57	Improved	Yes
58	Improved	Yes
59	No Change	Yes
60	Improved	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	Improved	Yes
65	Improved	Yes
66	Improved	Don't Know or Prefer not to Answer
67	No Change	Yes
68	Improved	Yes
69	No Change	Yes
70	Improved	Yes
71	No Change	Yes
72	No Change	Don't Know or Prefer not to Answer
73	No Change	Yes
74	Improved	Yes
75	Improved	Don't Know or Prefer not to Answer
76	Improved	Yes
77	No Change	Yes
78	Improved	Yes
79	Improved	Yes
80	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 118*Stakeholder Survey Raw Data: Questions 15 and 16 Part III*

Participant ID	Intergovernmental Cooperation – Communication	
	Q15	Q16
81	Improved	Don't Know or Prefer not to Answer
82	No Change	Yes
83	No Change	Don't Know or Prefer not to Answer
84	Improved	Yes
85	Improved	Yes
86	No Change	Yes
87	Improved	Yes
88	Improved	Yes
89	Improved	Yes
90	No Change	No
91	--	--
92	Declined	Don't Know or Prefer not to Answer
93	No Change	Don't Know or Prefer not to Answer
94	Improved	Yes
95	No Change	Yes
96	Improved	Yes
97	Improved	Yes
98	Improved	Yes
99	Improved	Yes
100	Improved	Yes
101	Improved	Yes
102	No Change	Yes
103	No Change	Yes
104	Improved	Yes
105	Don't Know or Prefer not to Answer	Yes
106	Improved	Yes
107	No Change	No
108	Improved	Yes
109	No Change	Yes
110	No Change	Yes
111	Improved	Yes
112	No Change	No
113	Improved	Yes
114	No Change	Yes
115	No Change	Yes
116	Improved	Yes
117	Improved	Yes
118	Improved	Yes
119	Improved	Yes
120	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 119*Stakeholder Survey Raw Data: Questions 15 and 16 Part IV*

Participant ID	Intergovernmental Cooperation – Communication	
	Q15	Q16
121	No Change	Yes
122	Improved	Yes
123	Improved	Yes
124	Improved	Yes
125	Improved	Yes
126	No Change	Yes
127	No Change	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Improved	Yes
130	Improved	Yes
131	Improved	Yes
132	Improved	Yes
133	Improved	Yes
134	No Change	Don't Know or Prefer not to Answer
135	Improved	Yes
136	Improved	Yes
137	No Change	Yes
138	Improved	Don't Know or Prefer not to Answer
139	No Change	Yes
140	No Change	Yes
141	Improved	Yes
142	Improved	Yes
143	Improved	Yes
144	Improved	Yes
145	Improved	Yes
146	Improved	Yes
147	Improved	Yes
148	Improved	Yes
149	Improved	Yes
150	Improved	Yes
151	Improved	Yes
152	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Improved	Yes
155	No Change	Don't Know or Prefer not to Answer
156	No Change	Yes

Note. Partial data from the total sample ($N = 156$).

Table 120*Stakeholder Survey Raw Data: Questions 17 and 18 Part I*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q17	Q18
1	No Change	Yes
2	Improved	Yes
3	Improved	Yes
4	No Change	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Improved	Yes
7	Improved	Yes
8	Improved	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Improved	Yes
13	Improved	Yes
14	No Change	Don't Know or Prefer not to Answer
15	Improved	Yes
16	Improved	Yes
17	Improved	Yes
18	Improved	Yes
19	Improved	Yes
20	Improved	Yes
21	Improved	Yes
22	Improved	Yes
23	No Change	Yes
24	No Change	Yes
25	No Change	Yes
26	Improved	Yes
27	No Change	No
28	Improved	Yes
29	Improved	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Don't Know or Prefer not to Answer	Yes
32	Improved	Yes
33	Improved	Yes
34	Improved	Yes
35	Improved	Yes
36	Don't Know or Prefer not to Answer	Yes
37	Improved	Yes
38	No Change	Yes
39	No Change	Don't Know or Prefer not to Answer
40	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 121*Stakeholder Survey Raw Data: Questions 17 and 18 Part II*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q17	Q18
41	Improved	Yes
42	Deteriorated	No
43	Don't Know or Prefer not to Answer	Yes
44	Improved	Yes
45	Improved	No
46	No Change	Yes
47	Improved	Yes
48	Improved	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Improved	Yes
51	Improved	Yes
52	Improved	Yes
53	Improved	Yes
54	Improved	Yes
55	No Change	Yes
56	Improved	Yes
57	Improved	Yes
58	Improved	Yes
59	No Change	Yes
60	Improved	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	Improved	Yes
65	Improved	Yes
66	Improved	Yes
67	Improved	Yes
68	Improved	Yes
69	No Change	Yes
70	Improved	Yes
71	No Change	Yes
72	No Change	Don't Know or Prefer not to Answer
73	No Change	Yes
74	Improved	Yes
75	Deteriorated	Don't Know or Prefer not to Answer
76	Improved	Yes
77	No Change	Don't Know or Prefer not to Answer
78	Improved	Yes
79	Improved	Yes
80	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 122*Stakeholder Survey Raw Data: Questions 17 and 18 Part III*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q17	Q18
81	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
82	Improved	Yes
83	Improved	Yes
84	Improved	Yes
85	Improved	Yes
86	No Change	Yes
87	Don't Know or Prefer not to Answer	Yes
88	Don't Know or Prefer not to Answer	Yes
89	Improved	Yes
90	No Change	Don't Know or Prefer not to Answer
91	--	--
92	No Change	Yes
93	No Change	Don't Know or Prefer not to Answer
94	Improved	Yes
95	Improved	Yes
96	Improved	Yes
97	Improved	Yes
98	Improved	Yes
99	No Change	Yes
100	No Change	Don't Know or Prefer not to Answer
101	Improved	Yes
102	No Change	Yes
103	No Change	Yes
104	Improved	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No Change	Yes
107	No Change	No
108	Improved	Yes
109	Improved	Yes
110	Improved	Yes
111	Improved	Yes
112	Deteriorated	No
113	Improved	Yes
114	Improved	Yes
115	Improved	Yes
116	Improved	Yes
117	No Change	Yes
118	Improved	Don't Know or Prefer not to Answer
119	Improved	Yes
120	No Change	Yes

Note. Partial data from the total sample ($N = 156$).

Table 123*Stakeholder Survey Raw Data: Questions 17 and 18 Part IV*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q17	Q18
121	No Change	Yes
122	Improved	Yes
123	Improved	Yes
124	Improved	Yes
125	Improved	Yes
126	Don't Know or Prefer not to Answer	Yes
127	Don't Know or Prefer not to Answer	Yes
128	Improved	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Improved	Yes
132	Improved	Yes
133	Improved	Yes
134	Improved	Yes
135	No Change	Yes
136	Improved	Yes
137	No Change	Yes
138	Improved	Yes
139	Improved	Yes
140	No Change	Yes
141	Improved	Yes
142	Improved	Yes
143	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
144	No Change	Yes
145	No Change	Yes
146	Improved	Yes
147	Don't Know or Prefer not to Answer	Yes
148	Improved	Yes
149	Improved	Yes
150	No Change	Yes
151	Improved	Yes
152	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	No Change	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 124*Stakeholder Survey Raw Data: Questions 19 and 20 Part I*

Participant ID	Military Readiness – Mission Sustainment	
	Q19	Q20
1	No Change	Yes
2	Don't Know or Prefer not to Answer	Yes
3	Improved	Yes
4	Improved	Yes
5	Improved	Yes
6	Improved	Yes
7	Improved	Yes
8	Improved	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Improved	Yes
13	Improved	Yes
14	--	--
15	No Change	Yes
16	Improved	Yes
17	Improved	Yes
18	Improved	Yes
19	Improved	Yes
20	Improved	Yes
21	Improved	Yes
22	Don't Know or Prefer not to Answer	Yes
23	No Change	Yes
24	Improved	Yes
25	Improved	Yes
26	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
27	No Change	Don't Know or Prefer not to Answer
28	No Change	Don't Know or Prefer not to Answer
29	No Change	Yes
30	No Change	Don't Know or Prefer not to Answer
31	Improved	Yes
32	Improved	Yes
33	No Change	Yes
34	Don't Know or Prefer not to Answer	Yes
35	Improved	Yes
36	Improved	Yes
37	Improved	Yes
38	No Change	Yes
39	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
40	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 125*Stakeholder Survey Raw Data: Questions 19 and 20 Part II*

Participant ID	Military Readiness – Mission Sustainment	
	Q19	Q20
41	Improved	Yes
42	No Change	No
43	Improved	Yes
44	Improved	Yes
45	Improved	Don't Know or Prefer not to Answer
46	Improved	Yes
47	Don't Know or Prefer not to Answer	Yes
48	Improved	Yes
49	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
50	Improved	Yes
51	Improved	Yes
52	Improved	Yes
53	--	--
54	Improved	Yes
55	No Change	Don't Know or Prefer not to Answer
56	Improved	Yes
57	Improved	Yes
58	Improved	Yes
59	Improved	Yes
60	No Change	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	Improved	Yes
65	Improved	Yes
66	Improved	Yes
67	Improved	Yes
68	Improved	Yes
69	No Change	Yes
70	No Change	Yes
71	Improved	Yes
72	No Change	Don't Know or Prefer not to Answer
73	Improved	Yes
74	Improved	Yes
75	Improved	Don't Know or Prefer not to Answer
76	Don't Know or Prefer not to Answer	Yes
77	No Change	Don't Know or Prefer not to Answer
78	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
79	Improved	Yes
80	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 126*Stakeholder Survey Raw Data: Questions 19 and 20 Part III*

Participant ID	Military Readiness – Mission Sustainment	
	Q19	Q20
81	Improved	Yes
82	Improved	Don't Know or Prefer not to Answer
83	No Change	No
84	Don't Know or Prefer not to Answer	Yes
85	Improved	Yes
86	Don't Know or Prefer not to Answer	Yes
87	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
88	No Change	Yes
89	Improved	Yes
90	No Change	Don't Know or Prefer not to Answer
91	--	--
92	Improved	Don't Know or Prefer not to Answer
93	No Change	Don't Know or Prefer not to Answer
94	Improved	Yes
95	No Change	Yes
96	Don't Know or Prefer not to Answer	Yes
97	Improved	Yes
98	Improved	Yes
99	Don't Know or Prefer not to Answer	Yes
100	Improved	--
101	Improved	Yes
102	Improved	Yes
103	No Change	Yes
104	Improved	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No Change	Don't Know or Prefer not to Answer
107	Improved	Yes
108	Don't Know or Prefer not to Answer	Yes
109	Don't Know or Prefer not to Answer	Yes
110	Improved	Yes
111	Improved	Yes
112	No Change	No
113	Improved	Yes
114	No Change	Yes
115	No Change	Yes
116	No Change	Yes
117	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
118	Improved	Don't Know or Prefer not to Answer
119	Improved	Yes
120	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 127*Stakeholder Survey Raw Data: Questions 19 and 20 Part IV*

Participant ID	Military Readiness – Mission Sustainment	
	Q19	Q20
121	Improved	Yes
122	Improved	Yes
123	No Change	Yes
124	No Change	Yes
125	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
126	Improved	Yes
127	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
132	Improved	Yes
133	Improved	Yes
134	Improved	Don't Know or Prefer not to Answer
135	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
136	Improved	Yes
137	Improved	Yes
138	Don't Know or Prefer not to Answer	Yes
139	No Change	Yes
140	No Change	Yes
141	Improved	Yes
142	Improved	Yes
143	Don't Know or Prefer not to Answer	Yes
144	Improved	Yes
145	Improved	Yes
146	No Change	Yes
147	Improved	Yes
148	Improved	Yes
149	No Change	Yes
150	Improved	Yes
151	Improved	Yes
152	No Change	Don't Know or Prefer not to Answer
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Improved	Yes
155	No Change	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 128*Stakeholder Survey Raw Data: Questions 21 and 22 Part I*

Participant ID	Military Readiness – Operational Complaints	
	Q21	Q22
1	Don't Know or Prefer not to Answer	Yes
2	Don't Know or Prefer not to Answer	Yes
3	No	Yes
4	No	No
5	Yes	Yes
6	Don't Know or Prefer not to Answer	Yes
7	Yes	Yes
8	No	Don't Know or Prefer not to Answer
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Yes
12	No	Yes
13	Yes	Yes
14	--	--
15	Don't Know or Prefer not to Answer	Yes
16	Don't Know or Prefer not to Answer	Yes
17	Yes	Yes
18	Don't Know or Prefer not to Answer	Yes
19	Yes	Yes
20	Don't Know or Prefer not to Answer	Yes
21	Yes	Yes
22	Don't Know or Prefer not to Answer	Yes
23	Don't Know or Prefer not to Answer	Yes
24	No	Yes
25	Don't Know or Prefer not to Answer	Yes
26	No	No
27	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
28	No	No
29	Don't Know or Prefer not to Answer	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Yes	Yes
32	Yes	Yes
33	No	Yes
34	Don't Know or Prefer not to Answer	Yes
35	Yes	Yes
36	No	Yes
37	Don't Know or Prefer not to Answer	Yes
38	No	Yes
39	No	Don't Know or Prefer not to Answer
40	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 129*Stakeholder Survey Raw Data: Questions 21 and 22 Part II*

