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Russia's Limit of Advance

Scenarios

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Preface

This report documents the scenarios developed to support the research and analysis presented in the RAND report *Russia's Limit of Advance: Analysis of Russian Ground Force Deployment Capabilities and Limitations*, available online at www.rand.org/pubs/research_reports/RR2563. The two reports were produced as part of the project *Defeating Russian Deployed Joint Forces*, sponsored by the Office of the Deputy Chief of Staff, G-3/5/7, U.S. Army. The purpose of the project was to assess challenges that deployed Russian forces pose to U.S. Army forces; identify opportunities to defeat Russian deployed forces in a range of environments and at various levels of conflict; identify limitations to Russia's ground force deployment capabilities, including logistics, lines of communication, deployed force protection, air defense, system ranges, command and control, and joint integration; and recommend ways for the U.S. Army and the joint force to defeat Russia's deployed forces in multiple prospective combat scenarios.

This research was conducted within the RAND Arroyo Center's Strategy, Doctrine, and Resources Program. RAND Arroyo Center, part of the RAND Corporation, is a federally funded research and development center (FFRDC) sponsored by the United States Army.

RAND operates under a "Federal-Wide Assurance" (FWA00003425) and complies with the *Code of Federal Regulations for the Protection of Human Subjects Under United States Law* (45 CFR 46), also known as "the Common Rule," as well as with the implementation guidance set forth in U.S. Department of Defense (DoD) Instruction 3216.02. As applicable, this compliance includes reviews and approvals by RAND's Institutional Review Board (the Human Subjects Protection Committee) and by the U.S. Army. The views of sources utilized in this study are solely their own and do not represent the official policy or position of DoD or the U.S. government.

Contents

Figures and Table

Figures

Table

Summary

By the time of its 2014 incursion into Crimea, Ukraine, Russia had regained a significant portion of the military power it lost after the fall of the Soviet Union, reemerging as a perceived threat to democracy. It soon became clear that Russia had broader interests than Europe—and perhaps a capacity to realize wider-ranging military objectives. Since the mid-2000s, Russia has been quietly accelerating its global engagements and has, more recently, increased its interests in Venezuela, various African states, and Asia. These developments have spurred renewed interest in Russian capabilities in the analytic community.

The focus of this research, Russia's ground combat deployment capability, stemmed primarily from sponsor requirements and resource limitations, but the insights from this analysis help fill an important knowledge gap that extends beyond an understanding of Russia's ability to support ground deployments. We argue that the capacity to deploy ground combat units is a better measure of overall conventional power projection than air or naval power alone. Air and naval forces are limited by an array of overflight and passage restrictions, but they also benefit from international agreements that guarantee considerable freedom of movement. In contrast, ground deployment depends on and reflects global and regional diplomatic influence or, alternatively, brute force to obtain on-the-ground access. Air and naval forces can be deployed independently, but ground forces require joint and, often, combined operations that tax a broader cross-section of the Russian military infrastructure.

This report presents notional Russian Ground Force (RGF) military deployment scenarios that informed the analysis in a companion report, *Russia's Limit of Advance: Analysis of Russian Ground Force Deployment Capabilities and Limitations* (available at www.rand.org/pubs/research_reports/RR2563). That analysis examined seven notional scenarios, using one deployment to illustrate the analytical process: the Kuril Islands. This report presents detail on the five other scenarios that we analyzed to generate the findings presented in that report, as well as an additional informative scenario on Ukraine (our "+1" scenario). Table S.1 summarizes all seven scenarios.

Each chapter of this report is dedicated to one of six scenarios (excluding the Kuril Islands) and includes slides from a series of larger briefings prepared for this project. We selected slides that were particularly relevant to the focus of our analysis—RGF deployment capability. In the interest of brevity, we do not include informational slides about the scenarios. However, each chapter opens with a brief overview of the scenario it addresses.

Table S.1
Summary Scenario Descriptions

Location	Description	Range
Kazakhstan	Russia and China engage in conventional combat in Kazakhstan	Border
Kuril Islands	Russia deploys to repel Japanese forces, conventional combat	Near
Tajikistan	Islamic State threat spills over into Tajikistan, Russia deploys to defend	Near
Serbia	Deployment to help put down an anti-government revolt in Serbia	Far
Syria	Rescue of surrounded Spetsnaz and Syrian military forces at Palmyra	Far
Venezuela	Stability operation in support of the Venezuelan government	Far
Ukraine	*Seizure of parts of Ukraine for incorporation into the Russian state*	*Border*

NOTE: The Kuril Islands scenario is not included in the chapters that follow because it is covered in detail in the accompanying report, *Russia's Limit of Advance: Analysis of Russian Ground Force Deployment Capabilities and Limitations*, Santa Monica, Calif.: RAND Corporation, RR-2563-A, 2019. The Ukraine scenario involved too many forces to allow precise analysis. However, we included it as an additional, informative scenario. Thus, we refer to it as a "+1" case in this report.

Caveats

These scenarios are strictly notional. The purpose of developing and presenting the scenarios was to explore various permutations of Russian ground combat power deployment capability, not to explore politically viable national security scenarios. The scenarios do not forecast any particular political events, nor should they be interpreted as presenting conclusions about Russian combat capabilities. In fact, we chose the scenarios with the knowledge that they might have limited political feasibility.

All information that we used to develop the scenarios is drawn from open sources; the bibliography at the end of this report lists the materials that we consulted, grouped by topic. See the companion report for our full analysis and findings.

Acknowledgments

We thank MG William Hix for sponsoring our research. MG Christopher McPadden supported the continuation and completion of this project through 2018. Our project monitor, LTC Andrew Brown, also provided valuable support, feedback, and insights throughout the research process. RAND Arroyo Center staff, including Strategy, Doctrine, and Resources program director Sally Sleeper and Francisco Walter, were instrumental in creating this research opportunity and in supporting our efforts. We also thank our Army sponsor staff, including Tony Vanderbeek and Mark Calvo, for their continuing interest in our research and for supporting our work with enthusiasm.

We are grateful to RAND colleagues Raphael Cohen and Ryan Schwankhart and to our external reviewer, Kimberly J. Marten, chair of the Department of Political Science at Barnard College, all of whom provided insightful reviews and feedback that helped shape this report and its companion volume.

Abbreviations

APC	armored personnel carrier
APOD	aerial port of debarkation
APOE	aerial port of embarkation
BTG	battalion tactical group
IFV	infantry fighting vehicle
MR	motorized rifle
MRAP	mine-resistant, ambush-protected (vehicle)
MRL	multiple rocket launcher
MTO	motor transport operation
RGF	Russian Ground Forces
SAM	surface-to-air missile
SOF	special operations forces
TAA	tactical assembly area
UAV	unmanned aerial vehicle
VDV	Vozdushno-Desantnye Voyska [Russian Airborne Forces]

CHAPTER ONE

Kazakhstan Scenario

In the Kazakhstan scenario, Russia deploys ground combat forces to Kazakhstan to counter Chinese intervention and protect Russian civilians. This is a border case involving the deployment of almost 14,000 troops. The purposes of this scenario were to test Russia's deployment capability in a location with clear trade-offs between rail and airborne movement and to show how even a scenario just outside Russia's Western and Southern military districts can be challenging.

Figures 1.1–1.7 show, respectively, the deployment range, available Russian forces, movement plan, initial-wave assumptions, second-wave assumptions, and ground movement assumptions.

Figure 1.1
Kazakhstan Scenario Deployment Range

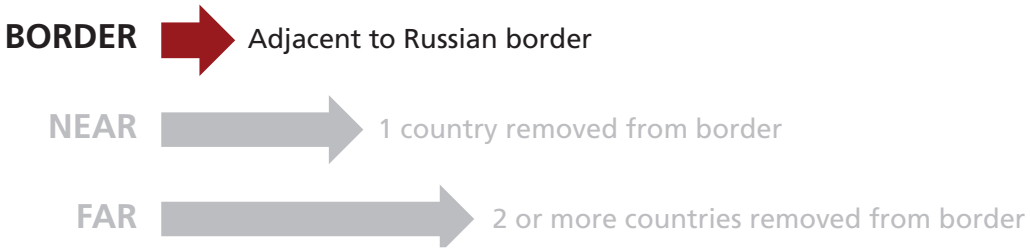
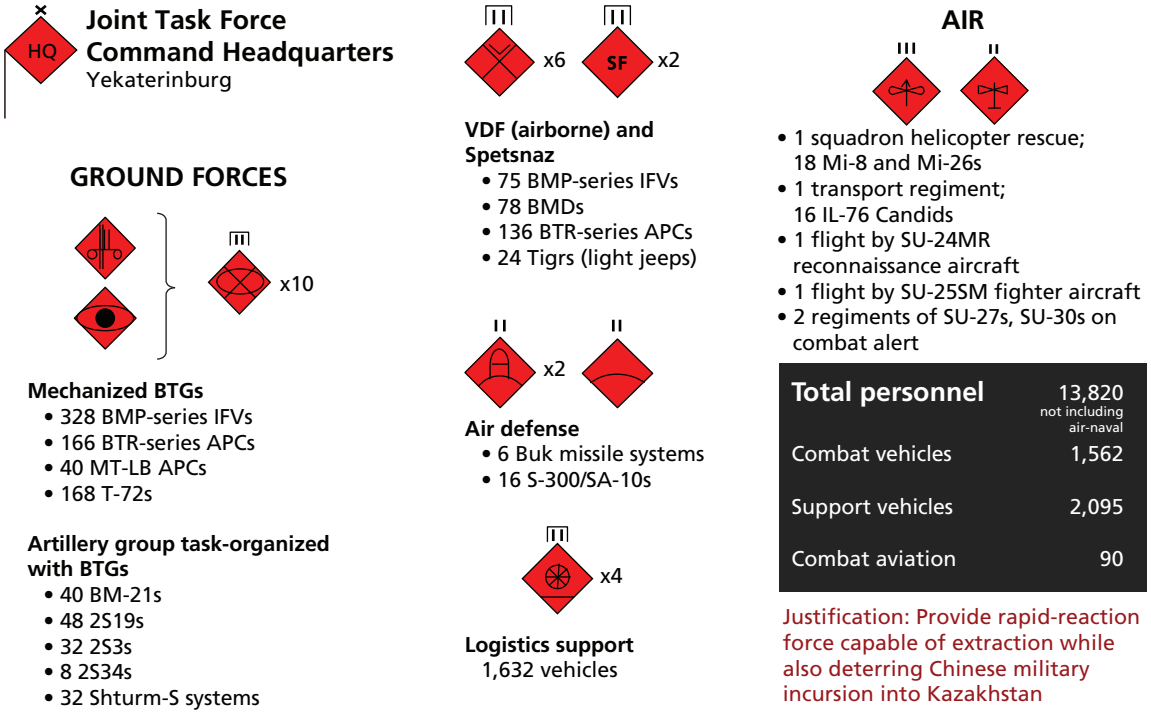


