

A large crowd of people, many wearing head coverings, is gathered in a narrow street. The background shows significant destruction with rubble and damaged buildings, suggesting a conflict zone. The text is overlaid on this image.

# Wargaming Urban Conflict

Georgetown University Wargaming Society

27 Feb 24

David Burden

Bath Spa University

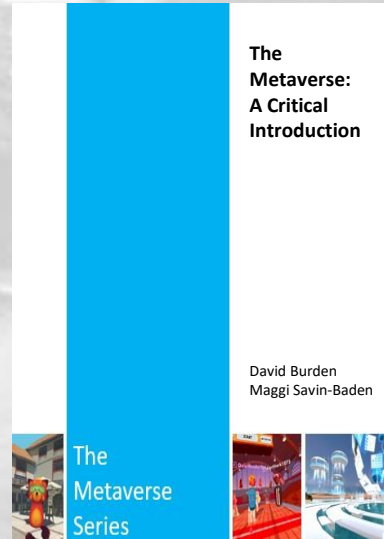
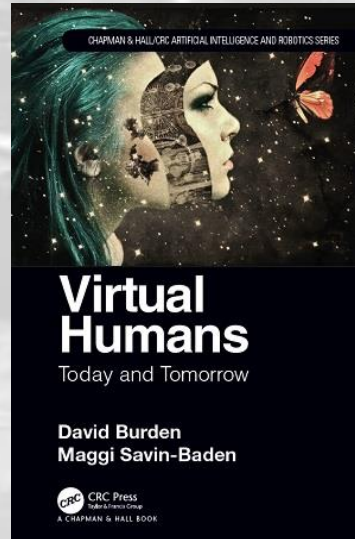
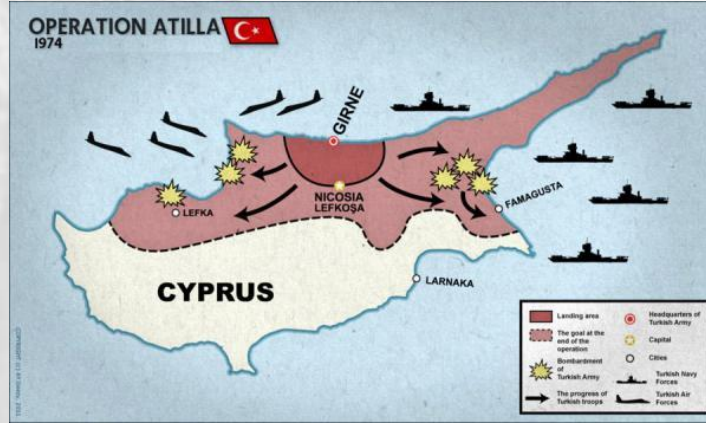
[david@burden.name](mailto:david@burden.name)

# Urban Wargaming



- PhD & Urban Issues Overview
- Urban Wargames
- The Battles of Hue
- My Urban Wargames
- Civilian Populations
- Gaza and the Ukraine

# A Bit About Me





### Automated Social Media Synthetic Wrap

Exercise: Urban\_Lion\_1Bde\_v1.0

Turn:

All

Npc: All

From: dd/mm/yyyy --:--

To: dd/mm/yyyy --:--

Current Turn

All To Date

Back To Exercise

- @Terenti M - 08/08/2018 02:46:03  
Lol why are we boarding up windows its not like itll help when the drop the bomb on us
- @Terenti M - 08/08/2018 02:49:00  
My ham radio mate still getting messages out via G7DXS in the UK
- @Darja Kukk - 08/08/2018 02:52:46  
Smoke drifting across the street - grenades?
- @Jeremias Waara - 08/08/2018 03:01:49  
as in resistor planted the bomb, detonated it & got back safely to Latvia Shit
- @Terenti M - 08/08/2018 03:03:05  
Demo forming at Heleny - keep the troops out!
- @Eleonora Coun - 08/08/2018 03:05:40  
Landline gone totally - no dial tone or broadband for hours now - just 3G
- @Terenti M - 08/08/2018 03:17:52  
Trying to sleep but convoy just keeps trucking past my house
- @Darja Kukk - 08/08/2018 03:25:05  
Bunch of Bothnians busy studying a manhole on Vietsiloudontie
- @Jeremias Waara - 08/08/2018 03:30:24  
Syalow is a total empty. All the bars are shut. I feel for the people it must be soul destroying.
- @Terenti M - 08/08/2018 03:33:56

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[https://twitter.com/Stu\\_Lyle/status/1621836848443150337/](https://twitter.com/Stu_Lyle/status/1621836848443150337/)



# Increasing Interest



**MEGACITIES AND THE UNITED STATES ARMY**  
PREPARING FOR A COMPLEX AND UNCERTAIN FUTURE

MARKETDATA | February 1, 2013

### UK Army conducts Urban Warrior 5 virtual simulation exercise

Soldiers from the British Army 2nd Battalion the Royal Welsh (2 R WELSH) have conducted a virtual simulation exercise, code-named Urban Warrior 5, at the Land Warfare Centre in Warminster, UK.

Research Article  
The RUSJ Journal

### The British Army and Mass in Urban Warfare

Nick Reynolds

### URBAN WARFARE PROJECT

In the future, I can say with very high degrees of confidence, the American Army is probably going to be fighting in urban areas. We need to man, organize, train and equip the force for operators in urban areas, highly dense urban areas, and that's a different context, we've not organized for that right now.

Gen. Mark A. Milley, Chief of Staff of the Army

Chief of Staff of the Army, Strategic Studies Group  
Megacities Concept Team:  
Colonel Matt Hertz, Lieutenant Colonel Robert Brown, Major Nicholas Melby, Sergeant Major David Hendrix, Sergeant Major Richard Russo and Mr. Michael Bailey

### URBAN WARFARE PROJECT PODCAST

Urban Warfare Project  
The Urban Warfare Project's Christmas Wish List, 2021 Edition

SHARE SUBSCRIBE DESCRIPTION

00:00 / 1:00

"A timely, important, and exceptional examination of the extraordinary challenges of urban warfare."  
-GENERAL DAVID PETERNIUS (U.S. Army, Ret.)

### Understanding URBAN WARFARE

Liam Collins  
John Spencer

### CITY FIGHTS

SELECTED HISTORIES OF URBAN COMBAT FROM WORLD WAR II TO VIETNAM

### SHARP CORNERS: URBAN OPERATIONS AT CENTURY'S END

Roger J. Spiller

### BAR

BRITISH ARMY REVIEW  
BAR SPECIAL REPORT WINTER 2018

### Storming the City

U.S. Military in Urban Warfare  
ALEC WAHL

"BRILLIANT" Mike Davis, author of Planet of Slaves

### DAVID KILCULLEN OUT OF THE MOUNTAINS

THE COMING AGE OF THE URBAN GUERRILLA

### BLOOD AND CONCRETE

21<sup>st</sup> Century Conflict in Urban Centers and Megacities

Dave Dilligie, Robert J. Banker, John P. Sullivan, and Alina Keshavara, Editors

A Small Wars Journal Anthology

### URBAN WARFARE

IN THE TWENTY-FIRST CENTURY

ANTHONY KING

### BATTLE OF THE CITIES

URBAN WARFARE ON THE EASTERN FRONT

ANTHONY TUCKER-JONES

### HEAVY MATTER

Urban Operations' Density of Challenges

RUSSELL W. GLENN

EFW  
EASTERN FRONT WARFARE

### FORESTS OF STEEL

Modern City Combat From the War in Vietnam to the Battle for Iraq

Edited by Colonel John Antal, U.S. Army (Retired) and Lieutenant Colonel Bradley T. Gericks, U.S. Army