Participant ID	Military Readiness – Operational Complaints	
	Q21	Q22
41	Yes	Yes
42	No	No
43	Don't Know or Prefer not to Answer	Yes
44	Yes	Yes
45	Yes	Yes
46	Don't Know or Prefer not to Answer	Yes
47	Don't Know or Prefer not to Answer	Yes
48	No	Yes
49	No	Yes
50	Don't Know or Prefer not to Answer	Yes
51	Don't Know or Prefer not to Answer	Yes
52	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
53	--	--
54	Don't Know or Prefer not to Answer	Yes
55	No	No
56	Don't Know or Prefer not to Answer	Yes
57	Don't Know or Prefer not to Answer	Yes
58	Yes	Yes
59	Yes	Yes
60	No	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Yes	Yes
64	Yes	Yes
65	Don't Know or Prefer not to Answer	Yes
66	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
67	Yes	Yes
68	Yes	Yes
69	Don't Know or Prefer not to Answer	Yes
70	Yes	Yes
71	No	Yes
72	No	Don't Know or Prefer not to Answer
73	Yes	Yes
74	Yes	Yes
75	No	Don't Know or Prefer not to Answer
76	Don't Know or Prefer not to Answer	Yes
77	No	Don't Know or Prefer not to Answer
78	No	Don't Know or Prefer not to Answer
79	Yes	Yes
80	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 130*Stakeholder Survey Raw Data: Questions 21 and 22 Part III*

Participant ID	Military Readiness – Operational Complaints	
	Q21	Q22
81	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
82	No	Don't Know or Prefer not to Answer
83	No	No
84	Don't Know or Prefer not to Answer	Yes
85	Don't Know or Prefer not to Answer	Yes
86	No	Yes
87	Don't Know or Prefer not to Answer	Yes
88	Don't Know or Prefer not to Answer	Yes
89	Yes	Yes
90	No	Don't Know or Prefer not to Answer
91	--	--
92	No	Yes
93	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
94	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
95	Yes	Yes
96	Don't Know or Prefer not to Answer	Yes
97	No	Don't Know or Prefer not to Answer
98	Yes	Yes
99	Don't Know or Prefer not to Answer	Yes
100	Yes	Yes
101	Don't Know or Prefer not to Answer	Yes
102	Yes	Yes
103	Don't Know or Prefer not to Answer	Yes
104	No	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No	Don't Know or Prefer not to Answer
107	Yes	Yes
108	No	Don't Know or Prefer not to Answer
109	Yes	Yes
110	Don't Know or Prefer not to Answer	Yes
111	Don't Know or Prefer not to Answer	Yes
112	No	No
113	No	Yes
114	No	Yes
115	No	Yes
116	Don't Know or Prefer not to Answer	Yes
117	No	Yes
118	Yes	Don't Know or Prefer not to Answer
119	Don't Know or Prefer not to Answer	Yes
120	No	Yes

Note. Partial data from the total sample ($N = 156$).

Table 131*Stakeholder Survey Raw Data: Questions 21 and 22 Part IV*

Participant ID	Military Readiness – Operational Complaints	
	Q21	Q22
121	No	Yes
122	Yes	Yes
123	Don't Know or Prefer not to Answer	Yes
124	Don't Know or Prefer not to Answer	Yes
125	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
126	Don't Know or Prefer not to Answer	Yes
127	Don't Know or Prefer not to Answer	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
132	Don't Know or Prefer not to Answer	Yes
133	No	Yes
134	Yes	Yes
135	Yes	Yes
136	Yes	Yes
137	Don't Know or Prefer not to Answer	Yes
138	Don't Know or Prefer not to Answer	Yes
139	Yes	Yes
140	No	Yes
141	Yes	Yes
142	Yes	Yes
143	Don't Know or Prefer not to Answer	Yes
144	Yes	Yes
145	Yes	Yes
146	Don't Know or Prefer not to Answer	Yes
147	Don't Know or Prefer not to Answer	Yes
148	Yes	Yes
149	Don't Know or Prefer not to Answer	Yes
150	No	Yes
151	Yes	Yes
152	Don't Know or Prefer not to Answer	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Don't Know or Prefer not to Answer	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	No	Yes

Note. Partial data from the total sample ($N = 156$).

Table 132*Stakeholder Survey Raw Data: Questions 23 and 24 Part I*

Participant ID	Military Readiness – Support Infrastructure	
	Q23	Q24
1	Don't Know or Prefer not to Answer	Yes
2	Don't Know or Prefer not to Answer	Yes
3	Improved	Yes
4	No Change	No
5	Don't Know or Prefer not to Answer	Yes
6	Improved	Yes
7	Improved	Yes
8	No Change	Don't Know or Prefer not to Answer
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Yes
12	No Change	Yes
13	No Change	Yes
14	--	--
15	Don't Know or Prefer not to Answer	Yes
16	Don't Know or Prefer not to Answer	Yes
17	Improved	Yes
18	Improved	Yes
19	No Change	Yes
20	Don't Know or Prefer not to Answer	Yes
21	Improved	Yes
22	No Change	No
23	No Change	Yes
24	No Change	No
25	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
26	Improved	Yes
27	No Change	Don't Know or Prefer not to Answer
28	No Change	No
29	Don't Know or Prefer not to Answer	Yes
30	No Change	Don't Know or Prefer not to Answer
31	Improved	Yes
32	Don't Know or Prefer not to Answer	Yes
33	Improved	Yes
34	Don't Know or Prefer not to Answer	Yes
35	Improved	Yes
36	No Change	Yes
37	Improved	Yes
38	No Change	Yes
39	No Change	Yes
40	Improved	Yes

Note. Partial data from the total sample ($N = 156$).

Table 133*Stakeholder Survey Raw Data: Questions 23 and 24 Part II*

Participant ID	Military Readiness – Support Infrastructure	
	Q23	Q24
41	Improved	Yes
42	No Change	No
43	Don't Know or Prefer not to Answer	Yes
44	Improved	Yes
45	No Change	Yes
46	Improved	Yes
47	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
48	Improved	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
51	No Change	Yes
52	Improved	Yes
53	--	--
54	Improved	Yes
55	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
56	Improved	Yes
57	Improved	Yes
58	Improved	Yes
59	No Change	Yes
60	No Change	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	Improved	Yes
65	Improved	Yes
66	Improved	Yes
67	Improved	Yes
68	Improved	Yes
69	No Change	Yes
70	Improved	Yes
71	Improved	Yes
72	No Change	Don't Know or Prefer not to Answer
73	No Change	Yes
74	Improved	Yes
75	No Change	Yes
76	Improved	Yes
77	No Change	Don't Know or Prefer not to Answer
78	Don't Know or Prefer not to Answer	Yes
79	No Change	Yes
80	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 134*Stakeholder Survey Raw Data: Questions 23 and 24 Part III*

Participant ID	Military Readiness – Support Infrastructure	
	Q23	Q24
81	Improved	Don't Know or Prefer not to Answer
82	No Change	Don't Know or Prefer not to Answer
83	Deteriorated	No
84	No Change	Yes
85	Improved	Yes
86	Improved	Yes
87	Improved	Yes
88	Don't Know or Prefer not to Answer	Yes
89	Improved	Yes
90	No Change	No
91	--	--
92	No Change	Don't Know or Prefer not to Answer
93	No Change	Don't Know or Prefer not to Answer
94	Improved	Yes
95	Improved	Yes
96	Improved	Yes
97	No Change	Yes
98	Improved	Yes
99	Don't Know or Prefer not to Answer	Yes
100	Improved	Don't Know or Prefer not to Answer
101	Don't Know or Prefer not to Answer	Yes
102	No Change	Yes
103	No Change	Don't Know or Prefer not to Answer
104	Improved	Yes
105	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
106	No Change	Don't Know or Prefer not to Answer
107	Improved	Yes
108	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
109	No Change	Don't Know or Prefer not to Answer
110	No Change	Don't Know or Prefer not to Answer
111	Don't Know or Prefer not to Answer	Yes
112	No Change	No
113	Improved	Yes
114	No Change	Yes
115	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
116	No Change	Yes
117	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
118	Improved	Yes
119	No Change	Yes
120	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 135*Stakeholder Survey Raw Data: Questions 23 and 24 Part IV*

Participant ID	Military Readiness – Support Infrastructure	
	Q23	Q24
121	Improved	Yes
122	Improved	Yes
123	Don't Know or Prefer not to Answer	Yes
124	No Change	Yes
125	No Change	No
126	Don't Know or Prefer not to Answer	Yes
127	No Change	Don't Know or Prefer not to Answer
128	Improved	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
131	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
132	Improved	Yes
133	Improved	Yes
134	Improved	Don't Know or Prefer not to Answer
135	No Change	Don't Know or Prefer not to Answer
136	No Change	Yes
137	No Change	Yes
138	Improved	Yes
139	No Change	Yes
140	Improved	Yes
141	Improved	Yes
142	Improved	Yes
143	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
144	No Change	Yes
145	Improved	Yes
146	No Change	Yes
147	Don't Know or Prefer not to Answer	Yes
148	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
149	No Change	Yes
150	No Change	Yes
151	Improved	Yes
152	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Improved	Yes
155	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 136*Stakeholder Survey Raw Data: Questions 25 and 26 Part I*

Participant ID	Civilian Development – Quality of Life	
	Q25	Q26
1	Improved	Yes
2	No Change	Yes
3	No Change	Yes
4	No Change	No
5	Improved	Yes
6	Improved	Yes
7	Improved	Yes
8	Improved	Don't Know or Prefer not to Answer
9	No Change	Don't Know or Prefer not to Answer
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Improved	Yes
13	No Change	Yes
14	--	--
15	Don't Know or Prefer not to Answer	Yes
16	Improved	Yes
17	Improved	Yes
18	No Change	Yes
19	No Change	Yes
20	Don't Know or Prefer not to Answer	Yes
21	Improved	Yes
22	No Change	Don't Know or Prefer not to Answer
23	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
24	Declined	No
25	No Change	Yes
26	Improved	Yes
27	No Change	Don't Know or Prefer not to Answer
28	No Change	No
29	No Change	No
30	No Change	Don't Know or Prefer not to Answer
31	Improved	Yes
32	Improved	Yes
33	Improved	Yes
34	Don't Know or Prefer not to Answer	Yes
35	No Change	Yes
36	No Change	Yes
37	No Change	Don't Know or Prefer not to Answer
38	No Change	Yes
39	No Change	Don't Know or Prefer not to Answer
40	Improved	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 137*Stakeholder Survey Raw Data: Questions 25 and 26 Part II*

Participant ID	Civilian Development – Quality of Life	
	Q25	Q26
41	Improved	Yes
42	No Change	No
43	Don't Know or Prefer not to Answer	Yes
44	Improved	Yes
45	Improved	Yes
46	No Change	Yes
47	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
48	No Change	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Improved	Yes
51	Improved	Yes
52	Improved	Yes
53	--	--
54	Improved	Yes
55	No Change	No
56	Improved	Yes
57	Improved	Yes
58	Improved	Yes
59	Improved	Yes
60	Improved	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Improved	Yes
64	No Change	Yes
65	Improved	Yes
66	Improved	Yes
67	No Change	Yes
68	Improved	Yes
69	No Change	Yes
70	Improved	Yes
71	No Change	Yes
72	No Change	Don't Know or Prefer not to Answer
73	No Change	Yes
74	Improved	Yes
75	No Change	Don't Know or Prefer not to Answer
76	Improved	Yes
77	No Change	No
78	No Change	Yes
79	No Change	Yes
80	No Change	Yes

Note. Partial data from the total sample ($N = 156$).

Table 138*Stakeholder Survey Raw Data: Questions 25 and 26 Part III*

Participant ID	Civilian Development – Quality of Life	
	Q25	Q26
81	Improved	Don't Know or Prefer not to Answer
82	No Change	Don't Know or Prefer not to Answer
83	No Change	Don't Know or Prefer not to Answer
84	No Change	Don't Know or Prefer not to Answer
85	No Change	No
86	No Change	Yes
87	No Change	Don't Know or Prefer not to Answer
88	Improved	Yes
89	Improved	Yes
90	No Change	No
91	--	--
92	No Change	Don't Know or Prefer not to Answer
93	No Change	Don't Know or Prefer not to Answer
94	No Change	Yes
95	No Change	Yes
96	Improved	Yes
97	Improved	Yes
98	Improved	Yes
99	No Change	Yes
100	Improved	Don't Know or Prefer not to Answer
101	Improved	Yes
102	No Change	Yes
103	No Change	Yes
104	No Change	Yes
105	No Change	Don't Know or Prefer not to Answer
106	No Change	Don't Know or Prefer not to Answer
107	--	--
108	Don't Know or Prefer not to Answer	Yes
109	No Change	Don't Know or Prefer not to Answer
110	No Change	Don't Know or Prefer not to Answer
111	Improved	Yes
112	Declined	No
113	No Change	Yes
114	No Change	No
115	No Change	Don't Know or Prefer not to Answer
116	No Change	Yes
117	No Change	Yes
118	Improved	Yes
119	Improved	Yes
120	No Change	Yes

Note. Partial data from the total sample ($N = 156$).