Figure 1.2
Russian Forces in the Kazakhstan Scenario

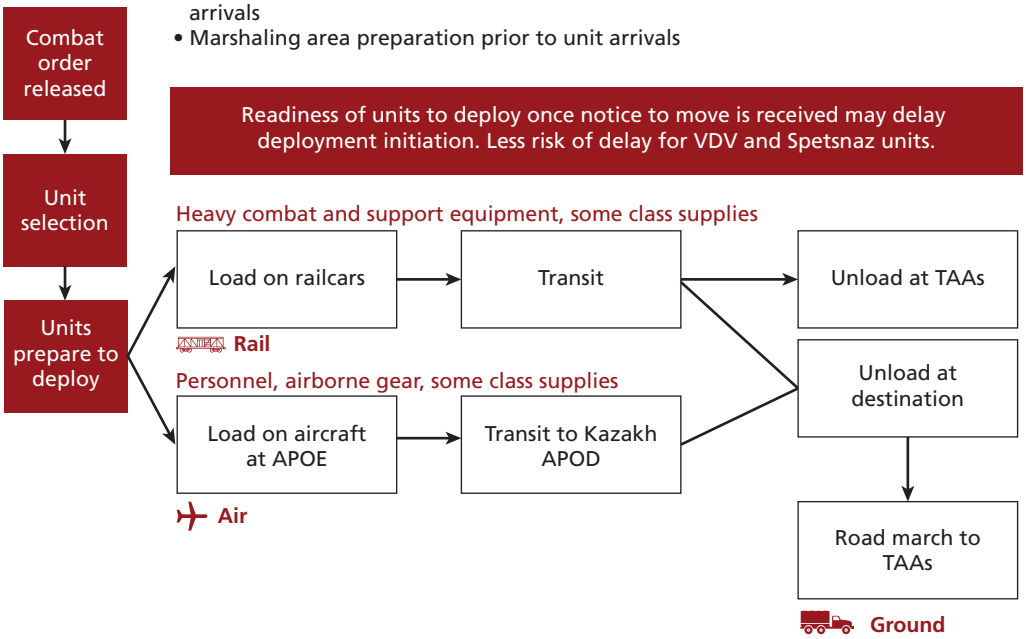


NOTE: APC = armored personnel carrier. BTG = battalion tactical group. IFV = infantry fighting vehicle. VDV = Vozdushno-Desantnye Voyska [Russian Airborne Forces]. Some vehicle-type abbreviations in this and similar figures, such as MT, BMD, BMP, BRDM, and BTR, are transliterated acronyms commonly used by the U.S. defense analytic community. For example, BMD is *boyevaya mashina desanta*, or *airborne combat vehicle*.

Figure 1.3
Kazakhstan Scenario Movement Plan

General steps of the joint task force's movement by air and rail to Kazakhstan, as well as its movement en route to tactical assembly areas.
Two waves of deployment: VDV and Spetsnaz units (and SAMs) deploy by a mix of air and rail, followed by major combat forces arriving by rail

Additional deployment activities not shown include the following:
- Task organization (generating and assembling the joint task force)
- Reception, staging, onward movement, and integration preparation prior to unit arrivals
- Marshaling area preparation prior to unit arrivals



NOTE: SAM = surface-to-air missile. APOD = aerial point of debarkation. APOE = aerial point of embarkation. TAA = tactical assembly area.

Figure 1.4
Kazakhstan Scenario Initial Deployment Wave Assumptions

Assumptions
- Personnel, equipment, and some class supplies for VDV, Spetsnaz, and one SAM unit deploy to Aktau and Astana.
- 60 of 110 Il-76s and 6 of 9 An-124s are available.

Demand to lift initial force package exceeds available airlift inventory, necessitating two rounds of transport with a portion of the aircraft needing to make roundtrips.
With the extra turnaround time required, it would take at least 7.5 days to close the equipment and personnel. This does not include the airlift of class supplies, whose inclusion would further delay closure.

Airlifting only the Aktau force package (~3 days to close) and then railing the Astana force package (151 railcars, 5 trains) leads to closure of total initial wave deployment in around 4–5 days.

Wave 1

Assess to lift	An-124	Il-76	% of equipment lifted	Personnel lift requirement	Origin	Destination
24th Spetsnaz Brigade	4	0	100	3 large aircraft	Novosibirsk	Aktau
56th Air Assault Brigade	2	36	100	12 large aircraft	Kamyshin	Aktau
10th Spetsnaz Brigade	0	14	100	8 large aircraft	Molkino	Astana
31st Air Assault Brigade	0	10	23	12 large aircraft	Ulyanovsk	Astana
Sortie totals	6	60	NA	35 aircraft	NA	NA

Wave 2

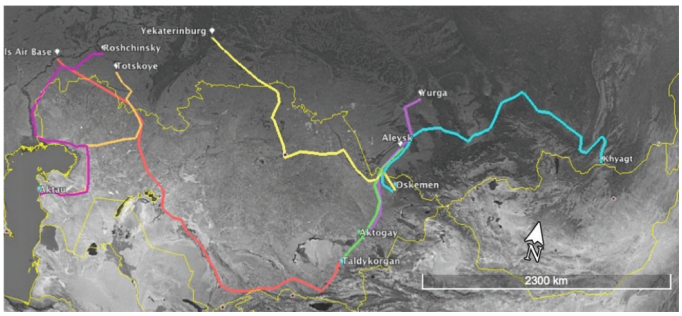
Assess to lift	An-124	Il-76	% of equipment lifted	Personnel lift requirement	Origin	Destination
31st Air Assault Brigade	6	19	77	0	Ulyanovsk	Astana
11th Air Assault Brigade	0	7	100	12 large aircraft	Sosnovy Bor	Astana
297th Anti-Aircraft Missile Brigade	0	14	100	1 large aircraft	Alkino	Astana
Sortie totals	6	40	NA	13 aircraft	NA	NA

NOTE: Calculations do not take into account the airlift of class supplies.

Figure 1.5
Kazakhstan Scenario Second Deployment Wave Assumptions

Assumptions

- MR and SAM units move equipment by rail to Aktau and three tactical assembly areas in eastern Kazakhstan: Oskemen, Aktogay, and Taldykorgan.
- Railcars and trains are readily available and in position when units are ready to deploy.
- 1 day at origin rail loading point, travel speed of 40 km/hr.
- Destinations clear train load every 4 hours.



Assets to lift	Total railcars (equipment + personnel)	Number of trains	Origin	Destination	Destination (km)	Time (days to load+ travel+ unload
511th Guards SAM Regiment	26 (22 + 4)	1	Engels Air Base	Taldykorgan	3,125	4.4
185th SAM Regiment	24 (20 + 4)	1	Yekaterinburg	Oskemen	2,037	3.3
74th Guards MR Brigade	215 (185 + 30)	4	Yurga	Aktogay	1,119	2.9
35th MR Brigade and 106th MTO Brigade	683 (593 + 45)	12	Aleysk	Taldykorgan	937	4.0
37th MR Brigade	211 (181 + 30)	4	Khyagt	Oskemen	2,757	4.5
15th MR Brigade and 105th MTO Brigade	604 (559 + 45)	11	Roshchinsky	Aktau	1,983	4.9
21st MR Brigade	215 (185 + 30)	4	Totskoye	Aktau	1,582	3.3

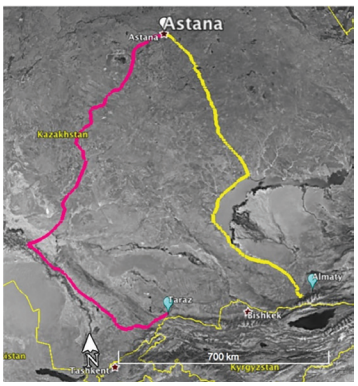
NOTE: Railcar calculations do not include class supplies. This could at least double the railcar demand.
MR = motorized rifle. MTO = motor transport operation.

Figure 1.6
Kazakhstan Scenario Ground Movement Assumptions

Assumptions

- There is unopposed, faster administrative ground movement to TAAs.
- There are preestablished forward logistics areas.
- Spetsnaz remain in Astana.

TAA	Almaty	Taraz
Unit	31st Air Assault Brigade	11th Air Assault Brigade
Distance (km)	1,215	1,601
Vehicles	196	45
Column length (km)	11.8 (day) 17.6 (night)	2.7 (day) 4.0 (night)
Completion time (days)	2.0	2.6
Assumptions	• 50 m vehicle spacing during the day • 75 m spacing at night • 30% time spent stopped for rest/maintenance • Road conditions will limit movement to an average of 40 km/h during the day, 30 km/hr at night	



Delays may be caused by weather, terrain, movement at night, or vehicle breakdowns.

NOTE: Estimates assume formation along a single road. Other options are stagger or diamond formations if road width allows.

Key Points from the Kazakhstan Scenario

Russia could deploy its ground force by air, rail, or road relatively quickly, absent Chinese intervention or transportation failures and without considering the class of supply movement (e.g., fuel, food, water, ammunition). Adding sustainment requirements and assuming even noncombat disruption would set the above timelines back days, if not longer. This movement is also highly vulnerable to combat disruption. Chinese interference with the limited road and rail networks or even minimal interference with the airfields—say, a cyberattack against air traffic control or a special operations raid against airfield support teams—could put Russia in an untenable situation.

CHAPTER TWO

Tajikistan Scenario

In this scenario, an extremist group similar to the Islamic State expands its operations into Tajikistan, threatening Russian bases and interests there. Russia deploys a ground combat force to secure its facilities and personnel, as well as to disrupt the group's activities in Afghanistan with fires and raids.

Figures 2.1–2.6 show, respectively, the deployment range, available Russian forces, movement plan, airlift assumptions, rail assumptions, and movement to tactical assembly areas.