A Historical Explorations Book

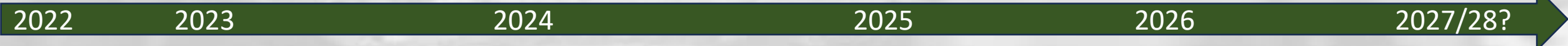
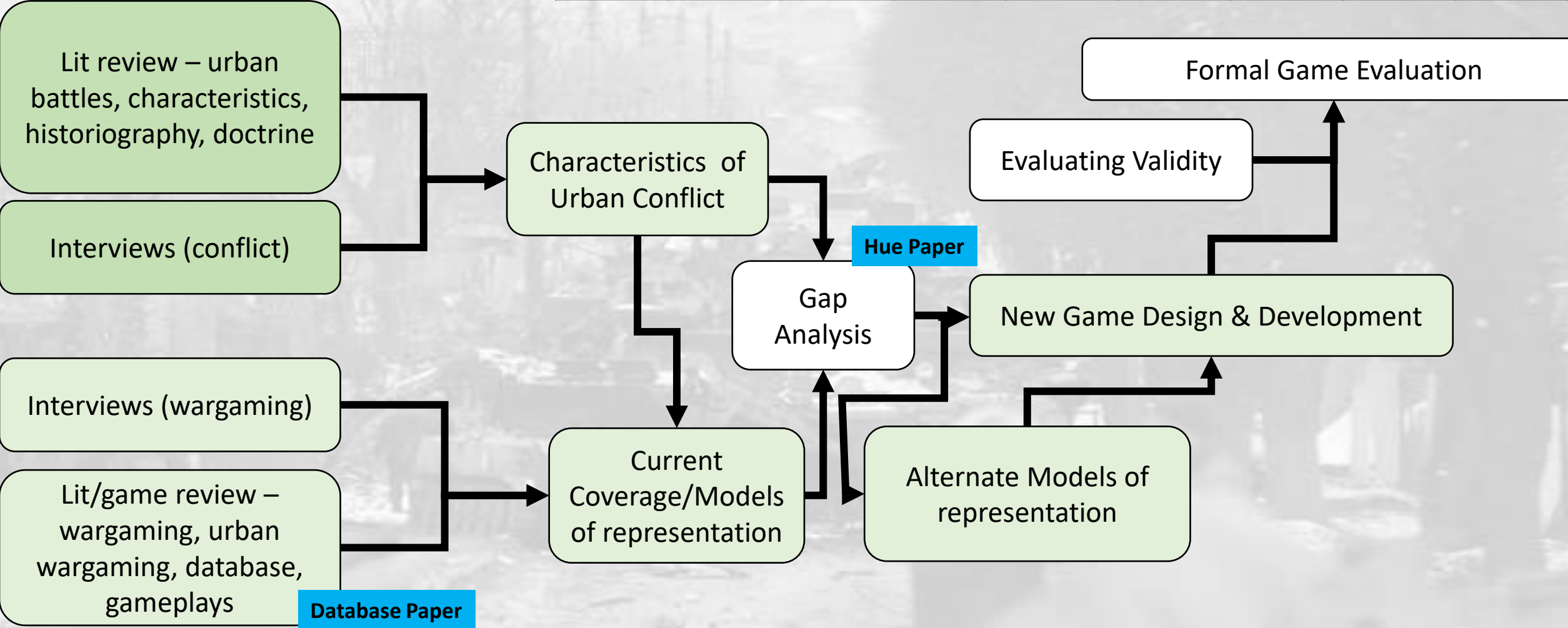
### CONCRETE HELL