Table 139*Stakeholder Survey Raw Data: Questions 25 and 26 Part IV*

Participant ID	Civilian Development – Quality of Life	
	Q25	Q26
121	No Change	Yes
122	Improved	Yes
123	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
124	No Change	Yes
125	No Change	Yes
126	Improved	Yes
127	No Change	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Improved	Don't Know or Prefer not to Answer
132	Don't Know or Prefer not to Answer	Yes
133	No Change	Yes
134	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
135	No Change	Yes
136	Improved	Yes
137	No Change	Yes
138	Improved	Yes
139	No Change	Yes
140	No Change	Yes
141	Improved	Yes
142	No Change	Yes
143	Don't Know or Prefer not to Answer	Yes
144	No Change	Yes
145	No Change	Yes
146	No Change	Yes
147	Don't Know or Prefer not to Answer	Yes
148	Improved	Yes
149	No Change	Yes
150	Improved	Yes
151	Improved	Yes
152	No Change	Don't Know or Prefer not to Answer
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Improved	Yes
155	No Change	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 140*Stakeholder Survey Raw Data: Questions 27 and 28 Part I*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q27	Q28
1	Yes	Yes
2	Don't Know or Prefer not to Answer	Yes
3	No	Yes
4	No	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Yes	Yes
7	Yes	Yes
8	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
9	Don't Know or Prefer not to Answer	Yes
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Yes	Yes
13	Yes	Yes
14	--	--
15	Yes	Yes
16	Yes	Yes
17	Yes	Yes
18	No	Yes
19	No	Yes
20	Yes	Yes
21	Yes	Yes
22	Yes	Yes
23	Don't Know or Prefer not to Answer	Yes
24	No	Yes
25	No	Yes
26	Yes	Yes
27	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
28	No	Yes
29	Don't Know or Prefer not to Answer	Yes
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Yes	Yes
32	Yes	Yes
33	Don't Know or Prefer not to Answer	Yes
34	Don't Know or Prefer not to Answer	Yes
35	Don't Know or Prefer not to Answer	Yes
36	Yes	Yes
37	Yes	Yes
38	No	Yes
39	No	Yes
40	No	Yes

Note. Partial data from the total sample ($N = 156$).

Table 141*Stakeholder Survey Raw Data: Questions 27 and 28 Part II*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q27	Q28
41	Yes	Yes
42	No	No
43	Don't Know or Prefer not to Answer	Yes
44	Yes	Yes
45	Yes	Yes
46	Yes	Yes
47	Yes	Yes
48	Yes	Yes
49	No	Yes
50	Yes	Yes
51	Yes	Yes
52	Yes	Yes
53	-	--
54	No	Yes
55	No	Yes
56	Yes	Yes
57	Yes	Yes
58	Yes	Yes
59	Yes	Yes
60	Yes	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Yes	Yes
64	Don't Know or Prefer not to Answer	Yes
65	Yes	Yes
66	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
67	Yes	Yes
68	Yes	Yes
69	No	Yes
70	Yes	Yes
71	Don't Know or Prefer not to Answer	Yes
72	Yes	Don't Know or Prefer not to Answer
73	No	Yes
74	Yes	Yes
75	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
76	Yes	Yes
77	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
78	Don't Know or Prefer not to Answer	Yes
79	Don't Know or Prefer not to Answer	Yes
80	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 142*Stakeholder Survey Raw Data: Questions 27 and 28 Part III*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q27	Q28
81	No	Don't Know or Prefer not to Answer
82	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
83	No	No
84	Don't Know or Prefer not to Answer	Yes
85	No	Yes
86	No	Yes
87	No	Yes
88	No	Yes
89	No	Yes
90	No	No
91	--	--
92	No	Yes
93	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
94	Yes	Yes
95	No	Yes
96	Don't Know or Prefer not to Answer	Yes
97	Yes	Yes
98	Yes	Yes
99	No	Yes
100	No	Don't Know or Prefer not to Answer
101	Yes	Yes
102	Yes	Yes
103	Don't Know or Prefer not to Answer	Yes
104	Yes	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No	No
107	--	--
108	Yes	Yes
109	No	Yes
110	No	Yes
111	Yes	Yes
112	Yes	No
113	Yes	Yes
114	No	Yes
115	No	Yes
116	Don't Know or Prefer not to Answer	Yes
117	No	Yes
118	Yes	Yes
119	Yes	Yes
120	No	Yes

Note. Partial data from the total sample ($N = 156$).

Table 143*Stakeholder Survey Raw Data: Questions 27 and 28 Part IV*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q27	Q28
121	No	Yes
122	Yes	Yes
123	Don't Know or Prefer not to Answer	Yes
124	Yes	Yes
125	Yes	Yes
126	Yes	Yes
127	Yes	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Yes	Yes
131	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
132	Don't Know or Prefer not to Answer	Yes
133	No	Yes
134	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
135	No	Yes
136	Yes	Yes
137	Yes	Yes
138	Yes	Yes
139	No	Yes
140	Yes	Yes
141	No	Yes
142	No	Yes
143	Don't Know or Prefer not to Answer	Yes
144	No	Yes
145	No	Yes
146	Yes	Yes
147	Yes	Yes
148	Yes	Yes
149	Yes	Yes
150	No	Yes
151	Yes	Yes
152	Don't Know or Prefer not to Answer	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Don't Know or Prefer not to Answer	Yes
155	No	Don't Know or Prefer not to Answer
156	No	Yes

Note. Partial data from the total sample ($N = 156$).

Table 144*Stakeholder Survey Raw Data: Questions 29 and 30 Part I*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q29	Q30
1	No	Yes
2	Don't Know or Prefer not to Answer	Yes
3	No	Yes
4	No	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Don't Know or Prefer not to Answer	Yes
7	Yes	Yes
8	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
9	Don't Know or Prefer not to Answer	Yes
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Yes	Yes
13	Yes	Yes
14	--	--
15	Don't Know or Prefer not to Answer	Yes
16	Yes	Yes
17	Yes	Yes
18	Don't Know or Prefer not to Answer	Yes
19	Yes	Yes
20	Yes	Yes
21	Yes	Yes
22	Yes	Yes
23	Don't Know or Prefer not to Answer	Yes
24	No	No
25	No	Yes
26	Yes	Yes
27	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
28	No	Yes
29	Don't Know or Prefer not to Answer	No
30	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
31	Yes	Yes
32	Yes	Yes
33	Don't Know or Prefer not to Answer	Yes
34	Don't Know or Prefer not to Answer	Yes
35	Yes	Yes
36	Don't Know or Prefer not to Answer	Yes
37	Yes	Yes
38	No	Yes
39	No	Yes
40	No	Don't Know or Prefer not to Answer

Note. Partial data from the total sample ($N = 156$).

Table 145*Stakeholder Survey Raw Data: Questions 29 and 30 Part II*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q29	Q30
41	Yes	Yes
42	No	No
43	Yes	Yes
44	Yes	Yes
45	Yes	Yes
46	Yes	Yes
47	Yes	Yes
48	Yes	Yes
49	Don't Know or Prefer not to Answer	Yes
50	Yes	Yes
51	Yes	Yes
52	Yes	Yes
53	--	--
54	Yes	Yes
55	No	Yes
56	Yes	Yes
57	Yes	Yes
58	Yes	Yes
59	Yes	Yes
60	Yes	Yes
61	--	--
62	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
63	Yes	Yes
64	Yes	Yes
65	Yes	Yes
66	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
67	Yes	Yes
68	Yes	Yes
69	No	Yes
70	Yes	Yes
71	Don't Know or Prefer not to Answer	Yes
72	Yes	Don't Know or Prefer not to Answer
73	No	No
74	Yes	Yes
75	No	Don't Know or Prefer not to Answer
76	Yes	Yes
77	No	No
78	Don't Know or Prefer not to Answer	Yes
79	Yes	Yes
80	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).

Table 146*Stakeholder Survey Raw Data: Questions 29 and 30 Part III*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q29	Q30
81	No	Don't Know or Prefer not to Answer
82	Don't Know or Prefer not to Answer	Yes
83	No	Don't Know or Prefer not to Answer
84	Don't Know or Prefer not to Answer	Yes
85	No	Yes
86	No	Yes
87	No	Yes
88	No	Yes
89	No	Yes
90	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
91	--	--
92	No	Yes
93	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
94	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
95	No	Yes
96	Don't Know or Prefer not to Answer	Yes
97	Yes	Yes
98	Yes	Yes
99	Don't Know or Prefer not to Answer	Yes
100	Yes	Yes
101	Yes	Yes
102	Yes	Yes
103	Don't Know or Prefer not to Answer	Yes
104	Yes	Yes
105	Don't Know or Prefer not to Answer	Yes
106	No	No
107	--	--
108	Yes	Yes
109	Don't Know or Prefer not to Answer	Yes
110	No	Don't Know or Prefer not to Answer
111	Yes	Yes
112	Yes	No
113	Don't Know or Prefer not to Answer	Yes
114	No	Yes
115	No	Yes
116	Yes	Yes
117	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
118	Yes	Yes
119	Yes	Yes
120	Yes	Yes

Note. Partial data from the total sample ($N = 156$).

Table 147*Stakeholder Survey Raw Data: Questions 29 and 30 Part IV*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q29	Q30
121	No	Yes
122	Yes	Yes
123	Don't Know or Prefer not to Answer	Yes
124	Yes	Yes
125	Yes	Yes
126	Yes	Yes
127	Yes	Yes
128	Don't Know or Prefer not to Answer	Yes
129	Don't Know or Prefer not to Answer	Yes
130	Don't Know or Prefer not to Answer	Yes
131	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
132	Don't Know or Prefer not to Answer	Yes
133	No	Yes
134	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
135	Don't Know or Prefer not to Answer	Yes
136	Yes	Yes
137	Yes	Yes
138	Yes	Yes
139	No	Yes
140	Yes	Yes
141	Yes	Yes
142	No	Yes
143	Don't Know or Prefer not to Answer	Yes
144	No	Yes
145	No	Yes
146	Yes	Yes
147	Yes	Yes
148	Yes	Yes
149	Yes	Yes
150	No	Yes
151	Yes	Yes
152	Yes	Yes
153	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
154	Don't Know or Prefer not to Answer	Yes
155	No	Don't Know or Prefer not to Answer
156	Don't Know or Prefer not to Answer	Yes

Note. Partial data from the total sample ($N = 156$).*Additional Note.* Data for question 31 is excluded to protect the participants' anonymity.

Appendix E – Policy Delphi Raw Data

Control Survey

Table 148

Control Survey Raw Data: Questions 1 and 2

Participant ID	Background Information	
	Q1	Q2
1	Civilian	Greater than 10 Years
2	Civilian	Greater than 10 Years
3	Civilian	Greater than 10 Years
4	Civilian	Greater than 10 Years
5	Civilian	Greater than 10 Years
6	Civilian	Greater than 10 Years
7	Civilian	Greater than 10 Years
8	Civilian	Greater than 10 Years
9	Civilian	Greater than 10 Years
10	Civilian	Greater than 10 Years
11	Civilian	Greater than 10 Years
12	Civilian	Greater than 10 Years
13	Civilian	Greater than 10 Years
14	Civilian	Greater than 10 Years
15	Civilian	Greater than 10 Years
16	Civilian	Greater than 10 Years
17	Civilian	Between 4 and 10 Years
18	Civilian	Greater than 10 Years
19	Civilian	Greater than 10 Years
20	Civilian	Greater than 10 Years
21	Civilian	Greater than 10 Years
22	Civilian	Greater than 10 Years
23	Civilian	Greater than 10 Years
24	Civilian	Greater than 10 Years

Note. Sample size ($N = 24$).

Table 149*Control Survey Raw Data: Questions 3 and 4*

Participant ID	JLUS Implementation & Familiarity	
	Q3	Q4
1	Heavily Involved	Extremely Familiar
2	Somewhat Involved	Extremely Familiar
3	Not Involved	Not at all Familiar
4	Rarely Involved	Extremely Familiar
5	Somewhat Involved	Extremely Familiar
6	Somewhat Involved	Extremely Familiar
7	Heavily Involved	Extremely Familiar
8	Heavily Involved	Moderately Familiar
9	Somewhat Involved	Moderately Familiar
10	Heavily Involved	Extremely Familiar
11	Not Involved	Slightly Familiar
12	Somewhat Involved	Moderately Familiar
13	Rarely Involved	Extremely Familiar
14	Rarely Involved	Slightly Familiar
15	Somewhat Involved	Extremely Familiar
16	Somewhat Involved	Slightly Familiar
17	Not Involved	Slightly Familiar
18	Heavily Involved	Extremely Familiar
19	Heavily Involved	Slightly Familiar
20	Somewhat Involved	Extremely Familiar
21	Heavily Involved	Extremely Familiar
22	Rarely Involved	Slightly Familiar
23	Heavily Involved	Extremely Familiar
24	Heavily Involved	Moderately Familiar

Note. Sample size ($N = 24$).