Figure 2.1
Tajikistan Scenario Deployment Range

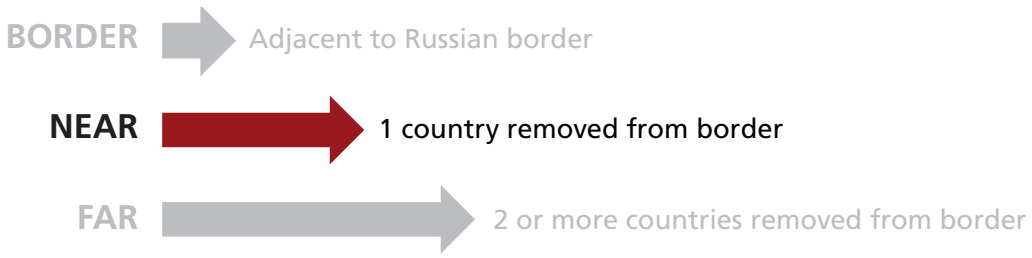
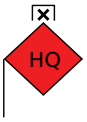


Figure 2.2
Russian Forces in the Tajikistan Scenario

GROUND FORCES



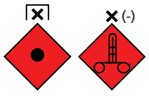
Joint Task Force Command
41st Combined Arms Army

6 MR BTGs with
- 248 BMP-2 IFVs
- 48 BTR-80 APCs
- 22 MT-LB APCs
- 6 BRDM-2 reconnaissance vehicles
- 84 T-72B3 tanks
- 28 T-72BM tanks

BORDER TROOPS

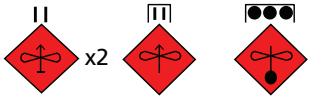
4 detachments with
- 320 BTR-80 APCs
- 60 Ural-4320 trucks
- 24 2S1 SP howitzers
- 24 2S12 Sani mortars
- 24 2S9 Nona mortars

Spetsnaz
- 1 battalion (25) BTR-80 APCs
- 12 Tigrs (light jeeps)

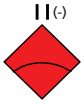


Artillery Group
1 artillery brigade, 0.5 missile brigades
- 28 BM-21 MRLs
- 24 2S3 Akatsiya self-propelled artillery
- 66 2S19 Msta-S howitzers
- 8 2S34 Khosta-S howitzers
- 24 Sani mortars
- 8 Uragan MRLs
- 6 Iskander-M transporter-erector-launchers

AIR

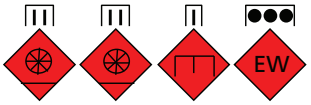


- 1 squadron (10) Su-34 attack aircraft + support
- 1 squadron (12) Mi-24P helicopters + support
- 1 squadron (12) Mi8AMTSh helicopters + support
- 3 Tu-22M3 bomber aircraft
- 1 squadron (11) Su-25 attack aircraft
- 2 Mi-8 helicopters
- 2 An-26 transport aircraft



Air Defense
3 anti-aircraft battalions (-)
- 13 2S6M Tunguskas
- 54 9K38 Igla man-portable air defense systems

SUPPORT



- 1 Leer-3 electronic warfare system
- 78 Zastava UAVs
- 12 Granat-1 UAVs
- 15 Orlan-10 UAVs
- Support vehicles

Total ground personnel	12,140
Combat vehicles	1,213
Support vehicles	1,193
Rotary aviation	26
UAVs	105

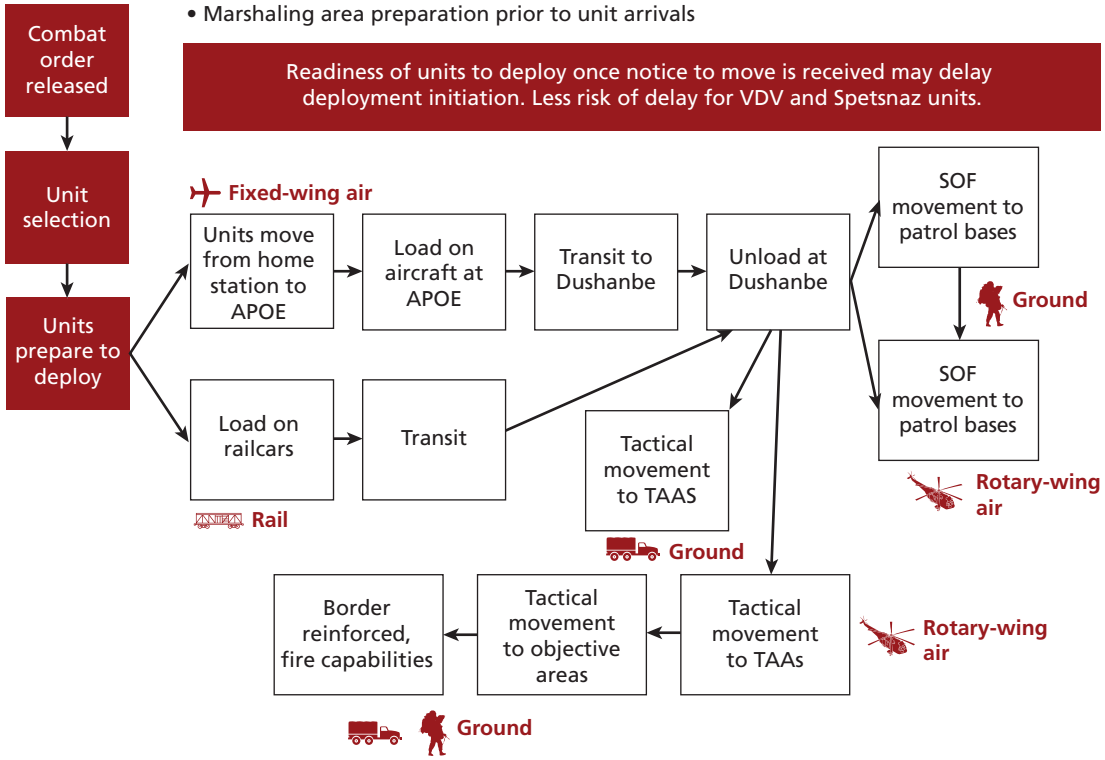
Justification: Deploy a self-sustaining joint combat team capable of reconnaissance-weapon and reconnaissance-strike counterterrorism operations and border security

NOTE: MRL = multiple rocket launcher. UAV = unmanned aerial vehicle.

Figure 2.3
Tajikistan Scenario Movement Plan

General steps of the joint task force's movement by air and rail to Tajikistan. Personnel move to Dushanbe via fixed-wing air and within area of operation via rotary-wing or ground transport.

Additional deployment activities not shown include the following:
- Task organization (generating and assembling the joint task force)
- Reception, staging, onward movement, and integration preparation prior to unit arrivals
- Marshaling area preparation prior to unit arrivals



NOTE: SOF = special operations forces.

Figure 2.4
Tajikistan Scenario Airlift Assumptions

Assumptions
Spetsnaz and rotary-wing units' equipment and personnel deploy by air.

Assess to lift	Lift requirement (equipment + supplies)
Spetsnaz units	7–9 Il-76s or 3 An-124s
Rotary-wing units	6 An-124s to deploy Mi-24s 6 Il-76s or 4 An-124s to deploy Mi-8s
Sortie totals	13–16 Il-76s or 9–13 An-124s
% of estimated available fleet*	~25% of Il-76s 150–217% of An-124s

*Assumes 60 of 110 Il-76s and 6 of 9 An-124s are available.

Calculations for fixed-wing movement only.

Possible deviations from "best-case" air deployment

Risk
Adequate airlift is not available to deploy helicopters.

Mitigating option: Self-deploy
- This increases maintenance issues.
- Helicopters need to make multiple stops.
- Altitude restrictions increase route distance.

An An-124 unloads an Mi-24 (United Nations Movement Control photo, CC BY-SA 2.0)

Platform	Range (km)	Speed (km/hr)	Flight and refueling time (hrs)
Mi-8	983	224	18.5
Mi-24	1,000	269	19.5

NOTE: Availability of aircraft for personnel transport is not a stressing factor due to availability of nonmilitary assets. Therefore, this figure focuses on equipment.

Figure 2.5
Tajikistan Scenario Rail Assumptions

Assumption set 1 (rail asset demand)

MR BTGs, artillery and missile units, and MTO battalions move all equipment and class supplies by rail. Railcars and trains are readily available and in position when units are ready to deploy.

Assets to transport	Origin	Number of railcars (equipment + personnel)*	Number of trains
74th Guards MR Brigade, 120th Artillery Brigade	Yurga (Kemerovo Oblast)	297 (261 + 36)	5
35th MR Brigade	Aleysk	219 (189 + 30)	4
21st MR Brigade	Totskoye	227 (197 + 30)	4
106th MTO Brigade	Yurga (Kemerovo Oblast)	450 (420 + 30)	8
119th Missile Brigade	Elanskiy	53 (38 + 15)	1
Border troops	Central Military District	286 (226 + 60)	5
	Total	**1,532**	**27**

* Railcar calculations do not include class supplies, which could at least double railcar demand.

Assumption set 2 (rail closure)

- Rail line to Queb determined too high-risk due to proximity to Afghan border; all equipment is thus sent to Dushanbe.
- No routing issues due to bridge or tunnel limitations.
- Customs and clearances expedited at Kazakh, Uzbek, and Tajik borders.
- One day at origin rail loading point and travel speed of 40 km/hr.
- With 24-hour operations at Dushanbe, train load clears every 4 hours.

Closure of equipment and personnel takes at least 9 days

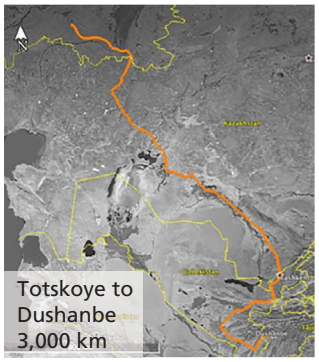


Figure 2.6
Tajikistan Scenario Movements to Tactical Assembly Areas

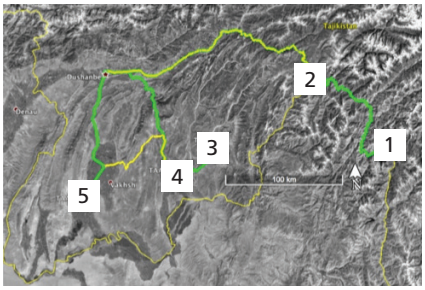
Assumptions

- Unopposed, faster administrative ground movement to TAAs
- Preestablished forward logistics areas
- Weight of effort distributed across all five TAAs

TAA	1	2	3	4	5
Distance (km)	455	281	195	161	128
Vehicles	658	658	658	658	658
Completion time (hrs)	20.0	11.0	8.0	6.8	5.6
Assumptions	• 50 m vehicle spacing during the day, 75 m at night • 30% of time spent stopped for rest/ maintenance • Road conditions will limit movement to an average of 40 km/h during the day, 30 km/hr at night				

Additional considerations

- Column length during the day will be ~40 km, ~60 km at night.
- Many of the roads to TAAs 3–5 are secondary roads, and the M41 highway has difficult terrain, slowing speed.
- Delays may be caused by harassment, attacks, weather, terrain, movement at night, or vehicle breakdowns.