URBAN WARFARE FROM STALINGRAD TO IRAQ

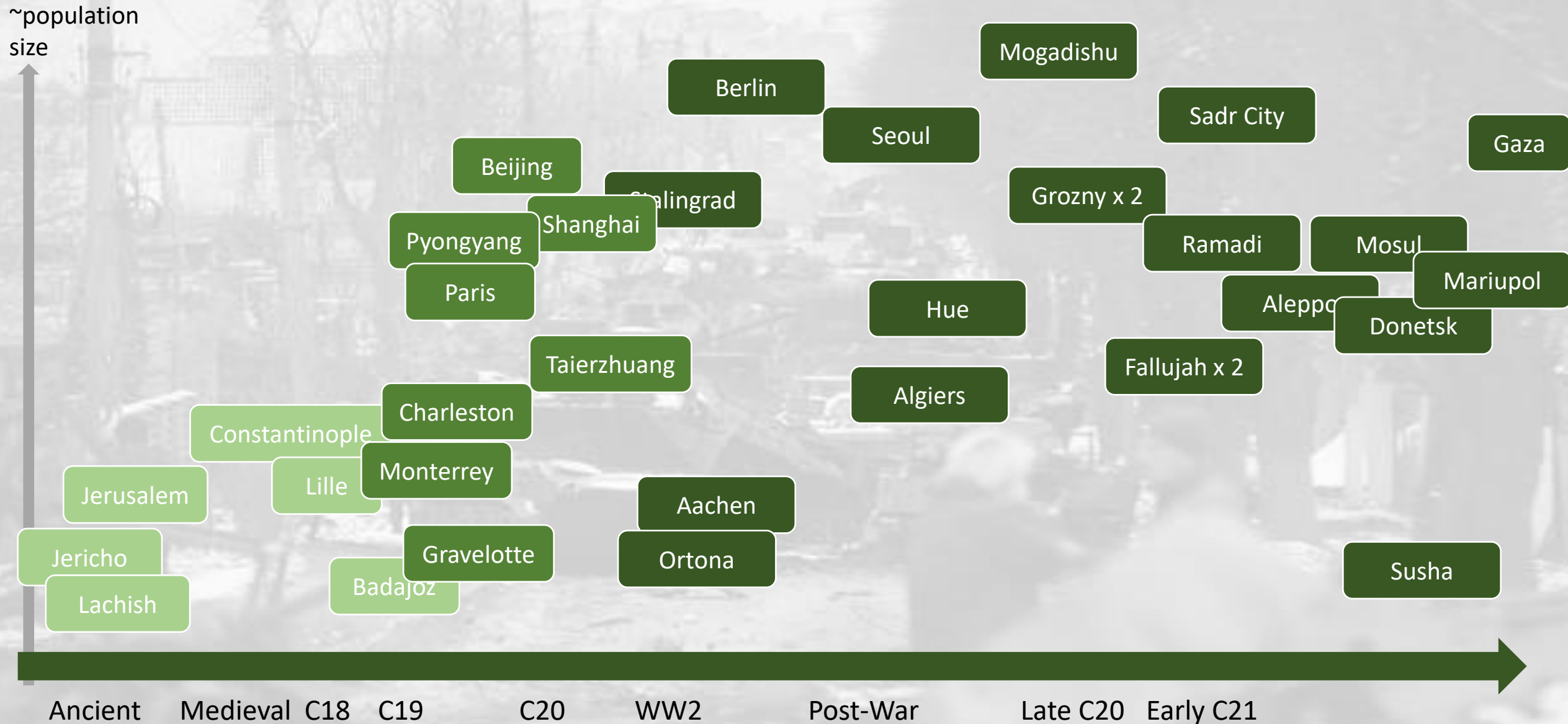
LOUIS A. DIMARCO

2000 2007 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

# PhD Overview



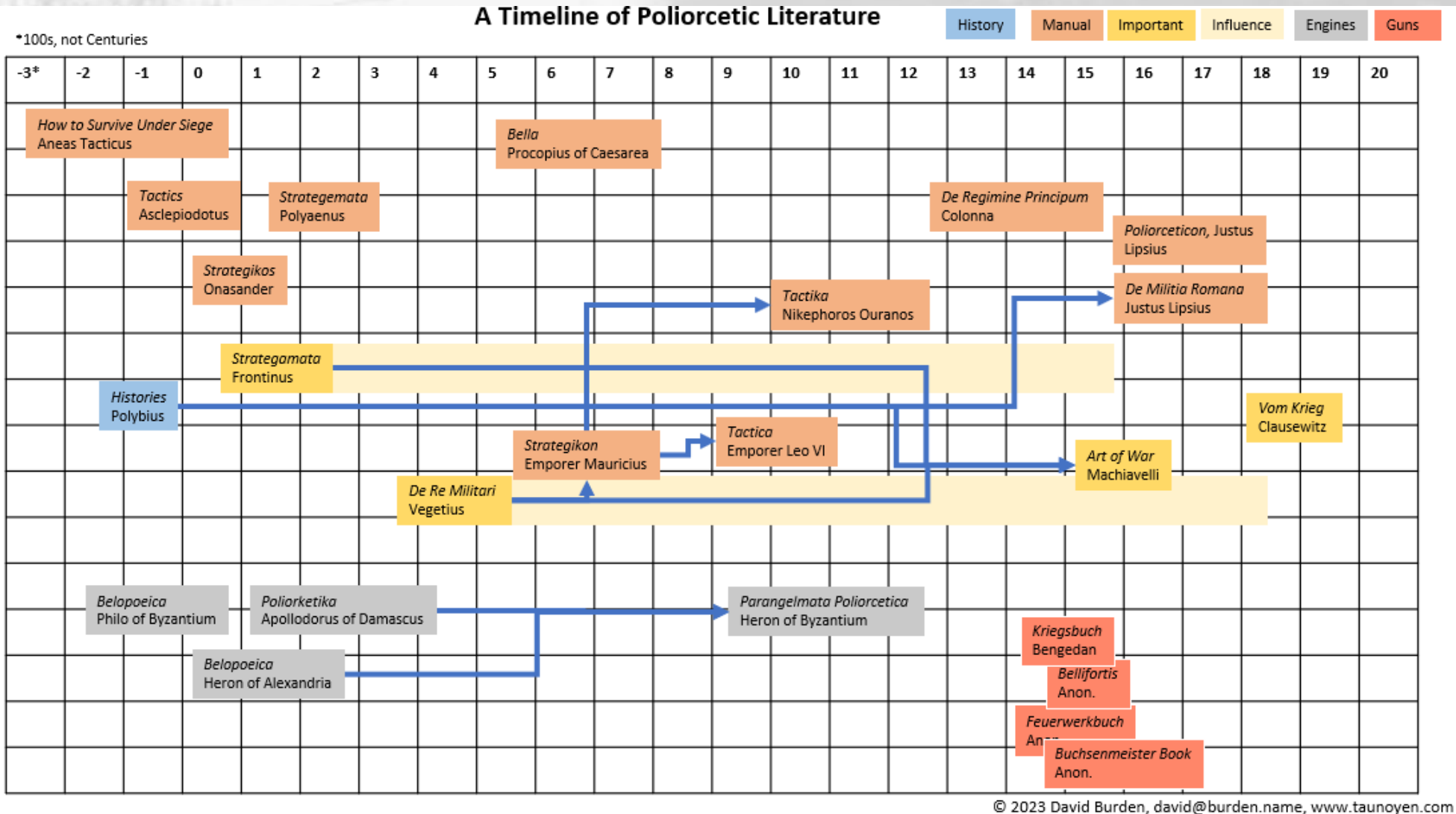
# Example Urban Conflicts



# This is Deep Knowledge



The Mari slab (c. 2500 BCE) - the earliest depiction of urban warfare?