Table 150*Control Survey Raw Data: Questions 5 and 6*

Participant ID	Democratic Participation – Awareness	
	Q5	Q6
1	Increased	Yes
2	Increased	Yes
3	Increased	Yes
4	No Change	Yes
5	Increased	Yes
6	No Change	Yes
7	Increased	Yes
8	Increased	Yes
9	No Change	Yes
10	Increased	Yes
11	Don't Know or Prefer not to Answer	Yes
12	Increased	Yes
13	Increased	Yes
14	Increased	Yes
15	Increased	Yes
16	No Change	Yes
17	No Change	Yes
18	Increased	Yes
19	Increased	Yes
20	Increased	Yes
21	Increased	Yes
22	Don't Know or Prefer not to Answer	Yes
23	Increased	Yes
24	Increased	Yes

Note. Sample size ($N = 24$).

Table 151*Control Survey Raw Data: Questions 7 and 8*

Participant ID	Democratic Participation – Engagement	
	Q7	Q8
1	Increased	Yes
2	Increased	Yes
3	Increased	Yes
4	No Change	No
5	Increased	Yes
6	No Change	Yes
7	Increased	Yes
8	No Change	Yes
9	No Change	Yes
10	Increased	Yes
11	Don't Know or Prefer not to Answer	
12	Increased	Yes
13	Increased	Yes
14	No Change	Yes
15	Increased	Yes
16	No Change	Yes
17	Increased	Yes
18	Increased	Yes
19	Increased	Yes
20	Increased	Yes
21	Increased	Yes
22	Increased	Yes
23	Increased	Yes
24	Increased	Yes

Note. Sample size ($N = 24$).

Table 152*Control Survey Raw Data: Questions 9 and 10*

Participant ID	Democratic Participation – Public Support	
	Q9	Q10
1	Increased	Yes
2	Increased	Yes
3	Increased	Yes
4	No Change	Yes
5	Increased	Yes
6	No Change	Yes
7	Increased	Yes
8	No Change	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	
12	Increased	Yes
13	Increased	Yes
14	No Change	Yes
15	Increased	Yes
16	No Change	No
17	No Change	Yes
18	No Change	Don't Know or Prefer not to Answer
19	Don't Know or Prefer not to Answer	
20	No Change	Yes
21	Increased	Yes
22	Increased	Yes
23	No Change	Yes
24	Increased	Yes

Note. Sample size ($N = 24$).

Table 153*Control Survey Raw Data: Questions 11 and 12*

Participant ID	Intergovernmental Cooperation – Relations	
	Q11	Q12
1	Don't Know or Prefer not to Answer	Yes
2	Improved	Yes
3	Improved	Yes
4	Improved	Yes
5	Improved	Yes
6	No Change	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Don't Know or Prefer not to Answer
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Improved	Yes
13	Improved	Yes
14	No Change	Yes
15	No Change	Yes
16	No Change	Yes
17	No Change	Yes
18	No Change	Yes
19	Improved	Yes
20	Improved	Yes
21	Improved	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 154*Control Survey Raw Data: Questions 13 and 14*

Participant ID	Intergovernmental Cooperation – Communication	
	Q13	Q14
1	Improved	Yes
2	Improved	Yes
3	Improved	Yes
4	Improved	Yes
5	Improved	Yes
6	No Change	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Yes
10	No Change	Yes
11	No Change	Don't Know or Prefer not to Answer
12	Improved	
13	Improved	Yes
14	No Change	Yes
15	No Change	Yes
16	No Change	Yes
17	No Change	Yes
18	No Change	Don't Know or Prefer not to Answer
19	Improved	
20	No Change	Yes
21	Improved	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 155*Control Survey Raw Data: Questions 15 and 16*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q15	Q16
1	Improved	Yes
2	Improved	Yes
3	Improved	Yes
4	No Change	Yes
5	Improved	Yes
6	No Change	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	No Change	Yes
13	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
14	No Change	Yes
15	Improved	Yes
16	No Change	Yes
17	Deteriorated	Yes
18	Improved	Yes
19	Improved	Yes
20	Improved	Yes
21	Improved	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 156*Control Survey Raw Data: Questions 17 and 18*

Participant ID	Military Readiness – Mission Sustainment	
	Q17	Q18
1	Improved	Yes
2	Improved	Yes
3	Improved	Yes
4	Improved	Yes
5	No Change	Yes
6	Improved	Yes
7	Don't Know or Prefer not to Answer	Yes
8	No Change	Yes
9	Don't Know or Prefer not to Answer	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Improved	Yes
13	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
14	Don't Know or Prefer not to Answer	Yes
15	Improved	Yes
16	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
17	Improved	Yes
18	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
19	Improved	Don't Know or Prefer not to Answer
20	Improved	Yes
21	Improved	Yes
22	Improved	Yes
23	Improved	Yes
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 157*Control Survey Raw Data: Questions 19 and 20*

Participant ID	Military Readiness – Operational Complaints	
	Q19	Q20
1	Don't Know or Prefer not to Answer	Yes
2	Yes	Yes
3	Yes	Yes
4	Yes	Yes
5	Don't Know or Prefer not to Answer	Yes
6	Don't Know or Prefer not to Answer	Yes
7	Don't Know or Prefer not to Answer	Yes
8	Don't Know or Prefer not to Answer	Yes
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
13	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
14	No	Yes
15	No	Yes
16	No	Yes
17	No	Yes
18	Yes	Yes
19	Don't Know or Prefer not to Answer	Yes
20	Yes	Yes
21	Yes	Yes
22	Yes	Yes
23	No	No
24	Yes	Yes

Note. Sample size ($N = 24$).

Table 158*Control Survey Raw Data: Questions 21 and 22*

Participant ID	Military Readiness – Support Infrastructure	
	Q21	Q22
1	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
2	Improved	Yes
3	Improved	Yes
4	No Change	No
5	No Change	Yes
6	Improved	Yes
7	Improved	Yes
8	No Change	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
13	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
14	Don't Know or Prefer not to Answer	Yes
15	No Change	Yes
16	No Change	Yes
17	No Change	Yes
18	Improved	Yes
19	Improved	Yes
20	No Change	Yes
21	Improved	Yes
22	Improved	Yes
23	Don't Know or Prefer not to Answer	Yes
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 159*Control Survey Raw Data: Questions 23 and 24*

Participant ID	Civilian Development – Quality of Life	
	Q23	Q24
1	No Change	Don't Know or Prefer not to Answer
2	Improved	Yes
3	Improved	Yes
4	Improved	Yes
5	Improved	Yes
6	No Change	Yes
7	Improved	Yes
8	Improved	Yes
9	No Change	Yes
10	No Change	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	No Change	Yes
13	Don't Know or Prefer not to Answer	Yes
14	No Change	Yes
15	No Change	Yes
16	No Change	Yes
17	No Change	Yes
18	No Change	Don't Know or Prefer not to Answer
19	Improved	Yes
20	No Change	Yes
21	Improved	Yes
22	No Change	Yes
23	No Change	Don't Know or Prefer not to Answer
24	Improved	Yes

Note. Sample size ($N = 24$).

Table 160*Control Survey Raw Data: Questions 25 and 26*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q25	Q26
1	Yes	Yes
2	Yes	Yes
3	Yes	Yes
4	Yes	Yes
5	Yes	Yes
6	Don't Know or Prefer not to Answer	Yes
7	Yes	Yes
8	Yes	Yes
9	No	Yes
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Yes	Yes
13	No	Yes
14	No	Yes
15	Yes	Yes
16	No	Yes
17	Yes	Yes
18	Yes	Yes
19	Yes	Yes
20	No	Yes
21	Yes	Yes
22	Yes	Yes
23	Yes	Yes
24	Yes	Yes

Note. Sample size ($N = 24$).

Table 161*Control Survey Raw Data: Questions 27 and 28*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q27	Q28
1	Yes	Yes
2	Yes	Yes
3	Yes	Yes
4	Yes	Yes
5	Yes	Yes
6	Don't Know or Prefer not to Answer	Yes
7	Yes	Yes
8	Yes	Yes
9	No	Yes
10	Don't Know or Prefer not to Answer	Yes
11	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
12	Yes	Yes
13	No	Yes
14	Yes	Yes
15	Yes	Yes
16	No	Yes
17	Yes	Yes
18	Yes	Yes
19	Yes	Yes
20	Yes	Yes
21	Yes	Yes
22	Yes	Yes
23	Yes	Yes
24	Yes	Yes

Note. Sample size ($N = 24$).

Treatment Survey

Table 162

Treatment Survey Raw Data: Questions 1 and 2

Participant ID	Background Information	
	Q1	Q2
1	Civilian	Greater than 10 Years
2	Civilian	Greater than 10 Years
3	Civilian	Greater than 10 Years
4	Civilian	Greater than 10 Years
5	Civilian	Greater than 10 Years
6	Civilian	Greater than 10 Years
7	Civilian	Greater than 10 Years
8	Civilian	Greater than 10 Years
9	Civilian	Between 4 and 10 Years
10	Civilian	Greater than 10 Years
11	Civilian	Greater than 10 Years
12	Civilian	Greater than 10 Years
13	Civilian	Greater than 10 Years
14	Civilian	Greater than 10 Years
15	Civilian	Greater than 10 Years
16	Civilian	Greater than 10 Years
17	Civilian	Greater than 10 Years
18	Civilian	Greater than 10 Years
19	Civilian	Greater than 10 Years
20	Civilian	Greater than 10 Years
21	Civilian	Greater than 10 Years
22	Civilian	Greater than 10 Years
23	Civilian	Greater than 10 Years
24	Civilian	Greater than 10 Years
25	Civilian	Greater than 10 Years
26	Civilian	Greater than 10 Years
27	Civilian	Greater than 10 Years

Note. Sample size ($N = 27$).

Table 163*Treatment Survey Raw Data: Questions 3 and 4*

Participant ID	JLUS Implementation & Familiarity	
	Q3	Q4
1	Heavily Involved	Extremely Familiar
2	Rarely Involved	Moderately Familiar
3	Somewhat Involved	Extremely Familiar
4	Heavily Involved	Moderately Familiar
5	Rarely Involved	Extremely Familiar
6	Heavily Involved	Extremely Familiar
7	Heavily Involved	Extremely Familiar
8	Heavily Involved	Extremely Familiar
9	Rarely Involved	Slightly Familiar
10	Rarely Involved	Slightly Familiar
11	Rarely Involved	Moderately Familiar
12	Not Involved	Slightly Familiar
13	Heavily Involved	Extremely Familiar
14	Somewhat Involved	Moderately Familiar
15	Somewhat Involved	Moderately Familiar
16	Heavily Involved	Extremely Familiar
17	Somewhat Involved	Slightly Familiar
18	Heavily Involved	Extremely Familiar
19	Heavily Involved	Moderately Familiar
20	Rarely Involved	Moderately Familiar
21	Heavily Involved	Moderately Familiar
22	Heavily Involved	Moderately Familiar
23	Rarely Involved	Moderately Familiar
24	Heavily Involved	Extremely Familiar
25	Somewhat Involved	Moderately Familiar
26	Somewhat Involved	Moderately Familiar
27	Somewhat Involved	Extremely Familiar

Note. Sample size ($N = 27$).

Table 164*Treatment Survey Raw Data: Questions 5 and 6*

Participant ID	Democratic Participation – Awareness	
	Q5	Q6
1	Agree	Disagree
2	Agree	Agree
3	Agree	Agree
4	Agree	Agree
5	Agree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Agree
10	Agree	Agree
11	Disagree	Disagree
12	Agree	Agree
13	Agree	Agree
14	Agree	Agree
15	Agree	Agree
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Agree
18		Agree
19		Agree
20	Disagree	Disagree
21	Disagree	Agree
22	Agree	Agree
23	Agree	Agree
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 165*Treatment Survey Raw Data: Questions 7 and 8*

Participant ID	Democratic Participation – Engagement	
	Q7	Q8
1	Disagree	Agree
2	Agree	Agree
3	Agree	Don't Know or Prefer not to Answer
4	Don't Know or Prefer not to Answer	Agree
5	Disagree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Agree
10	Don't Know or Prefer not to Answer	Agree
11	Agree	Agree
12	Agree	Agree
13	Don't Know or Prefer not to Answer	Agree
14	Agree	Agree
15	Agree	Agree
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Agree
18	Agree	Agree
19	Agree	Agree
20	Disagree	Disagree
21	Agree	Don't Know or Prefer not to Answer
22	Agree	Agree
23	Agree	Agree
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 166*Treatment Survey Raw Data: Questions 9 and 10*

Participant ID	Democratic Participation – Public Support	
	Q9	Q10
1	Agree	Disagree
2	Disagree	Agree
3	Agree	Don't Know or Prefer not to Answer
4	Don't Know or Prefer not to Answer	Agree
5	Agree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Don't Know or Prefer not to Answer	Agree
10	Disagree	Disagree
11	Disagree	Agree
12	Don't Know or Prefer not to Answer	Agree
13	Agree	Don't Know or Prefer not to Answer
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Agree
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Agree	Agree
19	Agree	Agree
20	Don't Know or Prefer not to Answer	Disagree
21	Agree	Agree
22	Agree	Agree
23	Don't Know or Prefer not to Answer	Agree
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Don't Know or Prefer not to Answer	Agree

Note. Sample size ($N = 27$).