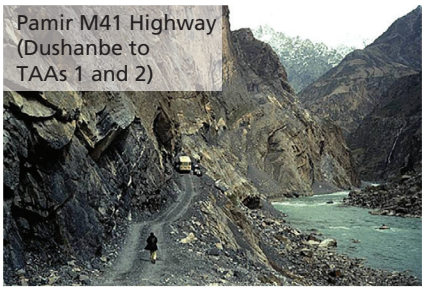


Photo by Alj87 via Wikimedia Commons (CC BY-SA 3.0)

NOTE: Estimates assume formation along a single road. Other options are stagger or diamond formations if road width allows.

Key Points from the Tajikistan Scenario

In this scenario, Russia benefits from its large existing base in Tajikistan and from its long-standing familiarity with the terrain and supply routes. Sustainment would be relatively easy, given existing facilities and storage. However, movement to the tactical assembly areas and areas of operation would be far more challenging than the initial waves of transportation. These movements would require navigating rough terrain, narrow passes, and long distances. Our scenario requires Russia to establish a second sustainment base in Kazakhstan to support operations in Tajikistan and Afghanistan.

CHAPTER THREE

Serbia Scenario

This is a small-footprint special operations deployment to respond to a notional attempt to overthrow the Serbian government. Russia deploys a small joint task force to an assembly area in Niš, Serbia, to enable follow-on movement and help defend government facilities and control violent protests in Belgrade and Novi Sad. After a covert insertion of the initial wave of forces is uncovered, Russia must deploy southwest of Serbia through a narrow geographic corridor at Neum in Bosnia and Herzegovina to bypass a NATO air blockade.

Figures 3.1–3.6 show, respectively, the deployment range, available Russian forces, movement plan, airlift assumptions, sealift assumptions, and ground movement assumptions.

Figure 3.1
Serbia Scenario Deployment Range

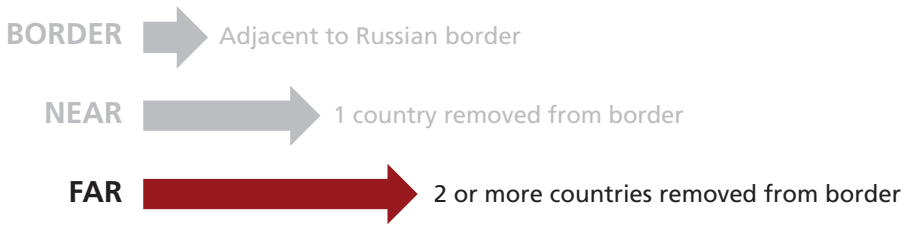
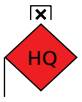


Figure 3.2
Russian Forces in the Serbia Scenario

GROUND FORCES



Joint Task Force Command
76th Air Assault Division
Headquarters Element

VDV (Airborne)

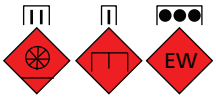
- 4,100 contract personnel
- 36 BMD-4M IFVs
- 20 BTR-MDM APCs
- 9 2S9 Nona mortars
- 12 D-30 howitzers
- 9 BTR-ZD APCs
- 6 BMD-1KSh IFVs
- 8 1V119 Reostat command vehicles
- 2 R-149 command vehicles
- 2 R-440 communications vehicles
- 20 support vehicles (heavy reliance on host-nation support)

MR Brigade
(Collective Treaty Security Organization)

- 1,800 contract personnel
- 60 BTR-82AM APCs
- 6 BTR-80 APCs
- 15 MT-LBs* armored vehicles
- 12 2B9 Vasilek gun mortars
- 4 BRDM-2 patrol vehicles
- 6x ZSU 2S6M Tunguskas*
- 30 support vehicles (heavy reliance on host-nation support)

* Tracked and would require transport augmentation

SUPPORT



- MTO battalion (-)
- 800 personnel
- 300 vehicles
- Engineer company
- Electronic warfare detachment

Spetsnaz

- 1,200 contract personnel
- 25 BTR-80 APCs
- 12 Tigr/Lynx (light jeeps)
- 10 Ural Typhoon-Us
- 5 support vehicles (heavy reliance on host-nation support)

Total personnel	7,900
Combat vehicles	242
Support vehicles	355
Helicopters	0

Justification: Deploy a self-sustaining joint combat team capable of semi-independent operations in an allied country against violent protestors. Send 76th VDV Division personnel but one BTG of associated equipment.

Figure 3.3
Serbia Scenario Movement Plan

General steps of the joint task force's movement by air and sea to Serbia, as well as its movement en route to the objective area at Belgrade and Niš

Deployment occurs in two waves: VDV and Spetsnaz units deploy completely by air, followed by major combat forces arriving by both sea (equipment) and air (personnel)

Additional deployment activities not shown include the following:

- Task organization (generating and assembling the joint task force)
- Reception, staging, onward movement, and integration preparation prior to unit arrivals
- Marshaling area preparation prior to unit arrivals

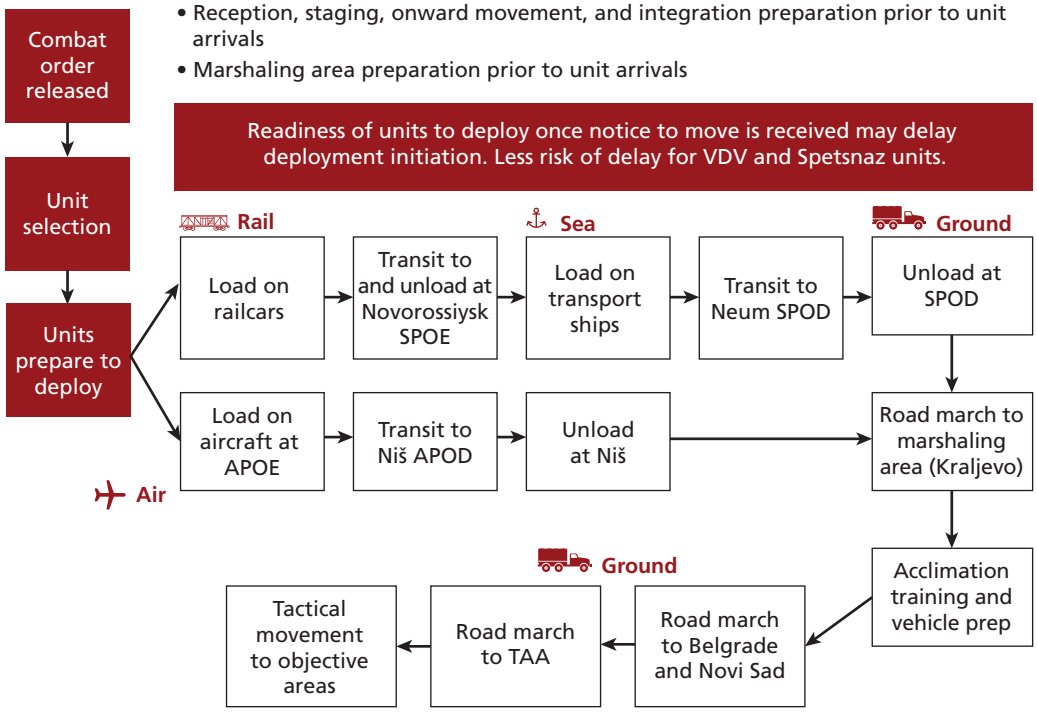


Figure 3.4
Serbia Scenario Airlift Assumptions

Assumption set 1 (affecting air asset demand in first wave: Spetsnaz)

- Russia sends equipment by military aircraft marked for Syrian humanitarian aid to Niš.
- Russia selects flight legs that allow for maximum cargo capacity.

Il-76

Number of sorties (equipment)	% of available fleet*
14	23

or

An-124

Number of sorties (equipment)	% of available fleet*
6	100

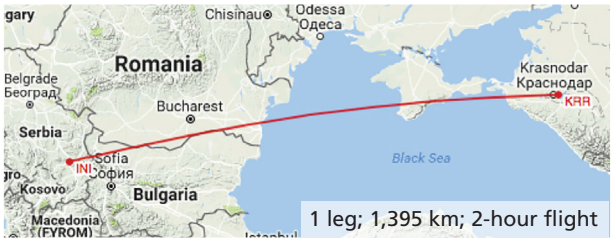
Sortie calculations are based on weight and do not include class supplies. Class supplies and loading factors will increase the number of sorties required.
* Assumes 60 of 110 Il-76s or 6 of 9 An-124s are available.

Platform	Number of sorties (personnel)	% of available fleet
Large aircraft	9	Not relevant**
Small aircraft	24	

**Russia has used civilian and other government aircraft to transport troops to Syria, in addition to its own military assets. Availability of transport for personnel is not as limiting a factor as it is for heavy lift assets

Assumption set 2 (affecting closure times in first wave: Spetsnaz):

- Because of covert insertion, denial of NATO overflight is not an issue.
- Flight and closure times are not stressing factors.
- Maximum 4 aircraft on the ground, 24-hour operations.
- Only Il-76s and heavy aircraft are used.



Assumption set 3 (affecting air asset demand in second wave: VDV)

Russia selects flight legs that allow for maximum cargo capacity

Il-76

Number of sorties (equipment)	% of available fleet*
26	23

or

An-124

Number of sorties (equipment)	% of available fleet*
11	100

Sortie calculations are based on weight and do not include class supplies. Class supplies and loading factors will increase the number of sorties required.
* Assumes 60 of 110 Il-76s or 6 of 9 An-124s are available.

Platform	Number of sorties (personnel)	% of available fleet
Large aircraft	30	Not relevant, though small aircraft demand may stress available assets**
Small aircraft	83	

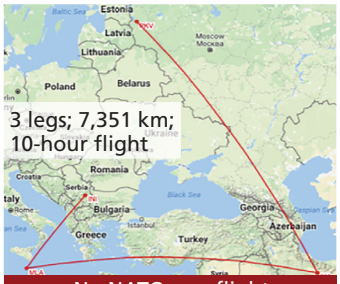
**Russia has used civilian and other government aircraft to transport troops to Syria, in addition to its own military assets. Availability of transport for personnel is not as limiting a factor as it is for heavy lift assets

Assumption set 4 (two cases):

1. Turkey allows overflight despite NATO refusal.
2. All NATO overflight is denied (Iraq allows).

Initial load at APOE takes 1 day. Assume all fly the same route at the same time (for simplicity). Malta allows stopping and overflight.