# Urban Triad

**Civilian Population**  
(significant size and density)



**Dense  
Urban  
Terrain**

**Complex, man-made,  
physical terrain**

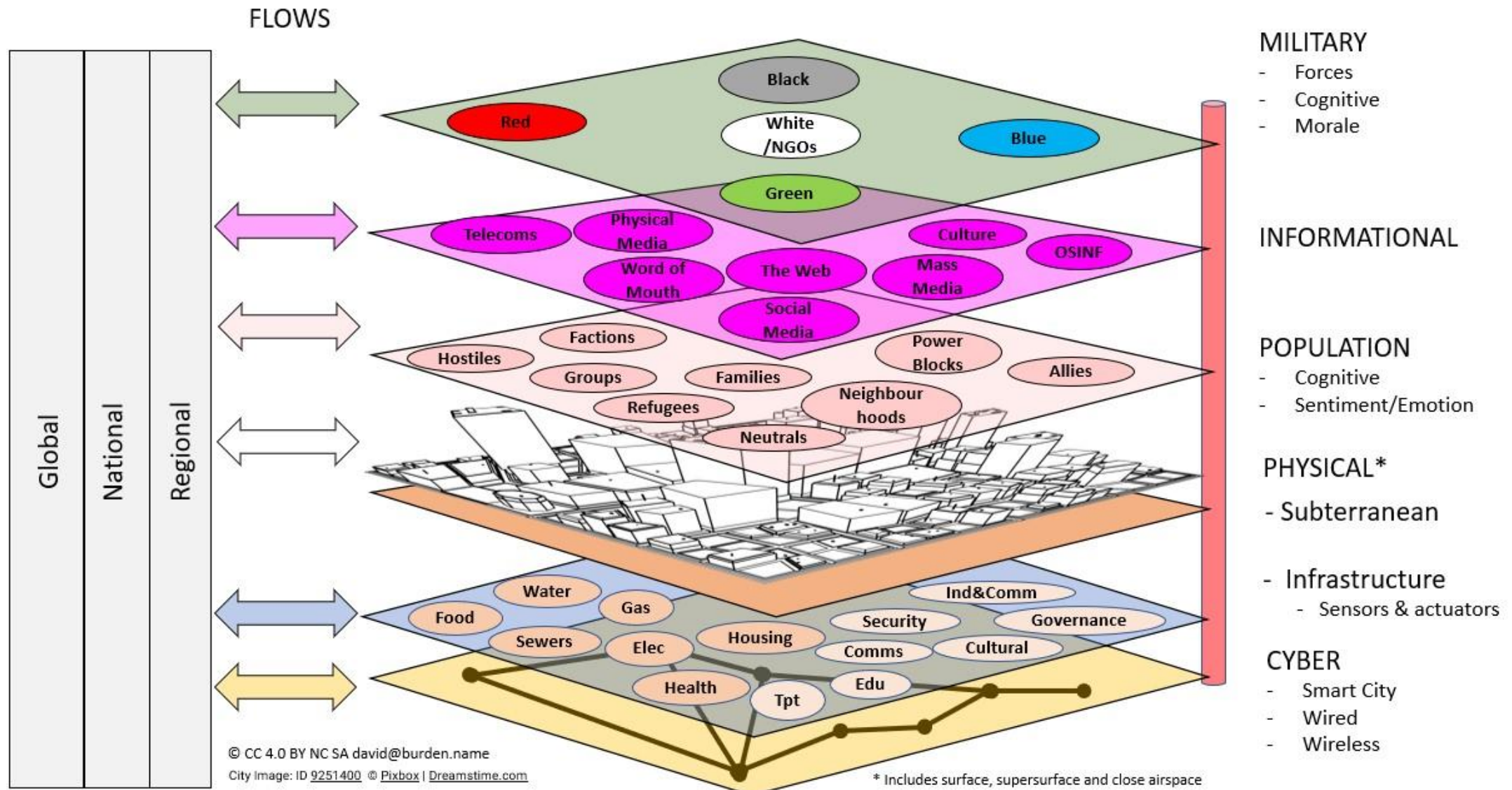
**Infrastructure**

# Key Features of Urban Conflict

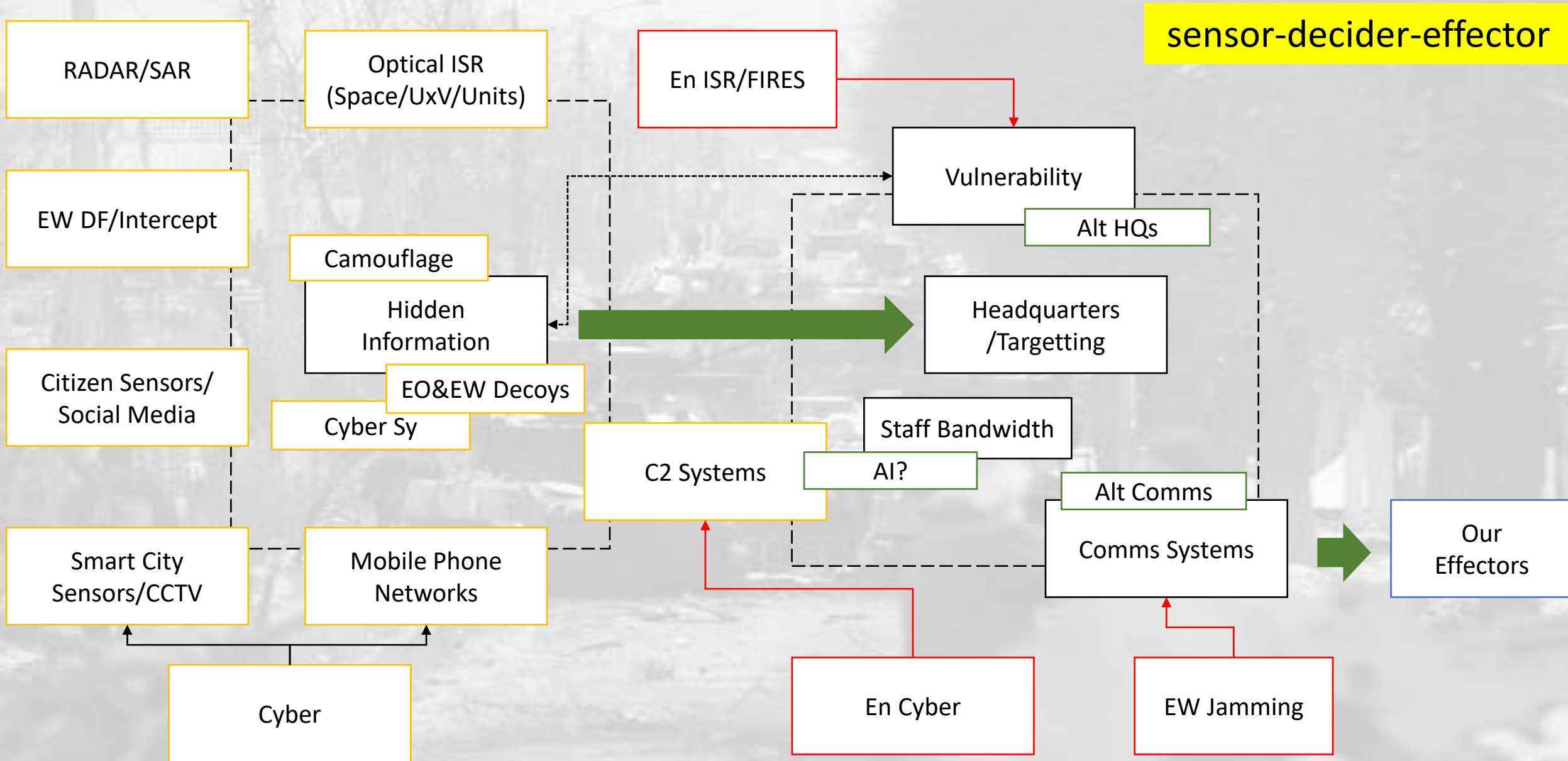
- Urban Break-in [Elliot-Square2005]
- Structures [King2021]
  - ISR Challenges [Dick2018]
  - Manoeuvre challenges [King2021]
  - Subterranean [Jenkins2018]
  - HE & Thermobaric weapons [DiMarco2012]
  - Air and Arty Support [King2021]
  - Communications [Steadman2020]
  - Visualisation [Winton2020]
- Uncrewed Aerial Vehicles (UAVs) [Howcroft2019]
- Uncrewed Ground Vehicles (UGVs) [Bendett2020]
- Complex cyber terrain as well as complex physical terrain (Smart Cities) [Matson2019]
- Electro-Magnetic Environment [Edwards2001]
- Combined Arms [Shiple2013]
- Snipers & Counter-Snipers [MacMillan2020]
- Combat Engineering [Reynolds2021]
- Command, Control [Shiple2013]
- Increased/Different Logistics [Brown2006]
- Asymmetric conflict [MacMillan2020]
- Civilian population [Muhammedally2020]
  - Control, Refugees, Infrastructure
  - Rumour and Influence
  - Livelihood
- Non-State Actors [ICRC2023]
- Political Impact [Winton2020]
- Feral Cities [Norton2020]
- Cities as Flows/Systems [Mahaney2020]
- Cities-Plus [Kilcullen2019]