Table 167*Treatment Survey Raw Data: Questions 11 and 12*

Participant ID	Intergovernmental Cooperation – Relations	
	Q11	Q12
1	Agree	Agree
2	Agree	Agree
3	Agree	Agree
4	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
5	Agree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Agree
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	Agree	Agree
13	Agree	Don't Know or Prefer not to Answer
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Agree
18	Agree	Agree
19	Agree	Agree
20	Disagree	Disagree
21	Agree	Agree
22	Agree	Agree
23	Agree	Don't Know or Prefer not to Answer
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 168*Treatment Survey Raw Data: Questions 13 and 14*

Participant ID	Intergovernmental Cooperation – Communication	
	Q13	Q14
1	Agree	Agree
2	Agree	Agree
3	Agree	Agree
4	Agree	Don't Know or Prefer not to Answer
5	Agree	
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Agree
10	Agree	Agree
11	Disagree	Agree
12	--	--
13	Agree	Don't Know or Prefer not to Answer
14	Agree	
15	Agree	Agree
16	Agree	Agree
17	Agree	Agree
18	Agree	Agree
19	Agree	Agree
20	Disagree	Disagree
21	Agree	Agree
22	Agree	Agree
23	Agree	Agree
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 169*Treatment Survey Raw Data: Questions 15 and 16*

Participant ID	Intergovernmental Cooperation – Consensus	
	Q15	Q16
1	Agree	Agree
2	Agree	Agree
3	Agree	Agree
4	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
5	Disagree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Don't Know or Prefer not to Answer
10	Disagree	Disagree
11	Agree	Agree
12	--	--
13	Agree	Don't Know or Prefer not to Answer
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Agree	Agree
19	Agree	Agree
20	Disagree	Disagree
21	Agree	Agree
22	Agree	Agree
23	Don't Know or Prefer not to Answer	Agree
24	Agree	Agree
25	Agree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 170*Treatment Survey Raw Data: Questions 17 and 18*

Participant ID	Military Readiness – Mission Sustainment	
	Q17	Q18
1	Agree	Agree
2	Disagree	Agree
3	Agree	Agree
4	Agree	Agree
5	Agree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Agree	Agree
11	Agree	Agree
12	--	--
13	Agree	Don't Know or Prefer not to Answer
14	Agree	Agree
15	Agree	Agree
16	Agree	Agree
17	Agree	Agree
18	Agree	Agree
19	Agree	Agree
20	Agree	Don't Know or Prefer not to Answer
21	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
22	Agree	Agree
23	--	--
24	Agree	Agree
25	Agree	Don't Know or Prefer not to Answer
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 171*Treatment Survey Raw Data: Questions 19 and 20*

Participant ID	Military Readiness – Operational Complaints	
	Q19	Q20
1	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
2	Agree	Agree
3	Don't Know or Prefer not to Answer	Agree
4	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
5	Agree	Agree
6	Agree	Agree
7	Disagree	Agree
8	Agree	Agree
9	Disagree	Disagree
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	--	--
13	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
14	Don't Know or Prefer not to Answer	Agree
15	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
16	Don't Know or Prefer not to Answer	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Agree	Agree
19	Agree	Agree
20	Disagree	Disagree
21	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
22	Agree	Agree
23	--	--
24	Agree	Agree
25	Agree	Don't Know or Prefer not to Answer
26	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
27	Don't Know or Prefer not to Answer	Agree

Note. Sample size ($N = 27$).

Table 172*Treatment Survey Raw Data: Questions 21 and 22*

Participant ID	Military Readiness – Support Infrastructure	
	Q21	Q22
1	Disagree	Disagree
2	Disagree	Agree
3	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
4	Agree	Agree
5	Disagree	Agree
6	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
7	Agree	Agree
8	Agree	Agree
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	--	--
13	Disagree	Don't Know or Prefer not to Answer
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Agree
16	Disagree	Don't Know or Prefer not to Answer
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Disagree	Disagree
19	Don't Know or Prefer not to Answer	Agree
20	Disagree	Disagree
21	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
22	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
23	--	--
24	Disagree	Agree
25	Agree	Agree
26	Disagree	Don't Know or Prefer not to Answer
27	Don't Know or Prefer not to Answer	Agree

Note. Sample size ($N = 27$).

Table 173*Treatment Survey Raw Data: Questions 23 and 24*

Participant ID	Civilian Development – Quality of Life	
	Q23	Q24
1	Agree	Don't Know or Prefer not to Answer
2	Agree	Disagree
3	Disagree	Agree
4	Agree	Agree
5	Agree	Agree
6	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
7	Disagree	Agree
8	Disagree	Agree
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	--	--
13	--	--
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
16	Disagree	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Disagree	Agree
19	Agree	Agree
20	Agree	Disagree
21	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
22	Agree	Agree
23	--	--
24	Agree	Agree
25	Disagree	Agree
26	Disagree	Agree
27	Don't Know or Prefer not to Answer	Agree

Note. Sample size ($N = 27$).

Table 174*Treatment Survey Raw Data: Questions 25 and 26*

Participant ID	Civilian Development – Compatible Civilian Development	
	Q25	Q26
1	Agree	Agree
2	Disagree	Disagree
3	Agree	Agree
4	Agree	Agree
5	Disagree	Agree
6	Agree	Agree
7	Agree	Agree
8	Agree	Agree
9	Agree	Agree
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	--	--
13	--	--
14	Agree	Agree
15	Agree	Agree
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Agree	Agree
19	Don't Know or Prefer not to Answer	Agree
20	Disagree	Disagree
21	Don't Know or Prefer not to Answer	Agree
22	Agree	Agree
23	--	--
24	Agree	Agree
25	Disagree	Agree
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Table 175*Treatment Survey Raw Data: Questions 27 and 28*

Participant ID	Civilian Development – Compatible Civilian Activity	
	Q27	Q28
1	Agree	Agree
2	Disagree	Agree
3	Agree	Agree
4	Agree	Agree
5	Disagree	Agree
6	Agree	Don't Know or Prefer not to Answer
7	Disagree	Agree
8	Agree	Agree
9	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
10	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
11	Agree	Agree
12	--	--
13	--	--
14	Agree	Agree
15	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
16	Agree	Agree
17	Don't Know or Prefer not to Answer	Don't Know or Prefer not to Answer
18	Agree	Agree
19	Don't Know or Prefer not to Answer	Agree
20	Disagree	Disagree
21	Don't Know or Prefer not to Answer	Agree
22	Agree	Agree
23	--	--
24	Agree	Agree
25	Agree	Don't Know or Prefer not to Answer
26	Agree	Agree
27	Agree	Agree

Note. Sample size ($N = 27$).

Appendix F – Interview Transcripts

General Questions

1. What has been your typical role related to Joint Land Use Studies?

Interviewee #1: I was the consultant project manager during the production of the Joint Land Use Study. I also provided additional planning consultation after the implementation grant was received. This included training smaller jurisdiction about revising comprehensive plans, enforcing zoning regulations, creating a manual guidebook, and conducting three (3) training sessions. Much of our services were aimed at increase awareness of military instructor particularly to property owners throughout the region.

Interviewee #2: My role was serving as a committee member participating in the development of the Joint Land Use Study. I currently help oversee the implementation of recommendations including those specifically assigned to our city.

Interviewee #3: I served as the selected consulting firm's project manager during the Joint Land Use Study's development. I was also the principle for planning consultation after the implementation grant was received.

Interviewee #4: As zoning administrator, I have served as a committee member for two (2) Joint Land Use Studies and one implementation effort. One Joint Land Use Study was for the Air Force installation and the other a Navy installation.

Interviewee #5: I have served as a committee member representing the city for two (2) Joint Land Use Studies for the same installation. The second JLUS was the result of a BRAC realignment which warranted the update.

Interviewee #6: During the Joint Land Use Study's development, I was the planning director of the region's largest metropolitan community. I represented this community as a member of the technical committee. When the implementation grant was received years later, I served as a consultant in the capacity as deputy project manager.

Interviewee #7: As director of planning, I served as a technical committee member as a representative of the county.

Interviewee #8: I was the program manager of our region's Compatible Use Study. This included managing the grant money, hiring the study's consultant, organizing the approach, facilitating discussions, and ensuring quality control.

Interviewee #9: I served as a participant in the Joint Land Use Study's technical committee. Our institution manages much of the agricultural land surrounding the installation.

Interviewee #10: Typically, my role in Joint Land Use Study development is project management. Our institution primarily provides GIS support during long-term implementation.

Interviewee #11: I served as a participant in the Joint Land Use Study's policy committee.

Interviewee #12: I was the project coordinator for the Joint Land Use Study's development and continue to be for its implementation.

2. To the best of your knowledge, approximately how long ago was the most recent JLUS completed that you produced or are currently implementing?

Interviewee #1: The Joint Land Use Study was completed and adopted in 2014. The implementation grant was received by the end of 2017. Implementation training finished in 2018. Robust financial support from grants is critical for Joint Land Use Study implementation.

Interviewee #2: The most recent Joint Land Use Study was adopted about five (5) years ago.

Interviewee #3: The Joint Land Use Study was completed around 2017 with implementation efforts beginning in 2018.

Interviewee #4: A Joint Land Use Study is currently being produced.

Interviewee #5: The update to our Joint Land Use Study completed in August 2017.

Interviewee #6: The Joint Land Use Study process began in 2014 and was completed by 2015. Implementation efforts initiated between 2017 and 2018.

Interviewee #7: A Joint Land Use Study which began production in the fall of 2019 is undergoing development.

Interviewee #8: We have three separate installations in our region. The first two Joint Land Use Studies were respectively completed in 2009 and 2011. The most recent Joint Land Use Study was completed in 2015.

Interviewee #9: The most recent Joint Land Use Study was completed about two (2) to three (3) years ago.

Interviewee #10: A Joint Land Use Study was just completed with the Air Force. I am currently serving on a policy committee for another JLUS for the army.

Interviewee #11: The most recent Joint Land Use Study was completed about five (5) years ago.

Interviewee #12: The most recent Joint Land Use Study was completed in February of 2020.

JLUS Program

3. How, if at all, has the JLUS program changed your views and approach towards planning? Please explain.

Interviewee #1: The Joint Land Use Study made me think more about the regional context of planning and recognize its importance. Most of my planning education was centered on city not regional planning.

Interviewee #2: The Joint Land Use Study did not change my views and approach towards planning at all. Military installations are an additional consideration that planners should become more aware of.

Interviewee #3: A lot of communities are not paying attention to military infrastructure and other state and federal property. There is an overall lack of knowledge and needs. Planners and

planning decision-makers need to be more aware of the implications their decisions have on others.

Interviewee #4: The Joint Land Use Study did not change my views. With that said, it is very important that the military be actively engaged with the public and local leaders.

Interviewee #5: The Joint Land Use Study did not change my views at all. Our institution is shaped by regional thinkers and planners. The study did enhance relationships in the region.

Interviewee #6: We never considered that our land use decisions would affect the base. The Joint Land Use Study showed us that we need a more proactive response to growth around the installation compared to the reactive responses of the past.

Interviewee #7: The Joint Land Use Study did not change my views. It did reemphasize the importance of regional planning in our community.

Interviewee #8: The Joint Land Use Study confirmed the need for planning, phased development, good spatial analysis, better data sets, public outreach, and more transitions to regional planning over local.

Interviewee #9: The Joint Land Use Study helps the base and regional government achieve their missions. The study also reinforced the preservation of agricultural land in our region.

Interviewee #10: A Joint Land Use Study reinforced the importance of educating the public on planning.

Interviewee #11: The Joint Land Use Study helped shape a regional vision and provided a platform for communities and institutions in the region to share with each other our ongoing issues related to planning.

Interviewee #12: The Joint Land Use Study, albeit non-binding, created a playbook for regional decision-making, offered a means for better continuity, and established a common focus.

4. What would make the JLUS program more effective during the initial production of a study?

Interviewee #1: Taking more time to diversify outreach efforts beyond public meetings to increase the willingness of stakeholders, property owners, and the public to engage. Advertise the Joint Land Use Study at community gatherings. Better online marketing of the campaign would also help.

Interviewee #2: Obtaining greater input from all community stakeholders rather than from specific community leaders.

Interviewee #3: Engage regional stakeholders and the military earlier. Presenting opportunities to interact with more people from within the installation.

Interviewee #4: There was an overall lack of public awareness and participation but there was not a lack of trying.

Interviewee #5: The types of consultants selected for Joint Land Use Studies is largely decided by the Office of Economic Adjustments. These consultants often do not understand local governments and prioritize federal interests.

Interviewee #6: The program is not connected to the overall understanding of the impacts. Who are these people? How does this affect us? There needs to be better introductions and different types of participation.

Interviewee #7: Stakeholders and the military need to meet more often and frequently. Selected consultants are also largely from out of town.

Interviewee #8: More research and homework need to be done during consultant selection. The communities also need to validate geographic data being used.

Interviewee #9: The cities were much slower to recognize the importance of the Joint Land Use Study and the military installation. Garnering initial buy-in was challenging.

Interviewee #10: A Joint Land Use Study program needs to do a better job at knowing their audience, communication, and coordination.

Interviewee #11: The Joint Land Use Study programs needs to interact more with smaller, rural counties, consider the consequences to rural areas, and improve overall outreach.

Interviewee #12: The Joint Land Use Study engaged so many organizations but there needs to be better leaderships access such as setting up interviews with everyone. Time commitment is another issue. Overall, public outreach needs to engage everyone, there was not enough input.