Mix of 6 An-124 and 12 Il-76s for equipment, large aircraft for personnel. Each airfield has a maximum of 4 aircraft on the ground and 24-hour operations (~27-hour clearance at each leg for refueling).



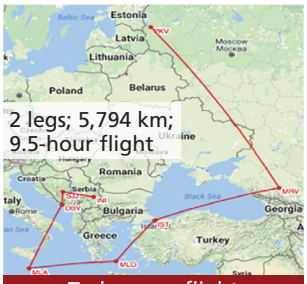


Figure 3.5
Serbia Scenario Sealift Assumptions

Assumption set 1 (affecting sea asset demand in third wave: MR BTGs)

- MR BTGs and MTO (-) send equipment and class supplies by sea and personnel by air.
- Without access to NATO seaport, Russia must use Bosnia-Herzegovina's ocean access at Neum, which does not have a sufficient port, cargo handling, or capacity for larger commercial vessels. Russia must therefore conduct beach landings with organic assets, complicated by steep terrain.
- Because of limited inventory, each available *Ropucha* and *Tapir/Alligator* must make multiple round-trips to close the force.

Ropucha-class landing ship (U.S. European Command photo)

Options to move 450 vehicles and initial class supplies

Project 1171 (*Tapir/Alligator*)

Number of sorties	% of available fleet*
~10	333

or

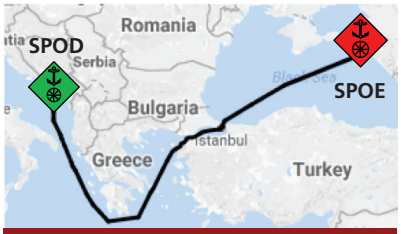
Project 775 (*Ropucha*)

Number of sorties	% of available fleet*
~17	243

* Assumes 7 of 15 *Ropuchas* and 3 of 4 *Tapir/Alligators* are available.

Assumption set 2 (affecting sea closure time in third wave: MR BTGs)

- Turkey allows passage through Bosporus Strait, allowing use of SPOE at Novorossiysk.
- 24-hour load time at SPOE, 36-hour unload time at SPOD, and travel at 18 knots.
- Maximum of 3 vessels can load and unload at a time.
- Russia uses all 3 available *Tapir/Alligators* (2 round trips each), 3 *Ropuchas* (2 round trips each), and remaining 4 *Ropuchas* (1 trip each).



Novorossiysk
2,640 km (15+ days to closure)

Figure 3.6
Serbia Scenario Ground Movement Assumptions

Assumption set 1 (administrative ground movement)

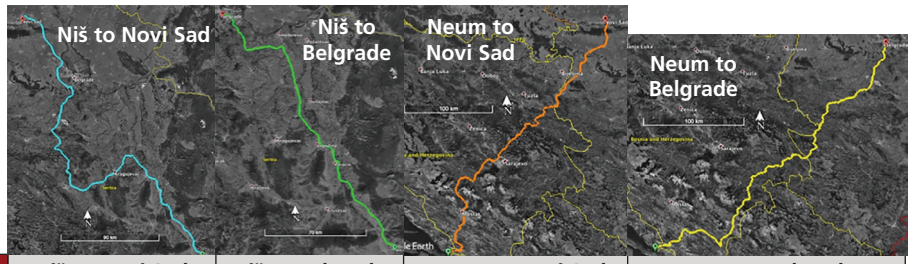
50 m vehicle spacing, 50 km/hr, and 20% time spent halted for rest/maintenance/security.

Assumption set 2

VDV forces move before MR BTGs

Potential delays to optimal unit travel times may be caused by harassment or attacks, weather, terrain, movement at night as opposed to day, or vehicle breakdowns.

The latter is more likely if units' deployment to this stage sacrificed post-sealift vehicle maintenance to expedite onward movement.



Convoy route	Niš to Novi Sad (417 km)	Niš to Belgrade (239 km)	Neum to Novi Sad (482 km)	Neum to Belgrade (484 km)
Wave	VDV	VDV	MR BTGs	MR BTGs
Vehicles*	62	62	225	225
Column length (km)**	3.72	3.72	13.50	13.50
Completion time (hours)	10.5	6.0	13.9	14.0

*Assumes effort split evenly between both. As shown in the maps, columns try to avoid similar routes to reduce road congestion

**Assumes file formation along single road. Multiple roads may be taken, but they must be secured. Coordination of convoy would also be more difficult.

Key Points from the Serbia Scenario

This scenario highlights the limits imposed by international restrictions. In this case, Serbia is a short geographic distance from Russia's Western Military District, but it is effectively nested among NATO countries. Using the narrow pathway from Neum would be practical only for a small force, not for a major deployment. Russia could try to bully its way into Serbia, but it would risk triggering a NATO Article 5 contingency. Absent sufficient access, even such a near deployment becomes quite challenging for Russian ground forces.

CHAPTER FOUR

Syria Scenario

When we developed this scenario in early 2017, Russia was continuing to support the Syrian armed forces' operations against various insurgent and terrorist groups. For the notional 2023 scenario, we selected an internal deployment location within Syria (Palmyra) that was far enough away from the main Russian bases in the northwest of the country to stress Russian capabilities. Notionally, a Russian Spetsnaz unit is encircled by a large, well-armed insurgent force within and around Palmyra. Syrian ground combat units supporting the Spetsnaz unit are incapable of breaking through to rescue or reinforce the trapped Russian soldiers. Russian ground forces in Syria are otherwise engaged in vital security missions, so Russia deploys a brigade combat team to its airfield at Khmeimim, its seaport at Latakia, and then over ground to Palmyra.

This is one of two *far* scenarios. Figures 4.1–4.6 show, respectively, the deployment range, available Russian forces, movement plan, airlift assumptions, sealift assumptions, and ground movement assumptions.

Figure 4.1
Syria Scenario Deployment Range

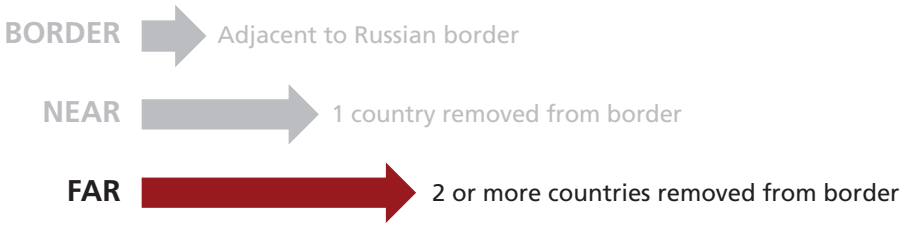
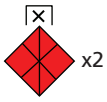


Figure 4.2
Russian Forces in the Syria Scenario

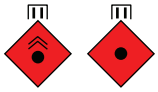
GROUND FORCES

Joint Task Force Command
27th MR Brigade and brigade headquarters element



2 MR BTGs, each with

- 50 BTR-82/82A APCs
- 8 120-mm mortars
- 10 T-90A main battle tanks
- 2 2S6M1 (SA-19) air defense vehicles
- Organic sustainment



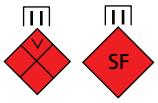
Brigade artillery group with

- Artillery reconnaissance element
- Cannon battalion (attached) with 18 towed 2A65 152-mm howitzers
- MRL battalion with 18 Tornado-Gs
- 2 2S6M1 (SA-19) air defense vehicles
- Organic sustainment

AIR

Joint Air Wing

- Rotary-wing attack aviation in country
- Unmanned systems: Forpost and Orlan-10



Airborne Forces

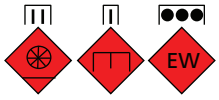
Air assault battalion

- 32 BMD-4M IFVs
- 2 BTR-MDM APCs
- Organic sustainment

Spetsnaz element

- 3 companies
- 1 communications company
- 7 BTR-80 APCs
- 3 Tigrs (light jeeps)
- 3 Tayfun-Us (MRAPs)

SUPPORT



Other combat support and sustainment elements

- Engineer company
- MTO battalion
  - 408 vehicles
  - 1,190 tons of dry supplies
  - 680 tons of liquids
  - Additional food, fuel, and ammunition
- Electronic warfare detachment

Total personnel	4,666
Combat vehicles	211
Support vehicles	~500
Helicopters	20

NOTE: MRAP = mine-resistant, ambush-protected (vehicle).

Figure 4.3
Syria Scenario Movement Plan

General steps of the joint task force's movement by air and sea to Syria, as well as en route to the objective area at Palmyra

Two waves of deployment: VDV and Spetsnaz units completely by air, followed by major combat forces arriving by both sea (equipment) and air (personnel).

Additional deployment activities not shown include the following:

- Task organization (generating and assembling the joint task force)
- Reception, staging, onward movement, and integration preparation prior to unit arrivals
- Marshaling area preparation prior to unit arrivals

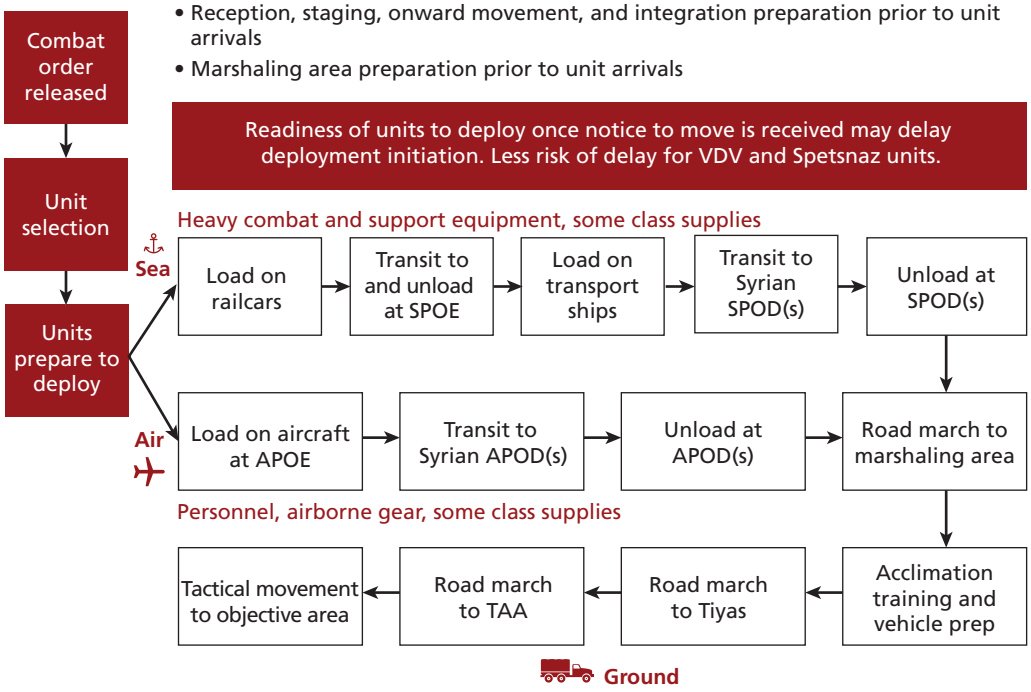


Figure 4.4
Syria Scenario Airlift Assumptions

Assumption set 1 (initial ground force deployment)

- VDV and Spetsnaz move personnel, equipment, and some class supplies by air.
- Loading aircraft at APOE takes 1 day.
- Airlift for VDV, Spetsnaz, and aviation assets and personnel uses Khmeimim Air Base only as APOD, with estimated maximum 4 aircraft on the ground at a time and 24-hour operations.
- Turkey allows overflight.