# Urban Schematic

Draft Urban Conflict Environment Schematic v0.1



# Urban C4ISR/CEMA



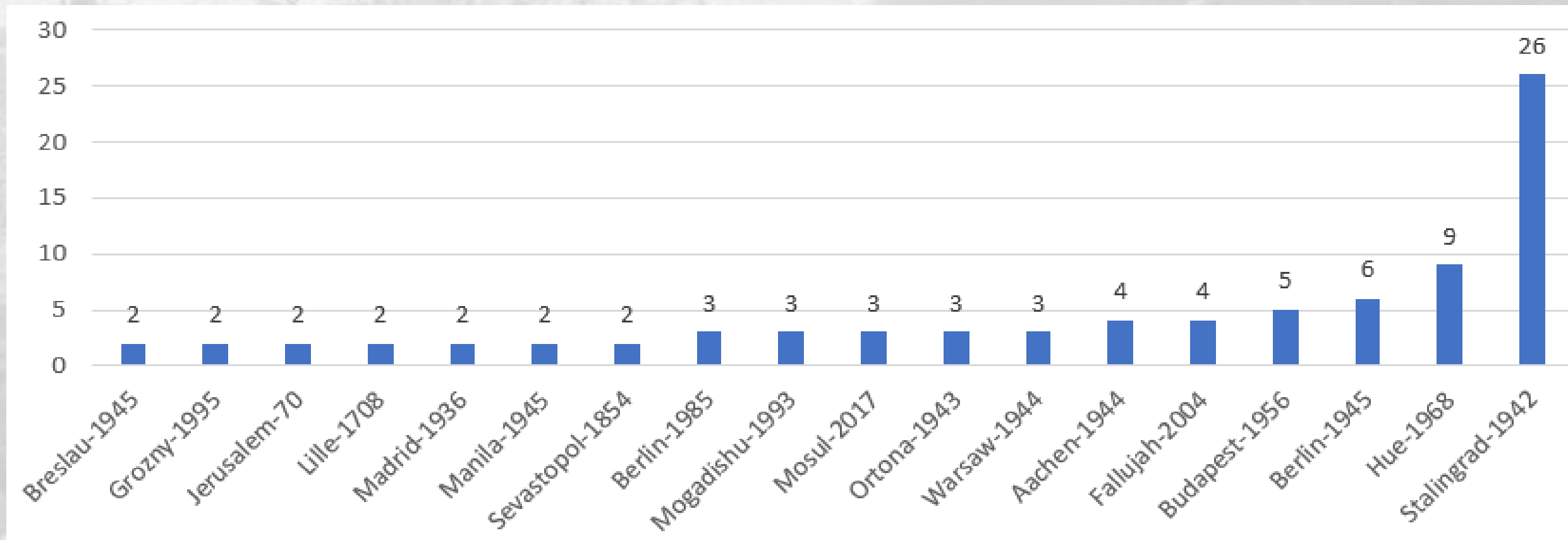


# The Urban Wargames Database

Game	#	Da...	Conflict	Battle	Space...	Pieces	Force	MU	Area	GridSize	PlayTime
142	Festung Breslau 1945	1945	WW2	Breslau	Hexes	Counters	Army?	Bn?	City Plus	~ 30x30 hex	4-6h
143	MaGCK - A Reckoning of Vultures	2020	Modern	Generic	Matrix	na	Faction	Abstract	City		
144	Modern Battles II: Kaliningrad	2017	Modern	Kaliningrad	Hexes	Counters	Div	Bn	City Plus		
145	Modern Battles II: Mosul	2017	Daesh	Mosul	Hexes	Counters	Div	Bn	City Plus		
146	Stalingrad: Verdun on the Volga	1942	WW2	Stalingrad	Area	Counters	Corps?	Regt?	City Plus		
147	This War of Mine	2017	Modern	CivPop	Board	Cards	na	Individ...	Building		45-120 min
148	Urban Operations	2020	Modern	Generic	Hexes	Blocks Miniatures	CoyGp	Squad	City Block	7m	1-6hrs
149	1759: Siege of Quebec	1759	French & I...	Quebec	Area	Counters Cards	Army	Bn	City Plus	~8 areas	30-60 mins
150	Chile '73	1973	Cold War	Santiago	Area	Counters	Faction	Abstract	City Centre	~40 areas	45-90
151	Helsinki 1918	1918	WW1	Russo-Fin...	Hexes	Blocks	Div	Coy	City Plus	300m per hex	
152	Pavlov's House	1942	WW2	Stalingrad	Topo	Counters	Coy?	Squad?	Multi-Level		60-75
153	Stalingrad: Inferno on the Volga	1942	WW2	Stalingrad	Hexes	Blocks	Army	Regt?	City		30-60
154	Storm over Yasuda Auditorium, Universit...	1969	Modern-Ri...	Tokyo	Area	Counters	Faction?	Abstract	City Centre		120-180
155	The Battle for Ramadi	2006	ISIS	Ramadi	Hexes	Counters	Div?	Bn?	City	500m?	60-120
156	War in the Megacity	2025	Modern	Generic	Topo	Counters	Faction	Bde/Bn	City	30 nodes	
157	We Are Coming Nineveh	2017	Daesh	Mosul	Area	Blocks Cards	Div	Bn	City	~40 areas	90
158	ACP164	2100	Modern/SF	Generic	Measured...	Miniatures	Platoon	Individ...	City Block		
159	ASL Module: Fight for Seoul	1950	Korean War	Seoul	Hexes	Counters	Bn?	Squad	City Plus		
160	ASL Module: Red Factories	1942	WW2	Stalingrad	Hexes	Counters	Bn/Coy	Squad	City Centre		180-3600
161	Crossing the Line: Aachen 1944	1944	WW2	Aachen	Hexes	Counters	Corps	Coy/Bn	Wide Area	~500m?	30-600
162	District Command Maracas: Virtualia 2019	2019	Modern	Maracas	Area	Counters	Faction	Abstract	City Plus	~ 12 areas	120