5. What would make the JLUS program more effective for long-term implementation?

Interviewee #1: The establishment of a permanent, regional implementation committee including elected officials, military officers, etc. Staff which answers to committee should not be military planners since individuals holding said position changes frequently. This position needs to be a local.

Interviewee #2: There needs to be greater leadership consistency and stability during the transition of military leaders. New military leaders are not involved. This hampers communications and many regional relations have been lost.

Interviewee #3: Continuity of personnel, particularly military personnel, is critical. The installation is oblivious to what they receive from us now. There is just too much turnover at installations. They do not know what to do with the information. There also needs to be more frequent interactions among jurisdictions.

Interviewee #4: There is currently no problems and the study is working great as is. The only issues we have maybe run into are related to taking issues.

Interviewee #5: The policies and recommendations were not politically viable or realistic. The study was also just too complex. The constant updating and changes from military operations requires regular or proactive regulations.

Interviewee #6: Keeping as many of the same team players as possible during updates. Due to constant regional changes, reaching out via blogs, newsletters, committee, etc. is critical for keeping relations.

Interviewee #7: There is by far not enough follow up meetings. Maintaining technical groups would help address this.

Interviewee #8: There are so many installations regionally that there is not enough time to do them all comprehensively at the same time. Both plan development and implementation need to be cyclical.

Interviewee #9: The cities are slower to adopt Joint Land Use Study policies and it is difficult to get these policies adopted by all cities. Installations need to be more actively involved, engaged and market the JLUS. Turnover both at the installation and in cities also needs to be addressed.

Interviewee #10: Leadership at military installations is constantly recycling. Static personnel are vital. As a result, consistent civilian staff is critical.

Interviewee #11: Integrating official agreements that jurisdictions sign to work towards goals would be beneficial. The real estate industry and potential homebuyers needs to be notified upfront regarding issues related to the local installation not on the deed at the end.

Interviewee #12: Allow individual communities to define their own role. It should be up to them.

JLUSs as an Intergovernmental Planning Tool

6. If any, what do you believe are the benefits for communities to produce and implement a JLUS?

Interviewee #1: A JLUS encourages the local jurisdictions to start thinking about their neighbors. It fostered better relationships and the establishment of shared goals. The JLUS process also helped us identify unknown regional issues that need regional support, resources, etc.

Interviewee #2: It promotes better compatibility between the community and local installation.

Interviewee #3: The JLUS process helps ensure the installation's mission is in good standing and that the community's growth does not negatively affect the installation.

Interviewee #4: The JLUS was the first time all subjects were on the table and provided us a platform to consider what can we do. Implementing the JLUS has helped us also gauge the public's tolerance level when it comes to regulations.

Interviewee #5: Cooperation. This process encouraged everyone in the region to talk to each other. Implementing the JLUS also helps our installation avoid future BRAC considerations.

Interviewee #6: Developing and implementing a JLUS helps create a regional identity, increases public awareness, and encourages open engagement.

Interviewee #7: It improved the dialog between our community and the military installation.

Interviewee #8: The JLUS reintroduced and reinforced to elected officials the importance of planning and coordinating with the military installation.

Interviewee #9: The JLUS helps keep the operations at the installation which is important for regional employment and economic sustainment. The study has eliminated further encroachment and has been in everyone's best interest.

Interviewee #10: The JLUS process allowed us to be a good neighbor and helped us and others discover you can actually communicate with the military.

Interviewee #11: It granted us the ability to discuss growth, development, and the funding of infrastructure.

Interviewee #12: The study has increased regional communication and the awareness of compatibility issues significantly.

7. What would you describe are the major challenges of *producing* a JLUS?

Interviewee #1: Getting the time of day with everyone as some do not want to be involved. Trying to get equal buy-in and early political support. Overcoming unequal power roles. The military also takes a back seat during the process.

Interviewee #2: The military says what they want then takes a step back. They are not standing with us once it moves towards implementation.

Interviewee #3: Getting local governments involved in a meaningful way including property owners.

Interviewee #4: Public participation.

Interviewee #5: Consultants need to talk and get to know the community.

Interviewee #6: Timing. Better transparency of how long the process will take and how much commitment is required. Allow for more feedback from communities. The process also needs to do a better job educating the communities (e.g. does it even affect us?) and keeping them regularly engaged throughout the process.

Interviewee #7: There needs to be more community involvement.

Interviewee #8: We are currently in an atypical case with COVID-19 and the recession as we cannot garner attention and individuals are less available to participate. In my experience however, getting the right players involved, trying to equalize political power, and getting the right expertise have been challenging.

Interviewee #9: Getting buy-in by local agencies has been a major challenge as they do not want to give away land use authority.

Interviewee #10: Identifying the study's geographic location or study area was a challenge. Participation and engagement were also major challenges.

Interviewee #11: There was too much representation of certain groups over others. Largest participant had the most influence. With that said, the committees were also so big that it was challenging to address everyone's concerns.

Interviewee #12: The natural instinct of the military and participating communities is that they do not want to look vulnerable. Getting past this point takes significant time. Creating a culture of joint efforts and gaining assistance from each other was also challenging.

8. What would you describe are the major challenges of *implementing* a JLUS?

Interviewee #1: The military continues to take a back seat when it comes to implementation. We need better leadership continuity. Establishing a permanent body of implementation would be helpful. Financial support is needed. The implementation stage overall is probably too democratic.

Interviewee #2: The military continues to take a step back from implementation as they are cautious of getting involved in zoning and local decisions. The committee's decisions do not transition to property owners and stakeholders.

Interviewee #3: Continuity for both local and military personnel is a major challenge. These personnel move around a lot and then things get dropped. States also need to be more involved in the implementation process (i.e. money and personnel).

Interviewee #4: There has been no taking issues here, but this has been an issue elsewhere.

Interviewee #5: The major challenges are is it implementable and politically viable.

Interviewee #6: Implementation has not been fair across the board. Our community has been out of sight out of mind. There needs to be better prioritization of recommendations by type of community.

Interviewee #7: Controversial takings and community by-in remains the leading challenges to implementation.

Interviewee #8: Public outreach continues to be a major challenge. The election cycle also creates competition with other political policies leading to no exposure and delays.

Interviewee #9: By-in from cities and property owners (i.e. voters) has been a challenge.

Interviewee #10: Participation and engagement dropped-off significantly since there is no requirements to keep everyone's attention.

Interviewee #11: The tax lid is hindering change and there needs to be better education of new leadership.

Interviewee #12: There are currently no challenges with implementation. Communication with other federal agencies can be improved upon.

9. What makes a JLUS strategy or recommendation effective?

Interviewee #1: They need to be relatable to locals. They also need to be shaped by actual regional engagement.

Interviewee #2: They need to be fully vetted by the community. There must be support from the military. There needs to be consistent leadership and decision-making. A one size fits all approach does not work despite the military's preference towards this.

Interviewee #3: Strategies and recommendations need to be practical where people can see a path towards implementation. It should be clear what needs to be done. They also need to be specific (i.e. tied to specific policies, regulations, and areas).

Interviewee #4: There should be a clear need for a rule or policy change. Is it obvious to everyone? The clearer the need is to the public the better.

Interviewee #5: Will it get implemented? Is it implementable and political viable? Is it simple, realistic, and does it have community buy-in? These are all important considerations.

Interviewee #6: The participants came together to arrive at the solutions. There needs to be community buy-in. Wording and timing are also important. If there are various options, the justifications for each needs to be laid out.

Interviewee #7: There must be consensus among the technical and policy leaders.

Interviewee #8: It must be rooted in analysis and data. They must be practical, adaptable, politically viable with minimal controversy, cannot be one size fits all, and must fit every level of application.

Interviewee #9: They must derive from good planning. They also need to be specific, measurable, and politically viable for adoption.

Interviewee #10: They need to effectively convey a path towards implementation for the audience and be shaped by good communication and coordination.

Interviewee #11: The community needs to understand the economic benefit. What is the return on investment? They also need to be developed through a process built upon getting to know each other and the overall connection.

Interviewee #12: They must identify the drivers, what area it encompasses, and who does what.

10. How often do you believe JLUSs should be updated and why?

Interviewee #1: Probably every ten (10) years which is equivalent to comprehensive plan updates and the provision of new census data. Strategies and general policies might be revisited regularly to confirm if they are still valuable.

Interviewee #2: Every five (5) to seven (7) years is probably best as they are time and resource intensive to produce. We do not want to wait too long though for updates.

Interviewee #3: Five (5) years like regular plans is likely the best practice pending significant changes. Changes in personnel may warrant revisiting implementation otherwise continuity will be lost.

Interviewee #4: Ten (10) years similar to comprehensive plans. Any significant military mission changes might also result in the need for an update.

Interviewee #5: Only when change is substantial. It should be entirely environment and context dependent and the military should ultimately drive that decision.

Interviewee #6: Five (5) years on average to match comprehensive plans is probably sufficient. Context might require it to be sooner. Reviewing and making minor edits every two (2) to three (3) years as changes occur might also be an ideal approach.

Interviewee #7: Every five (5) years we should look at it and see if an update is needed like comprehensive plans.

Interviewee #8: It really depends as environments are dynamic. If growth is rapid (i.e. greater and five percent annually), then probably every three (3) to five (5) years. If growth is static (i.e. less than five percent annually), then updates may not be needed for seven (7) to ten (10) years.

Interviewee #9: The JLUS should probably be updated every ten (10) to 20 years which is consistent with typical general plans. If the study is used regularly, maybe less. If ignored, forgotten, or the study is rarely enforced, it probably needs to be updated fairly often.

Interviewee #10: If the mission changes or when large communities update their plans every four (4) to six (6) years.

Interviewee #11: They should be updated regularly especially during leadership changes at installations and to be responsive to BRAC considerations.

Interviewee #12: Revisit the entire JLUS every ten (10) years with regular minor changes.

11. To what extent do you believe communities within a region can benefit from joint studies for the following and why?

a. Land use planning?

Interviewee #1: I would rate the benefits as high especially when there are a lot of changes. What the fringes are doing is also important.

Interviewee #2: I would rate the benefits as very high since it has the greatest impact.

Interviewee #3: I would rate the benefits as high since it protects the private sector and the public sector's mission. It can also enhance quality of life.

Interviewee #4: I would rate the benefits as high. This is commonly known but not commonly practiced, only when forced.

Interviewee #5: I would rate the benefits as high. Jurisdictions willingness and current relations are critical.

Interviewee #6: I would rate the benefits as very high. Multiple small communities encroach on the installation, for example, as they struggle with growth and responsibility in addition to financial constraints related to infrastructure improvements.

Interviewee #7: I would rate the benefits as moderate. Localism or the prioritization of local interests is hard to overcome. There is a lack of homogeneity when it comes to dealing with different issues.

Interviewee #8: I would rate the benefits as high since it would inform regulations, zoning, and development.

Interviewee #9: I would rate the benefits as very high. Our region has a population of over 900,000 with ten (10) cities and mostly agricultural counties. Joint studies allow everyone to maintain their identity.

Interviewee #10: I would rate the benefits as high. It helps everyone discover the impacts of their actions which may change, benefit, or hurt each other. It also presents an opportunity to communicate.

Interviewee #11: I would rate the benefits as high. Grants an opportunity for everyone to talk, communicate, and address issues such as safety.

Interviewee #12: I would rate the benefits as high. It helps identify growth areas where we do not want to find mistakes later.

b. Transportation planning?

Interviewee #1: I would also rate the benefits as high since it complements land use planning.

Interviewee #2: I would rate the benefits as low since it involves many elements moving to and from various jurisdictions despite many of the fundamentals being consistent across the board.

Interviewee #3: I would rate the benefits as high since traffic peaks, safety issues, and conditions are relatively the same throughout a region.

Interviewee #4: I would rate the benefits as high since traffic is interjurisdictional.

Interviewee #5: I would rate the benefits as high. The Metropolitan Planning Organization (MPO) has been a good example.

Interviewee #6: I would rate the benefits as high but not as high as land use planning since it is dependent upon it.

Interviewee #7: I would rate the benefits as high. Funding is often limited and joint studies offers a means to combine each other's resources.

Interviewee #8: I would rate the benefits between moderate and high. It depends on the size of community and the extent of growth.

Interviewee #9: I would rate the benefits as very high since travel occurs in and out of the region.

Interviewee #10: I would rate the benefits as moderate based on personal experience.

Interviewee #11: I would rate the benefits as high since car traffic, air, rail, etc. all cross boundaries. Response times is also an important regional consideration.

Interviewee #12: I would rate the benefits as moderate.

c. Resilience planning?

Interviewee #1: I would rate the benefits as very high. Minnesota is a great example of how to plan for fire safety, development, flooding, etc. It helped set up the right tools, resources, and assessments of risk.

Interviewee #2: I think the benefits would be mixed since it is hard to predict.

Interviewee #3: I would rate the benefits as high since it provides a means to share personnel, knowledge, and experience.

Interviewee #4: For us, I would rate the benefits as moderate since flooding and sea level rise is not an issue but for others it may vary (i.e. context is important).

Interviewee #5: There is certainly a potential for it to be high. Not much cooperation in our area on this subject. Context and how much a community is affected by such issues as flooding will make the benefits vary.

Interviewee #6: This has the potential to be high, but a regional effort may be a struggle. Many resilience issues are viewed as crystal ball issues, are expensive to address, and selling it politically is hard.