Closure time of initial wave (VDV and Spetsnaz equipment and personnel): 3–4 days after unit is ready to deploy

Assets to Lift	Equipment*	Personnel
VDV sorties	12 Il-76s or 5 An-124s	3 large or 7 small transport aircraft
Spetsnaz sorties	5 Il-76s or 2 An-124s	2 large or 5 small transport aircraft
Sortie totals	17 Il-76s or 7 An-124s	5 large or 11 small troop transport equivalents
% of available fleet**	28% of Il-76s 117% of An-124s	Not relevant: Availability for personnel not a limiting factor***

* Sortie calculations are based on weight and do not include class supplies. Class supplies and loading factors increase the number of sorties required.

** Assumes 60 of 110 Il-76s or 6 of 9 An-124s are available.

*** Russia has used civilian and other government aircraft to transport troops to Syria, in addition to its own military assets. Availability of transport for personnel is not as limiting a factor as it is for heavy lift assets

Assets to Lift	Personnel
27th MR Brigade (-) sorties	24 large troop transport aircraft (Il-76 equivalent) or 63 small (An-24 equivalent) troop transport aircraft
% of available fleet	Not relevant: Availability for personnel not a limiting factor

Assumption set 2 (follow-on ground force deployment)

- Follow-on units' equipment and some class supplies move by sea. All personnel and some class supplies move by air.
- Loading aircraft at APOE takes 1 day.
- Airlift for 27th MR Brigade (-) and support unit personnel uses Latakia Air Base only as APOD, with estimated maximum 4 aircraft on the ground at a time.
- Turkey allows overflight.

Closure time of initial wave (VDV and Spetsnaz equipment and personnel): 3–4 days after unit is ready to deploy

Figure 4.5
Syria Scenario Sealift Assumptions

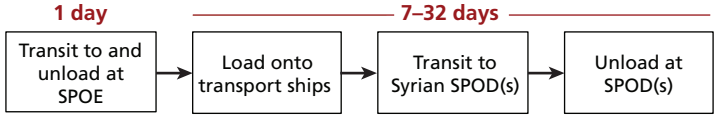
Assumption set 1 (sea asset demand in second wave)
Second-wave forces—27th MR Brigade (-) and support units—transport all equipment and some class supplies by sea. Northern and Baltic fleets have diverted transport assets to assist. Deployment includes both organic and nonmilitary cargo vessels, particularly roll-on/roll-off ships.

Total Cargo	808 vehicles, class supplies
SPOE	Novoroslesexport
Sorties*	~30 *Tapirs/Alligators* or ~60 *Ropuchas* or 3–4 nonmilitary vessels
% of available assets*	1,000% of *Tapirs/Alligators*, 857% of *Ropuchas*; less stressing for nonmilitary assets**

* Assumes military vessels are not used for class supplies; using nonmilitary vessels for this purpose in parallel would not be a time stress factor.

**Assumes that 3 or 4 total *Tapirs/Alligators* and 7 of 15 *Ropuchas* are available.

Assumption set 2 (closure times of second wave)
- Rail unloading at SPOE takes 1 day for initial arrival.
- Military vessels can travel at 18 knots; nonmilitary at 10 knots.
- Both Latakia and Tartus SPODs are used to alleviate backup. All deployment ports can accommodate 4 medium **or** 2 large roll-on/roll-off vessels at a time.



Total round-trip steam time (including loading and unloading)

Military vessels used for vehicles; nonmilitary vessels used for class supplies	32+ days (4 round trips/vessel)
Nonmilitary vessels used for vehicles and class supplies	7+ days

Figure 4.6
Syria Scenario Ground Movement Assumptions

Administrative Movement to Tiyas TAA

Convoy Route	Khmeimim to Tiyas (260 km)	Tartus to Tiyas (195 km) OR	Latakia to Tiyas (277 km)
Wave	VDV+ Spetsnaz	27th MR Brigade (-) + support	
Vehicles	68	808	
Column length* (km)	4.0	48.5	
Completion time (hours)	6.6	5.9	7.9
Assumptions	50 m vehicle spacing at 50 km/h; 20% time spent stopped for rest/maintenance		

Assumption set 1
- Unopposed, faster administrative ground movement to Tiyas TAA.
- No anticipated terrain or weather delays for ground or air units.
- Requires preestablished forward logistics base at Tiyas Airfield (T-4).

Assumption set 2
VDV/Spetsnaz move prior to second-wave force to establish reconnaissance and other preparatory activities in Tiyas.

Tactical Movement to Tiyas TAA

Convoy Route	VDV + Spetsnaz	27th MR Brigade (-) + support
Vehicles	68	808
Column length* (km)	6.1	72.7
Completion time (hours)	2.8	5.0
Assumptions	75 m vehicle spacing at 30 km/hr; 20% time spent stopped for rest/maintenance/security	

Assumption set 1
- Deliberate, slower tactical ground movement from Tiyas to Palmyra.
- No anticipated terrain or weather delays for ground or air units.

Assumption set 2
VDV/Spetsnaz move prior to second-wave force to establish reconnaissance and other preparatory activities in Palmyra.

* Assumes formation along single road. Parallel road to Tiyas would cut time, decrease column length. Other options are stagger and diamond techniques if road width allows.

Delays may be caused by harassment, attacks, weather, terrain, movement at night, or vehicle breakdowns (more likely if post-sealift vehicle maintenance is sacrificed to expedite onward movement).

Key Points from the Syria Scenario

Even with a fairly robust basing system and existing forces in theater, deployment from Russia into theater and then into combat proves challenging. Airlifting forces into Russian bases on Syrian soil is fairly easy, if time-consuming. Dropping those forces near the objective area from aircraft would be a viable alternative, but airdropped forces would have less available combat power than forces deployed by sea and air into ports of debarkation, assembled, and moved forward over ground.

CHAPTER FIVE

Venezuela Scenario

In this *far* scenario, the Venezuelan government requests Russian assistance in putting down increasingly violent protests in Caracas, and Venezuela is on the verge of collapse. Russia deploys a joint task force of 7,000 personnel in the form of a motorized infantry brigade and a light naval squadron. The primary threats to the task force are armed gangs and large civilian protests that might include armed instigators. Figures 5.1–5.6 show, respectively, the deployment distance, available Russian forces, movement plan, airlift assumptions, sealift assumptions, and ground movement assumptions.

Figure 5.1
Venezuela Scenario Deployment Range

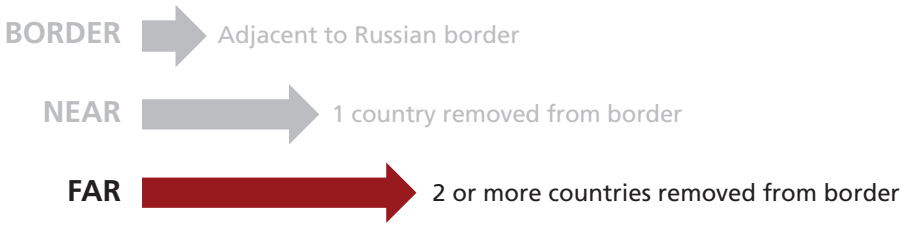


Figure 5.2
Russian Forces in the Venezuela Scenario

INFANTRY

- 75 BTR-82A APCs
- 6 BRDM-2 reconnaissance vehicles
- 16 2B9 Vasilek mortars
- 2 SA-10 batteries + support
- Airfield logistics battalion

VDV (AIRBORNE)

- 1 airborne battalion
- 12 BMD-4M IFVs
- 6 BTR-MDM APCs
- 3 2S9 Nona-S mortars
- 3 BTR-ZD APCs
- 6 support vehicles

SPETSNAZ

- 1 Spetsnaz detachment
- 10 BTR-80 APCs
- 4 Tigrs (light jeeps)
- 4 Taifun MRAPs

NAVAL

- 1 guided missile cruiser
- 1 guided missile frigate
- 1 seagoing rescue tug
- Material-technical support point naval logistical repair battalion

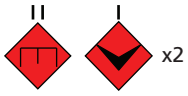
NAVAL INFANTRY

- 0.5 battalions of Naval Infantry
- 10 BTR-82 APCs
- 4 2S9 Nona-S mortars

SPECIAL PARAMILITARY POLICE

- 1 OMON detachment
- 25 BTR-80 APCs
- 10 Taifun MRAPs
- 10 Tigrs (light jeeps)
- 25 Ural-4320 trucks

SUPPORT



- 1 engineer battalion with 168 support vehicles
- 2 UAV companies with 4 Granat-1s, 26 Zastavas, and 5 Orlan-10s
- Camcopter Shybel-100

Total personnel	7,000
Combat vehicles	194
Support vehicles	203
Helicopters	3

Justification: Light, wheeled force with standardized equipment for deployment at global range in a dense urban environment

Figure 5.3
Venezuela Scenario Movement Plan

General steps of the joint task force's movement by air and sea to Venezuela, as well as en route to the objective area at Caracas

Deployment occurs in two waves: VDV and Spetsnaz units completely by air, followed by major combat forces arriving by both sea (equipment) and air (personnel)