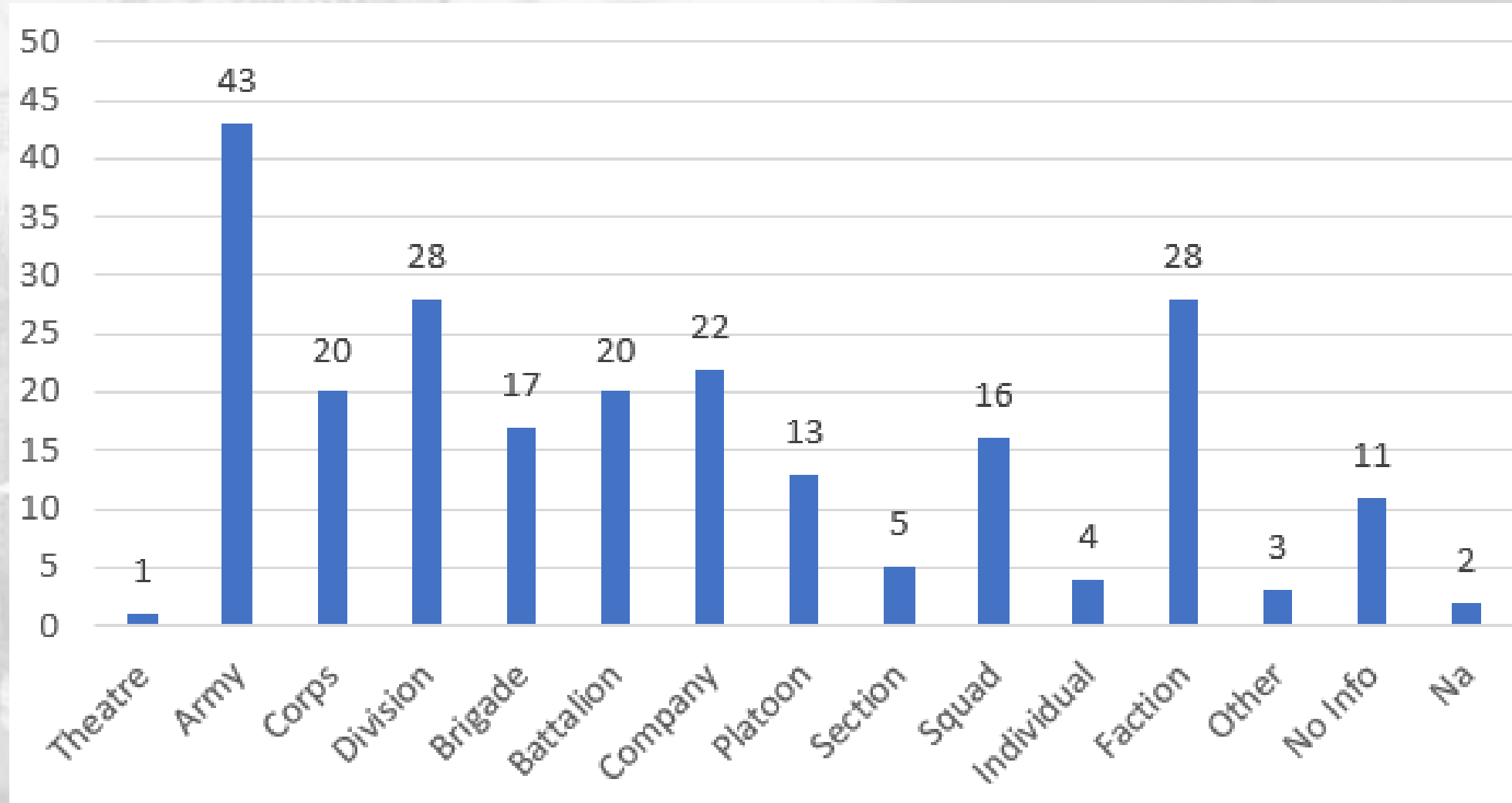
# Database Analysis

Full paper submitted to the MORS Wargaming Journal



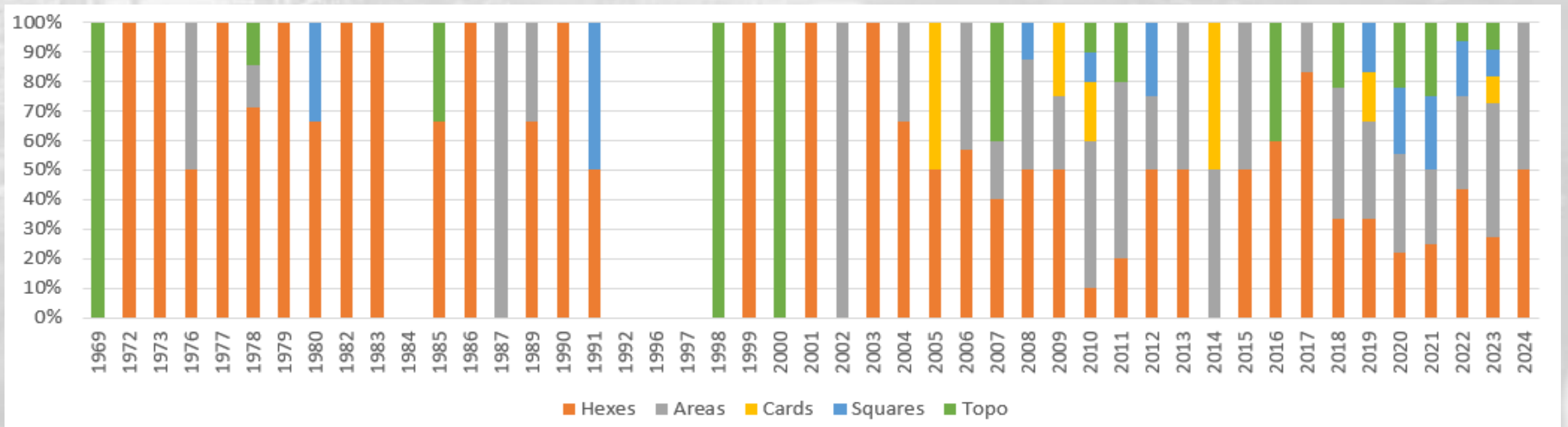
Games per battle, all others have only 1 (n=230)

# Database Analysis



Games per force size

# Database Analysis



Changes in Area Representation

# Database Analysis

	Force (Headquarters)									
MU	Army	Corps	Div	Bde	Bn	Coy	Pl	Sect	Squad	Individual
Army	HQ									
Corps		HQ								
Div	7	1	HQ							
Bde	4			HQ						
Bn	18	13	14	2	HQ					
Coy	2	4	9	10	1	HQ				
Pl			3	3	7	2	HQ			
Section			1	1		2		HQ		
Squad					12	15	6	1	HQ	
Individual						3	6	4	16	4

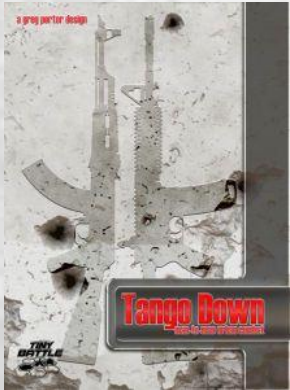
Mapping Force to  
Manoeuvre Unit  
= DOWN-ness

# Exemplar Games – “Tactical”

Section Force  
Indiv. MU

Pl Force  
Ind/FT/Sect MU

Coy Force  
FT/Sect/Pl MU



**Tango Down**  
(Porter/TBP,  
2019)



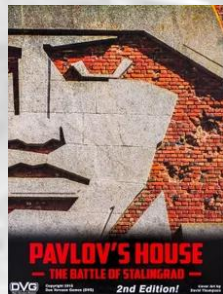
**Shooting  
Daedelus**  
(d’Alessandro,  
2022)



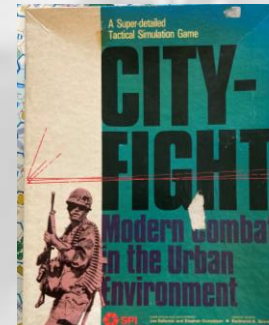
**Take That Street**  
(Farren/Fight  
Club, 2024?)



**Urban Operations**  
(de Peyret/Nuts!,  
2017)



**Pavlov’s House**  
(Thompson/DVG, 2018)



**Cityfight**  
(Balkoski&Donaldson/  
SPI,1979)



**Donestk**  
(Kirk/TBP, 2017)

# Exemplar Games – Grand Tac/Op

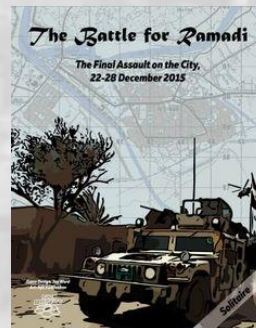
Bn Force  
Sect/Pl/Coy MU

Bde Force  
Pl/Coy/Bn MU

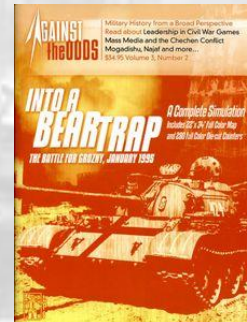
Div Force  
Coy/Bn/Bde MU



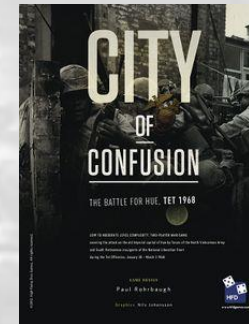
**A Week in Hell**  
(Guenette/Battles, 2010)