Interviewee #7: I would rate the benefits as moderate, but it remains an individual, local issues where I am.

Interviewee #8: I would rate the benefits between low and moderate. This might become bigger in the future. We are already doing it now but locally.

Interviewee #9: I would rate the benefits as high. Fires, flooding, and sea level rise all cross boundaries. Our regional fire department is great. It has reduced response times and allows for closer responders being dispatched.

Interviewee #10: I would rate the benefits between moderate and high. Flooding from hurricanes cross traditional boundaries. Such issues will only increase over time. It is better to know what is going on and what to do in advance.

Interviewee #11: I would rate the benefits as very high. Its application potential struggles to overcome political barriers which requires education.

Interviewee #12: I would rate the benefits as high. River erosion from flooding and other similar issues impacts everyone.

d. Environmental planning?

Interviewee #1: I would rate the benefits as limited or low. Things like wind, solar, etc. can be done regionally but most work is done locally.

Interviewee #2: I would rate the benefits as high since the impacts can be great as they cross boundaries.

Interviewee #3: I would rate the benefits between moderate and high. The protection of natural resources, which crosses traditional boundaries, is a great example of a potential regional focus. Context, of course, is important but it would be a great opportunity to get feedback from each other.

Interviewee #4: I would rate the benefits as moderate. Joint efforts to protect wetlands, conform to federal regulations, and combat environmental contaminations are examples where it could be done.

Interviewee #5: Similar to resilience planning, this has the potential to be high. For example, we have brownfields in seven counties within the region. These could be redeveloped for the economic benefit of the region.

Interviewee #6: I would rate the benefits between moderate to high. Similar to resilience planning, this has an issue with being out of sight out of mind.

Interviewee #7: I would rate the benefits as high since environmental issues cross boundaries even states.

Interviewee #8: I would rate the benefits between moderate and high since environmental issues, such as endangered species, cross boundaries.

Interviewee #9: I would rate the benefits as high since environmental concerns, such as the need for animal movement corridors, fencing, and lighting go beyond traditional boundaries.

Interviewee #10: I would rate the benefits as high from personal experience. If done right, biological resources can even be used to generate tourism.

Interviewee #11: I would rate the benefits as moderate. Most work is done locally.

Interviewee #12: I would rate the benefits as moderate since other state and federal programs are already addressing it.

e. Housing affordability and diversity?

Interviewee #1: I would rate the benefits as moderate but context matters. Recent experience has shown that it can be used to reduce rents and increase subsidies for housing.

Interviewee #2: I would rate the benefits as moderate to high and increasing. Most installations do not have much anymore.

Interviewee #3: I would rate the benefits as moderate. It needs to identify the needs of the community.

Interviewee #4: I would rate the benefits as low. Housing is inexpensive and there is not much competition in our region.

Interviewee #5: I would rate the benefits as high. Housing studies can inform local policies and budget constraints.

Interviewee #6: I would rate the benefits as very high.

Interviewee #7: I would rate the benefits between low and moderate since it is a local issue.

Interviewee #8: I would rate the benefits between high and very high. Growth, rent, and the market rates are too high. We need to catch up.

Interviewee #9: I would rate the benefits as moderate. It is ultimately up to the local jurisdictions. The state informs housing needs so relations between the state and locals may be more important.

Interviewee #10: I would rate the benefits between moderate and high. This should be addressed more similar to schools and education. It would also help increase the tax base.

Interviewee #11: I would rate the benefits between moderate and high. This could help the homeless and veterans in our community.

Interviewee #12: I would rate the benefits between moderate and high. Locals tend to manage it well.

f. Capital improvement planning?

Interviewee #1: I would rate the benefits as moderate since transportation infrastructure does cross boundaries but there are financial limitations.

Interviewee #2: I would rate the benefits as low. There are currently not very many opportunities for such efforts, although, the context does matter. Might be an option more in the future.

Interviewee #3: I would rate the benefits as moderate, but it ultimately depends upon how it is used. Similar to housing and growth, capital improvement planning drives and impacts our infrastructure.

Interviewee #4: I would rate the benefits between moderate and high but the context matters.

Interviewee #5: I would rate the benefits as moderate. Some examples of such efforts might be aimed at water and sewer infrastructure, school districts, meeting EPA rules, or annexation studies responding to future growth.

Interviewee #6: I would rate the benefits as high and it needs to be more important. There is a clear connection between this and resilience planning regarding the impacts of growth and who benefits. This is especially not done enough in small communities.

Interviewee #7: I would rate the benefits as moderate since it is predominately a local issue.

Interviewee #8: I would rate the benefits as low particularly from a community's perspective. The military is a great example as to why since they choose not to be engaged and being engaged now is too late to the game.

Interviewee #9: I would rate the benefits as moderate. If such efforts were aimed at regional improvements, then yes. If the improvements are simply local, then the local approach is preferred.

Interviewee #10: I would rate the benefits between low and moderate. The status quo is well established and would be very challenging to overcome.

Interviewee #11: I would rate the benefits as moderate. It would likely improve the connections between infrastructural elements and input/output considerations, but rural communities may be unsure of their role.

Interviewee #12: I would rate the benefits as moderate.

g. Economic Development?

Interviewee #1: I would rate the benefits as high since everyone benefits.

Interviewee #2: I would rate the benefits as very high it all impacts each other.

Interviewee #3: I would rate the benefits as high since it uses everyone's advantages.

Interviewee #4: I would rate the benefits as very high since the inputs would lead to a more welcoming region.

Interviewee #5: I would rate the benefits as very high. Large institutions, such as military installations and other federal facilities benefit the locals, regional businesses, and overall growth.

Interviewee #6: I would rate the benefits between moderate and high since it would benefit the region at large. It can help diversify the economy, present more education and training opportunities, etc.

Interviewee #7: I would rate the benefits as high since it has worked well in the past and provides us a means to share resources and knowledge.

Interviewee #8: I would rate the benefits as very high. Regional industries impact each other. Tourism is a great example. BRAC considerations have had major impacts as well.

Interviewee #9: I would rate the benefits as high. It allows cities to work together on things like tourism, beaches, job growth, etc.

Interviewee #10: I would rate the benefits as very high. Such efforts have been critical and have had a large economic impact. It provides a means to feed off each other in a positive way.

Interviewee #11: I would rate the benefits as moderate and it could be higher if communities would listen to each other. There is often not enough representation and rural voices are often discounted.

Interviewee #12: I would rate the benefits as high. It helps identify and support economic drivers with the goal of reaching shared successes.

12. To what extent do you believe joint studies might be beneficial for regions with the following and why?

a. Numerous urban communities?

Interviewee #1: I would rate the benefits as moderate and rank it the second highest of the four options under national parks since it is more contextual.

Interviewee #2: I would rate the benefits as very high and rank it the highest of the four options. Lack of communication hurts the region. With different visions, most are never realized or familiar with each other's vision.

Interviewee #3: I would rate the benefits between low and moderate and rank it the lowest of the four options. Competition may be a setback. Many regions also already do this through an MPO but mostly only for transportation planning.

Interviewee #4: I would rate the benefits as very high but rank it below national parks and universities. Most people do not see boundaries and it would help everyone. With that said, there will always be some competition between communities.

Interviewee #5: I would rate the benefits between high and very high and rank it the highest of the four options. It promotes the use of applying each other's strength to compete nationally and globally.

Interviewee #6: I would rate the benefits as high but rank it as the lowest of the four options. For clustered, dense, urban environments, the benefits would likely be very high. For farther, rural areas, they might be lower. I rank it the lowest because most areas are likely doing it already.

Interviewee #7: I would rate the benefits as high but rank it as the lowest of the four options. It would help address common, shared issues and some topics such as economic development which is in the best interest of everyone.

Interviewee #8: I would rate the benefits as high and rank it just below the universities option. Such a process would be analogous to a JLUS where collective challenges would be identified, practical policies developed, and resources shared.

Interviewee #9: I would rate the benefits as high and rank it the second highest under national parks. The more urban communities there are the greater the benefits. Community and political buy-in will also be critical.

Interviewee #10: I would rate the benefits between very low and low and rank it the lowest of the four options. Extraterritorial areas in our state would cause conflicts and overall land use authority is a major barrier to overcome.

Interviewee #11: I would rate the benefits between low and moderate and rank it the highest of the four options. With that said, the biggest city usually thinks they know all the answers.

Interviewee #12: I would rate the benefits as high and rank it the highest of the four options. It offers a means to look at how we impact one another and create a shared playbook. The lack of formal commitments, however, may be a limitation.

b. National parks?

Interviewee #1: I would rate the benefits as high and rank it the highest of the four options. Community could work with national parks on topics such as capital improvement projects, economic development, environmental planning, etc.

Interviewee #2: I would rate the benefits as high but rank it the lowest of the four options. There is certainly value in pursuing this option.

Interviewee #3: I would rate the benefits as high and rank it the second highest of the four options under universities. This would allow us to take more advantage of our parks, improve quality of life, etc.

Interviewee #4: I would rate the benefits as very high and rank it the highest of the four options. The communities would only benefit since it is a unique generator of tourism and access to the park may increase.

Interviewee #5: I would rate the benefits as high but rank it third below numerous urban communities and universities. It may help with economic development and tourism efforts, but most communities likely do not have a need to rely on others.

Interviewee #6: I would rate the benefits as very high but rank it third below reservations and universities. Similar to numerous urban communities, I rank it lower since most are likely already doing it. Joint studies with national parks would allow communities to learn so much from one another, learn from other parks, increase access, and mitigate the destruction of nature.

Interviewee #7: I would rate the benefits as high and rank it second just below reservations. National parks bring major benefits to communities.

Interviewee #8: I would rate the benefits between low and high depending upon the context. If tourism is high, the benefits would be high. If tourism is low, the benefits would be low. I would rank national parks third just above reservations since I know less about reservations.

Interviewee #9: I would rate the benefits as very high and rank it the highest of the four options. This would be very comparable to a JLUS. For some communities, the parks are a livelihood and tourism is critical.

Interviewee #10: I would rate the benefits as very high and rank it the highest of the four options. National parks are huge for economic development, environmental protection, and the tourism benefits everyone.

Interviewee #11: I would rate the benefits as low and rank it the same as reservations and universities. Local property rights in the Midwest is a challenge to overcome if the public was more responsive then maybe it could be higher. Most federal agencies have no flexibility and do not meet local needs.

Interviewee #12: I would rate the benefits as moderate and rank it the lowest of the four options. I rank it the lowest since the federal response is already strong, like JLUS, to address encroachment.

c. Reservations?

Interviewee #1: I would rate the benefits as limited or low and rank it the lowest of the four options because of the power differences. Most coordination would likely need to be done with the state or federal government.

Interviewee #2: I would rate the benefits as high but rank it third just above national parks. There is certainly value in pursuing this option.

Interviewee #3: I would rate the benefits between moderate and high and rank it third just above numerous urban communities. It would create an open line of communication and help us identify what their needs are.

Interviewee #4: I would rate the benefits as low and rank it the lowest of the four options. They would likely benefit more from traditional comprehensive planning efforts although I am unaware of their activity.

Interviewee #5: I would rate the benefits as potentially high and rank it the lowest of the four options. I do not have much experience with this. Might be an opportunity to look at all assets available.

Interviewee #6: I would rate the benefits as high and rank it the highest of the four options. I know they have struggled in the past to maintain workers. Apprehensions from the past may be a hurdle but it would be a great opportunity for everyone to finally work together and learn from each other.

Interviewee #7: I would rate the benefits as high and rank it the highest of the four options. I would anticipate that there would be many similar issues comparable to the JLUS.

Interviewee #8: I would rate the benefits between low and high depending upon the context. Many reservations have severe social and economic issues. If gambling is a major industry,

the benefits would likely be high. If it is predominately rural, the benefits would likely be minimal.

Interviewee #9: I would rate the benefits as moderate and rank it the lowest since I am not really sure. They are there own nation which may make it challenging.

Interviewee #10: I would rate the benefits as moderate and rank it third just above numerous urban communities. Although I have never worked with a reservation, I can image it would improve communication among institutions similar to JLUS.

Interviewee #11: I would rate the benefits as low and rank it the same as national parks and universities. Reservations are currently buying a lot of agricultural land. Legal authority issues and the power differences may be an issue.

Interviewee #12: I would rate the benefits as high and rank it second highest under numerous urban communities. It would help with community engagement and cultural awareness.

d. Universities?

Interviewee #1: I would rate the benefits between low and moderate and rank it third just above reservations. Economic development would likely be the biggest driver. The potential benefits would likely increase the more urban the area is.

Interviewee #2: I would rate the benefits as high but rank it second just above national parks and reservations. There is certainly value in pursuing this option. Such a project can likely address impacts on housing, tax implications, and/or zoning issues.

Interviewee #3: I would rate the benefits as very high and rank it the highest of the four options. These types of communities are a hot bed for change stress. It would engage people beyond the core student population who also drastically impact a community. It would be mutually beneficial overall.

Interviewee #4: I would rate the benefits as high and rank it the second highest just under national parks. Like a JLUS, some of the topics may be related to access, traffic, activities, and monetary aid.

Interviewee #5: I would rate the benefits as very high and rank it second just under numerous urban communities. It could focus on numerous issues related to economic development, transportation, placemaking, etc.