Additional deployment activities not shown include the following:

- Task organization (generating and assembling the joint task force)
- Reception, staging, onward movement, and integration preparation prior to unit arrivals
- Marshaling area preparation prior to unit arrivals

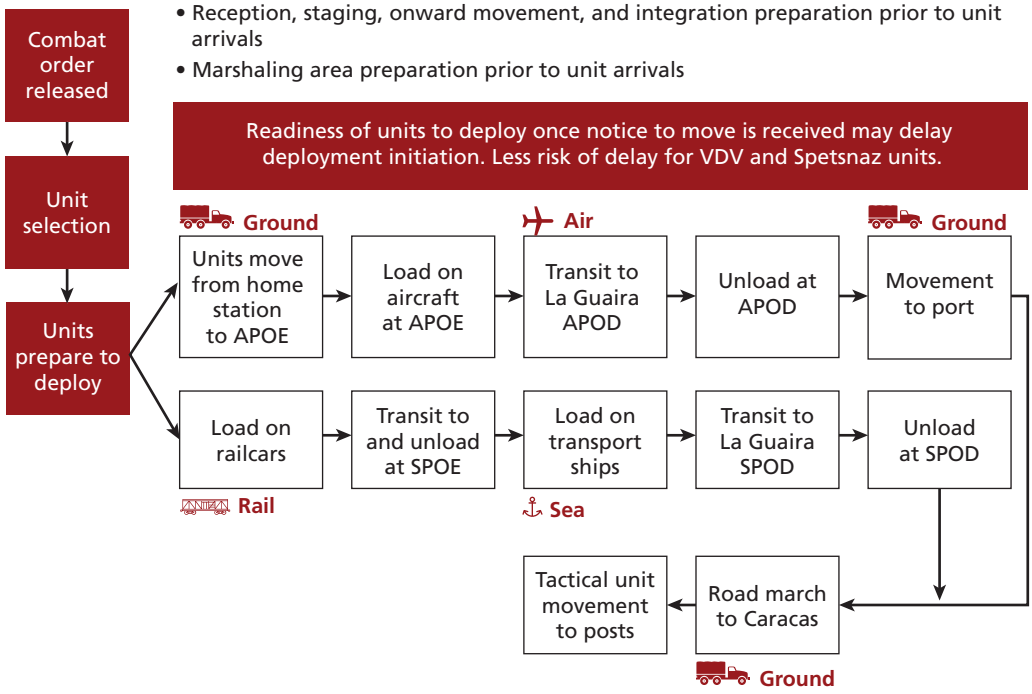


Figure 5.4
Venezuela Scenario Airlift Assumptions

Assumption set 1 (air asset demand in initial wave)
Airborne BTG, Spetsnaz, and Naval Infantry move personnel, equipment, and some class supplies by air. The major impact on air asset demand is the leg from Casablanca to Venezuela; long range reduces the amount of cargo that the aircraft can carry.

Equipment	Platform	Max. cargo at 6,600 km (metric tons)	Airborne BTG sorties*	Special operations forces sorties*	Naval Infantry sorties*	% of available fleet
	Il-76	26	16.3	10.5	7.2	57
	An-124	95	4.4	2.9	2.0	155
Personnel	**Platform**		**Sortie requirements for personnel**			
	Large aircraft		4.6	2.9	1.8	Not relevant: Availability for personnel not a limiting factor
	Small aircraft		13.0	8.0	5.0	

*Sortie calculations are based on weight and do not include class supplies. Class supplies and loading factors increase the number of sorties required.

Assumption set 2 (affecting closure times of initial wave)

- Overflight and basing access are critical because in-air refueling capabilities are inadequate.
- Initial load at APOE takes 1 day.
- All fly the same route at the same time (for simplicity).
- Each airfield in leg has maximum 4 aircraft on the ground at a time (~15-hour clearance at each leg for refueling if using 6 An-124s and 12 Il-76s for equipment, large aircraft for personnel).

2.8 days (3.5 if Il-76 only)	3.6 days (4.5 if Il-76 only)	5.6 days (7 if Il-76 only)

Total: (APOE + flight + stop + APOD) to close

Figure 5.5
Venezuela Scenario Sealift Assumptions

Assumption set 1 (affecting sea asset demand in second wave)

- MR BTGs and OMON units send all equipment and class supplies by sea.
- Personnel travel by air using nonmilitary transport.
- Organic support vessels (*Tapir*/*Alligator*, *Ropucha*) cannot be used over such long distances. Nonmilitary or commercial may be required; roll-on/roll-off vessels bought for Syria Express (*Alexandr Tkachenko* and suspected MV *Novorossiysk*) may be used, but enduring high rates of usage may have degraded their readiness.
- Limiting factor is not space but time to acquire nonmilitary vessels and steam time. Hiring commercial vessels may take several days to weeks, depending on the company.

Assumption set 2 (affecting sea asset closure rates in second wave)

- Novorossiysk and Murmansk ports are preferred as SPOEs. Murmansk determined to be less politically risky in case of denied access to Bosporus Strait.
- Loading at SPOE takes 1 day, unloading at SPOD takes 2 days each.

Total round-trip steam time (including loading and unloading)

Military vessels used for vehicles; nonmilitary vessels used for class supplies	NA
Nonmilitary vessels used for vehicles and class supplies	16–18 days

Murmansk
9,870 km; 16 days

Novorossiysk
11,230 km; 18 days

Figure 5.6
Venezuela Scenario Ground Movement Assumptions

Tactical Movement to Forward Operating Bases

Convoy Route	Area to Forward Operating Base Fort Tiuna (25 km)	Maiquetia Marshaling Area to Francisco de Miranda Air Base (24 km)	Maiquetia Marshaling Area to Forward Operating Base Fort Tiuna (24 km)	Maiquetia Marshaling Area to Francisco de Miranda Air Base (24 km)
Wave	Airborne, special operations forces, Naval Infantry	Airborne, special operations forces, Naval Infantry	MR, special paramilitary police	MR, special paramilitary police
Vehicles*	38	39	94	95
Column length (km)	3.4	3.5	8.5	8.5
Completion time (hours)	1.2	1.1	1.3	1.3

*Assumes weight of effort split evenly between both.

Assumption set 1

- Deliberate, slower tactical ground movement
- 75m vehicle spacing, traveling at 30km/hr, 20% of time spent halted for rest/maintenance/ security measures

Assumption set 2
VDV/Spetsnaz move prior to second-wave force to establish reconnaissance and other preparatory activities in forward operating bases.

Potential delays to optimal unit travel times may be caused by harassment or attacks, weather, terrain, movement at night as opposed to day, or vehicle breakdowns. The latter is more likely if units' deployment to this stage sacrificed post-sealift maintenance on vehicles to expedite onward movement.

Key Points from the Venezuela Scenario

This is the longest notional scenario that we considered. Air movement requires two interim stops for each sortie, while sealift would require at least 16 days of sailing time. Both these movements are highly dependent on in-transit movement authorities and refueling options and, therefore, diplomatic largesse. The absence of a network of alliances and international bases significantly increases the likelihood that this deployment would suffer setbacks or delays. And the lack of long-range sustainment would greatly complicate Russia's ability to keep its ground forces fueled, fed, watered, and sufficiently supplied with ammunition over time, particularly as Caracas suffers from acute shortages of various classes of supplies.

CHAPTER SIX

Ukraine "+1" Scenario

We developed and studied—but did not analyze—this notional scenario as part of our collective assessment. This is a large-scale Russian military invasion of Ukraine involving approximately 130,000 Russian joint force personnel, centering on an RGF task force of approximately 83,000 soldiers built around the 20th Combined Arms Army and the 8th Combined Arms Army.

Figures 6.1–6.6 show, respectively, the deployment distance, available Russian forces, operational phase 1, operational phase 2, timeline of units ready to deploy, and rail assumptions.

Figure 6.1
Ukraine Scenario Deployment Range

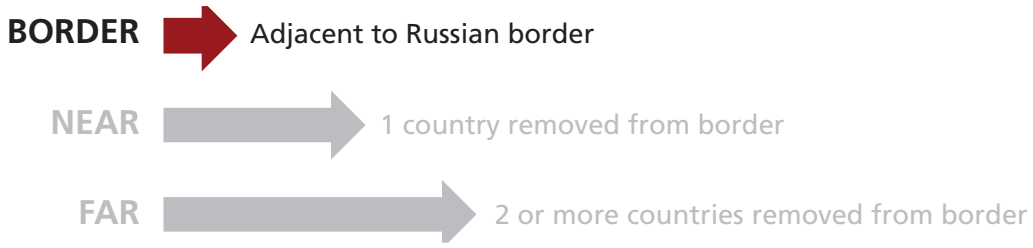
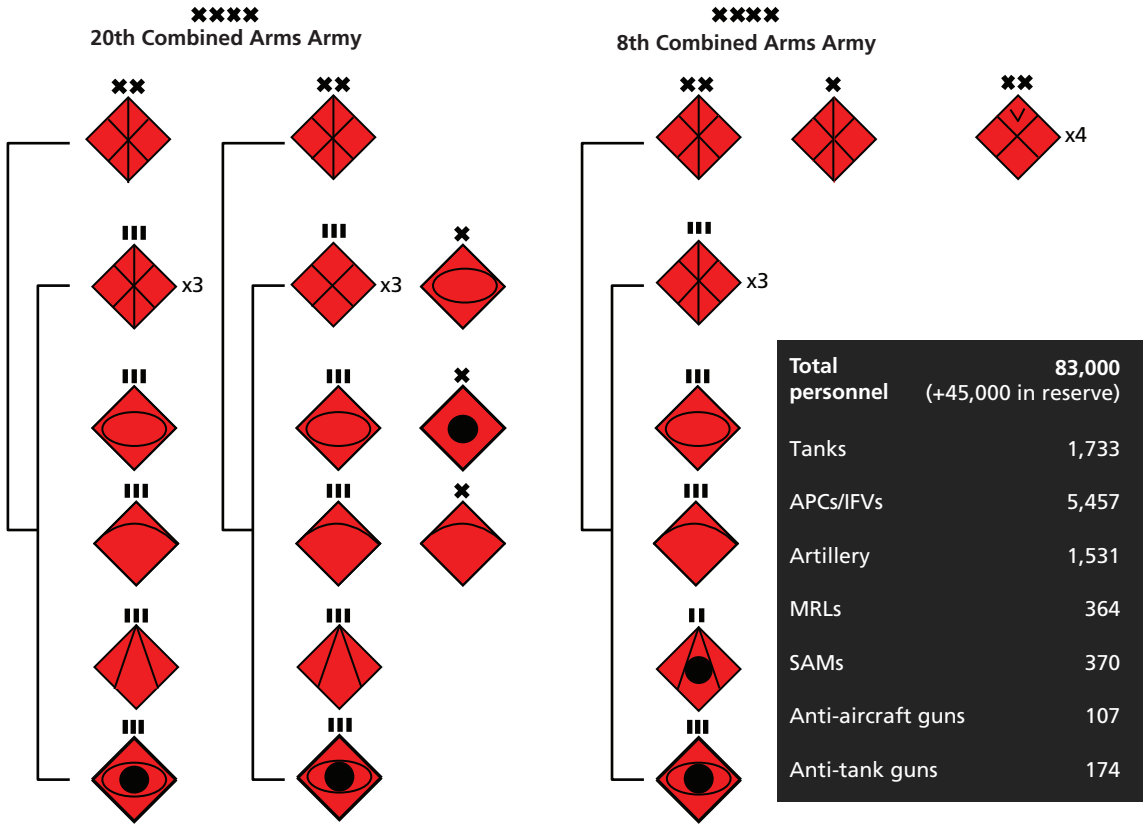