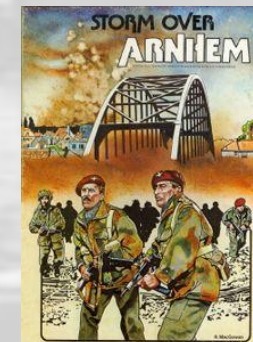
**The Battle for Ramadi**  
(Ward/TBP, 2018)



**Into a Bear Trap**  
(Moore&Rohrbaugh/ATO, 2004)



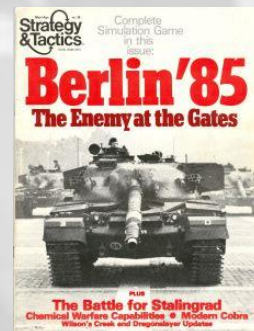
**City of Confusion**  
(Rohrbaugh/HFDG, 2012)



**Storm over Arnhem**  
(Allen/Avalon Hill, 1981)



**QUICK**  
(Train/BTR, 2022)

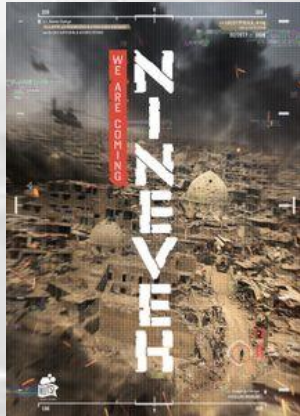


**Berlin '85**  
(Dunnigan/SPI, 1980)

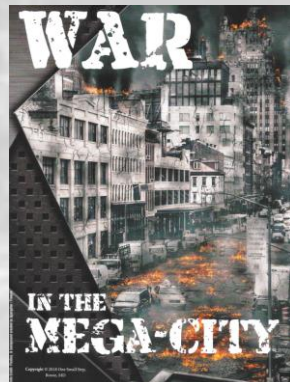
# Exemplar Games – Op/Strategic

Corps Force  
Bn/Bde/Div MU

Theatre  
Bde/Div/Corp MU



**We Are Coming,  
Nineveh**  
(Le Ménahèze et  
al/Nuts!, 2023)



**War in the Mega-City**  
(Miranda/One Small Step, 2018)

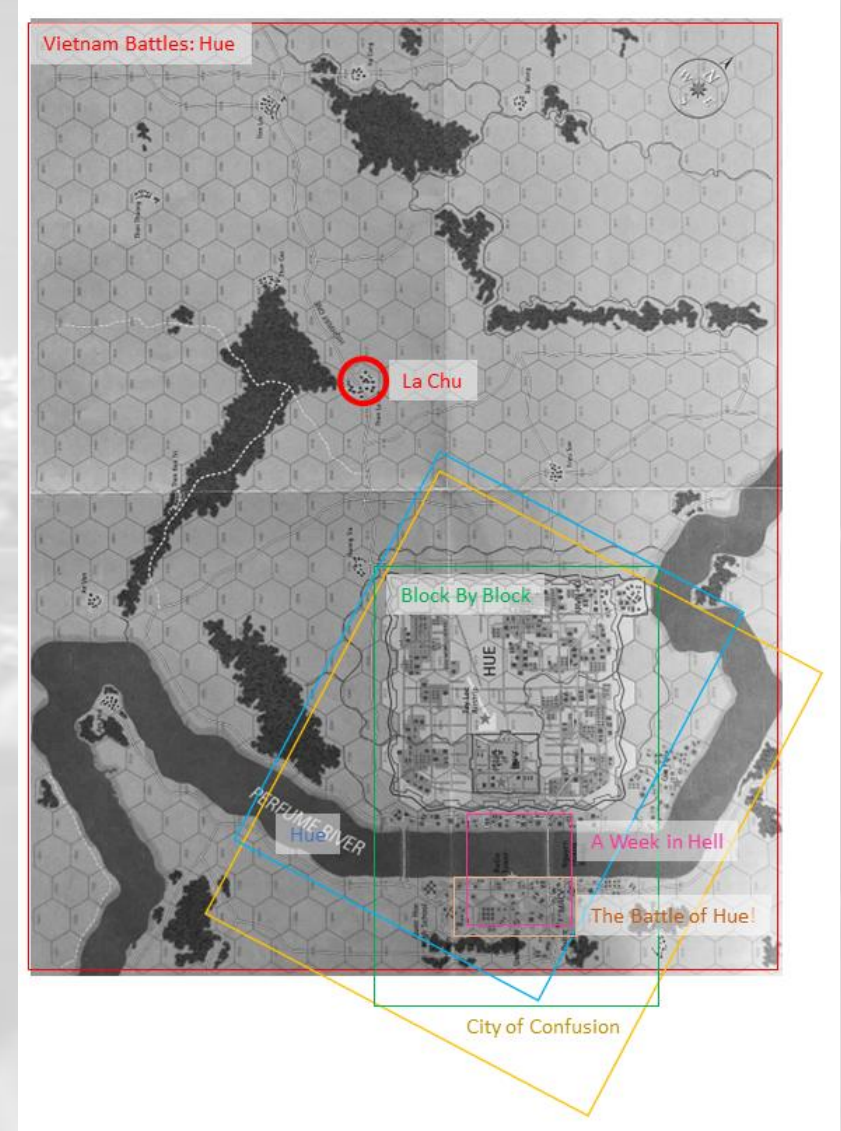
# The Battles of Hue

Table 1: Battle of Hue Wargames

Game	Date	Designer	Publisher	Complexity (/5)	Rating (/10)	Solitaire?
Hue	1973	John Hill	Mayfair	2.43	6.7	N
Vietnam Battles: Hue!	1999	Joseph Miranda	Strategy & Tactics	2.5	5.8	N
A Bloody Business: The Battle of Hue, 1968	2006	Perry Moore, Paul Rohrbaugh	Firefight Games	2.00	8.0	N
A Week in Hell: The Battle of Hue	2010	Laurent Guenette	Battles Magazine	2.41	7.1	Y
City of Confusion: The Battle for Hue	2012	Paul Rohrbaugh	High Flying Dice Games	2.5	6.9	N
'65 Hue City Map Expansion	2016	Mark H. Walker	Flying Pig Games	3.00	7.8	N
ATS: The Fight For Hue	2016	Critical Hit, Inc.	Critical Hit, Inc.	-	9.0	N
The Battle of Hue!	2019	Jay Ward	Tiny Battle Publishing	2.67	6.9	Y
Fields of Fire2	2019	Ben Hull	GMT Games	4.60	8.2	Y
Block by Block	2020	Nicholas Edwards	Modern Warfare Magazine	3.25	6.0	N

Table 2: Key Characteristics of the Hue Wargames

Game	Feature	Space Regulation	Space Scale (per hex or area)	Turn Length	Number of Turns	Resolution
Hue		Hexes	~180m	1 day	12+	Company
Vietnam Battles: Hue!		Hexes	~360m	1 day	24	Company & Battalion
A Week in Hell		Areas	~100m	1 day	7	Platoon
City of Confusion		Areas	~150m	2-3 days	10	Platoon
The Battle of Hue!		Hexes	~100m	¼ day	15	Platoon
Block by Block		Area	~400m	5 days	5	Platoon to Battalion