Interviewee #6: I would rate the benefits as high and rank it second just below reservations. It would provide a means to engage universities during infrastructure improvements, to enhance community of place, and/or to improve waypoint signage. Many temporary residents, such as students, often feel separated from permanent residents. This type of process could allow for questions such as how does our community view the university and what is the neighborhood like?

Interviewee #7: I would rate the benefits as high and rank it third just above numerous urban communities. It would largely focus on identifying issues from the university.

Interviewee #8: I would rate the benefits as very high and rank it the highest of the four options. Currently, there is a lack of planning with universities whether it be concerned with housing, pedestrians, bussing, social equity, etc. This is likely due to the prevalent drivers of politics and money.

Interviewee #9: I would rate the benefits as moderate and rank it third just above reservations. Locals should be in support of the university's mission. With that said, the larger the city the less important this becomes. Essentially, the more reliant the city is on the university, the greater the benefits to work together.

Interviewee #10: I would rate the benefits as high and rank it second just below national parks. The process would present an opportunity to communicate, collaborate and development a partnership. It only helps everyone in the long run.

Interviewee #11: I would rate the benefits as low and rank it the same as national parks and reservations. This process needs to be more practical as there is rarely a return on investment. Most times these efforts are too focused on the university's self-interest.

Interviewee #12: I would rate the benefits as moderate and rank it third just above national parks. Historically, these efforts have paid off and it has allowed us to work collaboratively.

13. Are there any other instances in which you think joint studies can be beneficial for regional planning, and if so, what are they?

Interviewee #1: Recreational planning might be one that can have high benefits but would ultimately depend on the type and scale.

Interviewee #2: Disaster response planning is the largest gap in planning. Regions need to do a better job working on how mutual aid will work, defining response actions, and being able to accommodate and address sheltering issues.

Interviewee #3: Hospitals and other medical facilities might be one area where joint studies could be beneficial. Another one would be other federal buildings such as the veteran administration building which impacts the region but often goes unnoticed.

Interviewee #4: Big industrial activities such as oil and gas should be considered more regionally since it can lead to challenges such as traffic disruption and environmental issues. Another would be working with airports particularly when there are changes in activities.

Interviewee #5: Nothing comes to mind.

Interviewee #6: A sanitary/septic study which looks at the region's soils, challenges, and capacity could be helpful and may even increase property values. A regional housing study could look at traffic, affordability, and ways to better utilize the housing authority. A regional stormwater plan could examine pond maintenance. Finally, a regional transit plan may consider education, affordability, access, etc.

Interviewee #7: A study on regional landfills might be helpful.

Interviewee #8: The ones I can think of include: compatible land use, economic development, landscape/wildlife management, state parks, tourism, conservation, resiliency, and environmental planning.

Interviewee #9: Airports is a big one. There is constant friction in land use discussions regarding what is built around them. They need to have more influence in the planning process.

Interviewee #10: Economic development, resiliency, and environmental planning are strong together. Coastal counties and shorelines might be one a region considers if applicable.

Interviewee #11: Education, particularly the business side of education facilities, could benefit from joint studies.

Interviewee #12: Municipal and county wastewater and water infrastructure may benefit from joint studies. Another might be energy uses such as wind, solar, etc.

Glossary

- **Association of Defense Communities (ADC)**—An organization whose mission is to build resilient military communities by providing information and resources to address community-military issues (Association of Defense Communities, 2016).
- **Base Realignment and Closure (BRAC)**—A federal government process adopted in 1988 to enhance the DoD’s efficiency for managing military infrastructure by implementing restructuring techniques including realignment and closures.
- **Bridging institutions**—A restructuring of societal and cultural bonds, values, and networks following the integration of the military into civilian society.
- **Built capital**—Community assets consisting of physical facilities, buildings, installations, and infrastructure which facilitate community productivity (Flora et al., 2016; Green & Haines, 2012).
- **Civilian development**—The quality of life and compatibility of civilian development/activity near local military installations. Based on this definition, the variables of interest include *quality of life* and *compatible civilian development/activity*.
- **Civil-military relations**—“The relationship between the armed forces of the state and the larger society they serve” (Hooker, 2003, p.1).
- **Collaborative Governance**—“A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets” (Ansell & Gash, 2008, p. 546).
- **Compatible Use Program**—See Joint Land Use Study (JLUS) Program.
- **Concordance**—Civil-military relations theory which supports cooperative relationships between the military, political leaders, and the public (Schiff, 1995; Schiff 1996).
- **Convergence**—The “degree of agreement, or consensus, achieved by the panel in its response to a given question” (Buck et al., 1993, p. 275; Nelson, 1978; Turoff & Linstone, 2002).
- **Cultural capital**—Community assets comprising of group values and worldviews (Flora et al., 2016; Green & Haines, 2012).
- **Defense communities**—Local civilian communities adjacent to, dependent on, and/or directly impacted by active military installations.

- **Democratic participation**— The extent to which military personnel and the public are actively aware of, engaged in, and support planning efforts to mitigate physical incompatibilities.
- **Diffusion**—The spread of policy innovation, either internally or externally from a policymaking arena, from one place to another.
- **Duration**—Characteristic which discerns the participant’s policy implementation lag time from the JLUS’s adoption/completion.
- **Economic response**—A defense community’s changes in financial capital following an installation’s closure.
- **Encroachment issues**—“The cumulative result of any and all outside influences that inhibit normal military training and testing” (Santicola, 2006, p.1).
- **Environmental degradation**—The deterioration of a regional ecosystem which compromises an installation’s operational or institutional value, imposes new environmental pressures on an installation, and may ultimately lead to BRAC consideration.
- **Federalism**—“A system of authority constitutionally apportioned between central and regional governments” (O’Toole & Christensen, 2012, p. 3).
- **Financial capital**—Community assets of monetary significance including savings, tax revenue, debt capital, grants, etc. (Flora et al., 2016; Green & Haines, 2012).
- **Geography**—Characteristic which discerns the geographic region of the participants’ local military installation and residence.
- **Governance**—“The processes by which public policy decisions are made and implemented” (Touchton and Ashley, 2019, 6).
- **Housing disruption**—A relatively abrupt condition where a defense community suffers a bear market due to an installation’s closure.
- **Human capital**—Community assets consisting of individual experiences, education background, knowledge, skillsets, artistic capabilities, and health (Flora et al., 2016; Green & Haines, 2012).
- **Incompatibilities**—Condition where two or more encroachment issues share comparable characteristics and sufficiently render the ability for actors, policies, etc. to coexist immensely challenging or impractical.

- **Industrialization**—The evolution or expansion of regional economic activity in defense communities resulting from military proliferation.
- **Information asymmetry**—A condition where at least one group of the regional power structure possesses greater material knowledge than another.
- **Installation(s)**—See military installation(s).
- **Institutional involvement**—A stakeholder characteristic which discerns the extent to which a stakeholder’s institution is actively engaged in the implementation of a JLUS.
- **Institutional vale**—A military installation’s ability to retain the infrastructure required to implement their respective mission(s).
- **Intergovernmental cooperation**—The relations, communication, and consensus among defense communities and the local military installation to mitigate physical incompatibilities.
- **Joint Land Use Study (JLUS) Program**—A federal government program authorized by Congress in 1985 (i.e. *Title 10 U.S.C. Section 2391*) to offer grant assistance to state and local governments for incorporating military compatibility programs with local planning programs. The program is managed by the DoD’s OEA.
- **Land redevelopment**—The significant alteration of military landscapes to civilian or other federal use resulting from an installation’s closure.
- **Length of residency** —A stakeholder characteristic which discerns the approximate length of time in which a stakeholder has lived within a respective defense community.
- **Liberty**—Boundary of the land use policy goal spectrum which encourages local civilian control and development of land with limited to no federal intervention.
- **Localism**—Intergovernmental relations which prioritizes “the legal and political empowerment of local areas,” promotes regional conflict and competition, exacerbates political divisions within a region, and deters regional cooperation (Briffault 2000, 2; Foster 2001).
- **Managerialism**—Mode of policymaking and implementation in which “public agencies make decisions unilaterally or through closed decision processes, typically relying on agency experts to make decisions” (Ansell & Gash, 2008, p. 547).
- **Military installation(s)**—All domestic bases, depots, installations, plants, etc. owned and operated by any department of the U.S. Armed Services.

- **Military service department**—Stakeholder characteristic which discerns which branch of the U.S. Armed Services the participants’ local installation is managed by.
- **Military status**—Stakeholder characteristic which discerns whether participants’ employment originates from a military (e.g. Air Force, Army, etc.) or civilian institution (private or public sector).
- **Military readiness**—The extent to which military installation missions are sustained, operational complaints by civilians are minimal, and local defense communities actively provide additional support infrastructure and services (e.g. education, training, health, housing, etc.) for the installation’s personnel.
- **National security interests**—“The foundation for the development of valid national objectives that define United States goals or purposes” (U.S. Department of Defense, 2017b, p. 162).
- **Natural capital**—Community assets derived from natural resources including air, water, landscapes, wildlife, etc. (Flora et al., 2016; Green & Haines, 2012).
- **Negative externalities**—Damaging impacts “resulting from any action (whether related to production or consumption) that affects someone who did not fully consent to it through participation in voluntary exchange” (Weimer & Vining, 2017).
- **Office of Economic Adjustment (OEA)**—Federal government office of the DoD which works with defense communities both proactively (i.e. JLUS program) or relatively (i.e. following a BRAC) to help implement a sustainable and successful future (U.S. Department of Defense, Office of Economic Adjustment, 2018b). This office was renamed during the conclusion of this study to the Office of Local Defense Community Cooperation.
- **Operational value**—A military installation’s capability of conducting its overarching mission(s).
- **Participatory planning**—Planning model which emphasizes the active engagement of a community’s public at large in the strategic and management planning processes.
- **Physical incompatibility**—Encroachment issues which are primarily attributable to the negative externalities of regional development or growth, inflict multilateral consequences, and are highly driven or alleviated by the prominence of regional cooperation.
- **Political capital**—Community assets comprising of the “organization, connections, voice, and power as citizens turn shared norms and values into standards that are codified into rules,

regulations, and distributions that are enforced” (Flora et al., 2016l, p.184; Green & Haines, 2012).

- **Principle of anonymity**—Feature of a policy Delphi which ensures outside influences are minimized and the Delphi fosters candid responses by not revealing to participants who provided specific responses (i.e. broad descriptions of other participants only) (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013).
- **Principle of controlled feedback**—Feature of a policy Delphi which requires the results from earlier survey rounds to inform the creation subsequent rounds to ensure only directly relevant and accurate information is provided to and asked of the participants (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013).
- **Principle of statistical response**—Feature of a policy Delphi which requires the results from earlier survey rounds to be presented quantitatively to the participants of subsequent rounds (Buck et al., 1993; Baker & Moon, 2010; Manley, 2013).
- **Program/Study familiarity**—A stakeholder characteristic which discerns the extent to which the stakeholder is familiar with their region’s respective JLUS.
- **Public interest**—Concern regarding the welfare of the general public or populace.
- **Public-to-public partnerships**—A partnership between military installations and defense communities in which resources are combined to achieve common goals and objectives.
- **Public-to-private partnerships**—A partnership between military installations and private or non-profit organizations in which resources are combined to achieve common goals and objectives.
- **Push factor**—The withdrawal of populations, professional assets, and community power structures following the departure of military institutions from defense communities.
- **Pull factor**—The increased population attraction and restructuring of community power structures following the establishment of military institutions into civilian society.
- **Rationalism**—Planning model comprised of rational actions or steps including understanding a problem, establishing and evaluating planning criteria, formulating alternatives, implementing them, and monitoring the progress of the chosen alternative(s).
- **Regionalism**—The practice of regional authority and functions in the form of “structures, partnerships and agreements, processes and practices, or simply as cultural expressions” as opposed to a central system (Foster, 2001, p. 7).

- **Regulatory incompatibility**—Encroachment issues which primarily result from intentional or unintentional consequences of government policy intervention, inflict unilateral consequences, and are highly driven or alleviated by external governance (i.e. state or federal).
- **Security**—Boundary of the land use policy goal spectrum which encourages the promotion of military readiness and the military’s control of land.
- **Separatism**—Civil-military relations which prefer a division between civil and military institutions (Hooker, 2003; Schiff, 1995; Schiff, 1996).
- **Shifting structures**—Changes in a defense community’s social and cultural capital stemming from defense policy outcomes.
- **Social capital**—Community assets consisting of trust, norms, and networks which facilitate internal and external collective action (Flora et al., 2016; Green & Haines, 2012).
- **Stability**—A measure of consistency or similarity from the panel’s responses to each question across rounds (Buck et al., 1993; Nelson, 1978; Plinske & Packard, 2010; Turoff & Linstone, 2002).
- **Stakeholders**—Individuals “who have decision authority over the program, including other policy makers, funders, and advisory boards; [and] people who have direct responsibility for the program, including program developers, administrators in the organization implementing the program, program managers, and direct service staff” (as cited in Patton, 2008, p. 61).
- **Urbanization**—The physical evolution or expansion of regional defense communities resulting from military proliferation.
- **U.S. Department of Defense (DoD)**—Department of the U.S. federal government charged with providing and managing the military forces needed to deter war and to protect the security of the country (U.S. Department of Defense, 2018).