Figure 6.2
Russian Forces in the Ukraine Scenario



Total personnel	**83,000** (+45,000 in reserve)
Tanks	1,733
APCs/IFVs	5,457
Artillery	1,531
MRLs	364
SAMs	370
Anti-aircraft guns	107
Anti-tank guns	174

NOTE: Reflects authorized table of organization and equipment for units; Russia may not deploy all equipment.

Figure 6.3
Ukraine Scenario, Operational Phase 1

- Western Military District units assemble near Belgorod.
- Southern Military District units assemble near Taganrog and Novocherkassk.
- Initial special operations and Spetsnaz units inserted.

Russian units operate in their overt and traditional capacity, with their traditional logistics requirements.

- Will be too large and complex to be a covert "hybrid" conflict
- Some hybrid activity anticipated

Land movement
Russian asset
Assembly area

Figure 6.4
Ukraine Scenario, Operational Phase 2

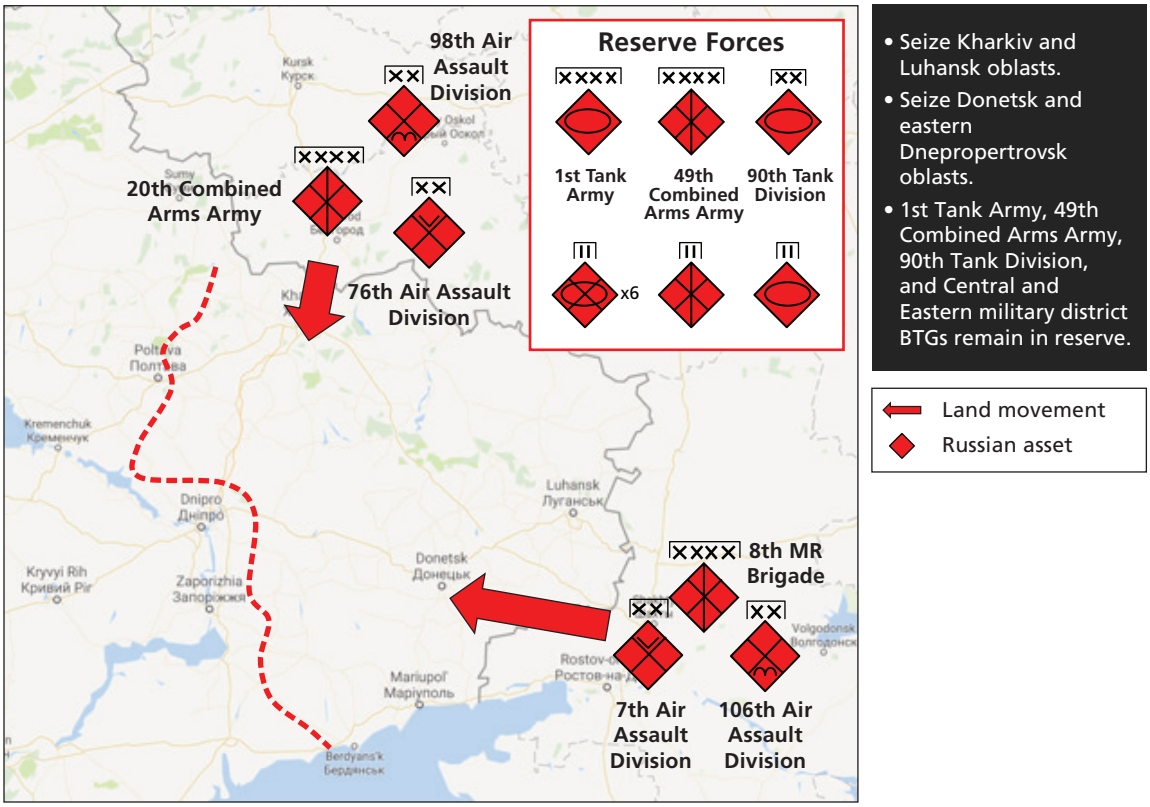


Figure 6.5
Timeline of Units Ready to Deploy in the Ukraine Scenario

Units	Ready to deploy within 10 days	Ready to deploy in 10–20 days	Ready to deploy in 30 days
Western Military District	x8 x4 SF x2 x2	x2 x2 x2 x2 x2	
Southern Military District	x2 x2	x3 x2 x2 SOF x3	
Central Military District			x4
Eastern Military District			x2
Total combat vehicles	**4,155 tracked 1,600 wheeled**	**2,393 tracked 983 wheeled**	**506 tracked 243 wheeled**

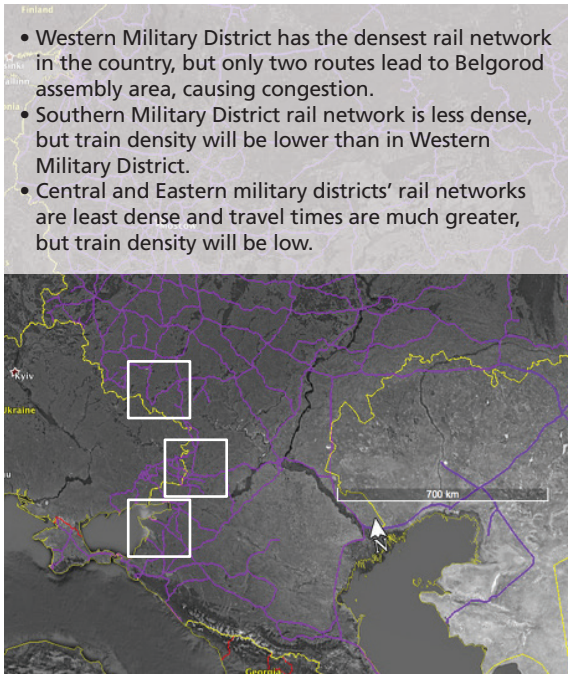
- Operations do not have a rolling start. Russia builds forces along the border with Ukraine before entering.
  - Because Russia chooses the time/place of the operation, it can deploy half of its initial combat force from the Western and Southern military districts within 10 days of order and the other half within 20 days of order.
  - Phased deployment will allow local units to train for combat missions along the border with Ukraine before entering.
- Due to mixed manning in Russian units, most will not deploy in the same wave (e.g., 1–2 regiments in a division for wave 1, the remainder in wave 2), with a few exceptions for high-readiness units like the VDV, which deploy at once.

Figure 6.6
Ukraine Scenario Rail Assumptions

Assumption set 1 (rail asset demand)
The military is given priority order for railcars and trains per Resolution No. 761 of October 7, 1998.

Readiness Wave	Military District	Railcars/ Trains (all vehicles)	Railcars/Trains (tracked vehicles only)
Within 10 days	Western	2,411 / 43	1,963 / 35
	Southern	811 / 15	573 / 11
	Central	402 / 8	257 / 5
	TOTAL	**3,624 / 66**	**2,859 / 51**
Within 10–20 days	Western	1,388 / 25	1,003 / 18
	Southern	910 / 16	707 / 13
	TOTAL	**2,298 / 41**	**1,710 / 31**
Within 30 days	Central	292 / 6	203 / 4
	Southern	205 / 4	159 / 4
	TOTAL	**497 / 10**	**362 / 8**

Calculations consider combat vehicles only. Support vehicles (which often number at least 1:1 in force packages), class supplies, and personnel would double or triple these estimates. Many assets can and should be road-marched to alleviate congestion and railcar shortages, however.



Assumption set 2 (rail closure)
- The military is given priority movement across Russia's rail network.
- Adequate crews and equipment are available for loading and unloading.
- Closure of first two waves will take **at least 28–30 days**

Key Points from the Ukraine Scenario

This is a large-scale operation that would take weeks, if not months, to fully develop and execute. There is little chance that Russia would be able to achieve operational surprise without undertaking significant hybrid warfare activities and warning observers. However, in many ways, this is a deployment sweet spot for the RGF: It is adjacent to Russia's Western and Southern military districts, where the core of its assets are located; support can travel across relatively flat terrain; it requires no transit across or around a hostile state; and it depends on relatively few joint transportation assets. If this is an ideal case, then the timeline should help inform future analyses of prospective Russian combat operations in Eastern Europe.

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By the time it invaded Crimea in 2014, Russia seemed to have regained a significant portion of the military power it lost after the fall of the Soviet Union, reemerging as a perceived threat to democracy. But how capable is Russia of deploying and sustaining ground combat forces farther from its borders?

An analysis of notional ground deployment scenarios constructed from real-world, open-source data, along with a review of historical cases spanning the Soviet and post-Soviet eras, reveals strengths and limitations of Russia's military infrastructure. In fact, despite Russia's status as a reemerging global military power, its ground force deployment capability is strong only near its western border and within range of its air defenses. Although it poses a credible threat to Eastern Europe, its ability to deploy ground combat units drops off sharply as geographic distance increases. Limited forces and transportation assets, a lack of international support, and an insufficient ability to sustain its deployed forces also prevent Russia from regaining its Soviet-era deployment capacity.

This report presents additional detail on the notional scenarios that informed the analysis of Russian ground force deployment capabilities. The scenarios range from border deployments to long-range overseas deployments and were designed to test the limits of Russia's capacity to deploy forces and equipment. They were not necessarily chosen to reflect the probability or political feasibility of an actual Russian deployment.

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