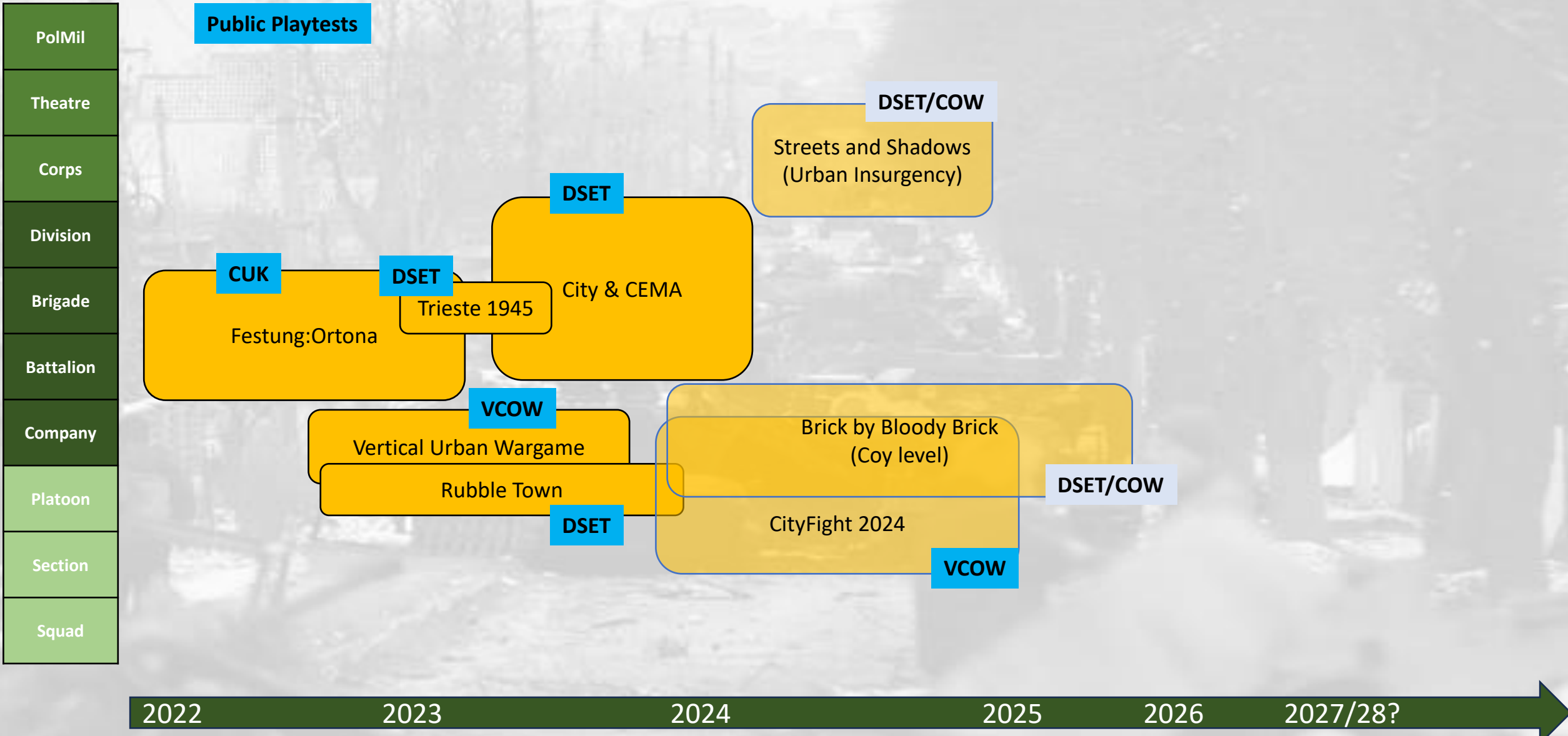
# The Battles of Hue

Table 5: Hue Feature Coverage by Wargame

Wargame	Hue	Vietnam Battles: Hue!	A Week in Hell	City of Confusion	The Battle of Hue!	Block by Block
<b>Feature</b>						
Combined Arms	**	**	**	***	***	*
Specialist Tanks				***	***	
CS Gas	***		***		**	
Staggered Reinforcements	****	****	*****	****	****	***
Riverine Activity	**	*		**		***
Asymmetric Combat	**		***	**	****	
Co-ordination		**		***		***
Command Friction			***	**	***	
Operations Beyond City		**		*		*
Rules of Engagement	*			***	***	
Population & Infrastructure		*	*	***	**	***
Political and Media	*	*		**	**	**

- An evolving art
- Complexity → no one game is likely to cover it all
- Hobby vs Professional games (and scope)
- Strategic context

# My Urban Wargames



# Festung: Ortona



Level: Bde, Mode: Solo/Co-Op

Loyal Edmonton	Loyal Edmonton	Loyal Edmonton
A Coy	B Coy	C Coy
4 3 7	4 3 7	4 3 7

# RUBBLE TOWN

# Rubble Town

	1	2	3	4	5	6
PV	1	1	2	2	3	3
Rubble	1	1	2	2	3	3
Sewer	N	N	N	N	Y	Y



Google dice roller: <https://q.co/kas/imtcXD>

**Sniper**

SNIPER

A sniper is shooting at you from the rooftops.

Roll 2D6.  
On 6+ one unit SUPPRESSED. AT Gun, then Engr then Inf. NOT tank.  
RECYCLE.

**German Position**

There is a very strong German position behind sandbags on one of the second floors.

You must fight and defeat this card before moving on.

4 3 5

**Minefield**

Anti-tank and anti-personnel mines are scattered everywhere.

Roll 2D - #Sappers.  
On 8+ elim 1 STEP on Inf, or SUPPRESS on elm. RANDOM.  
Tank KO on 10+, and Rubble inc by 1.  
Persists til cleared.

Turn Record				
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

Draw 2 Events

Draw 3 Events

Draw 4 Events

When you have to fill this slot place the OBJECTIVE card here and 3xD6 on table above, and place the appropriate markers on the card.

**Road Markers**

**Unit Markers**

**Level: Pl, Mode: Solo**



**1 Rifle Platoon**

One rifle platoon of about 36 men with LMGs at Section level, and possibly light mortars at Pl level.

Must lead any assault. Can retreat one area instead of one step reduction.

3 7

**2 Sherman**

A Sherman tank with the original 75mm gun. Stopped by large rubble mounds.

Can't enter or leave or fire into or out of a Rubble 4 tile

3 s1 2 s

**1 Sappers**

A group of sappers derived from the Pioneer Platoon and supporting Engineer units. Can clear minefields.

Can operate independently but eliminated if attacked on own. Must retreat with Infantry.

- - -

**1 6pdr AT Gun**

A 6pdr Anti-tank gun. Can be manhandled through the streets, and over rubble, albeit with some difficulty.

Can move in any area, and fire into only if LOS. Must retreat with Infantry.

3 s1 -

Click this link to use the custom Rubble Town dice roller – [Dice Roller](#).

Road Card

# Vertical Urban Wargame



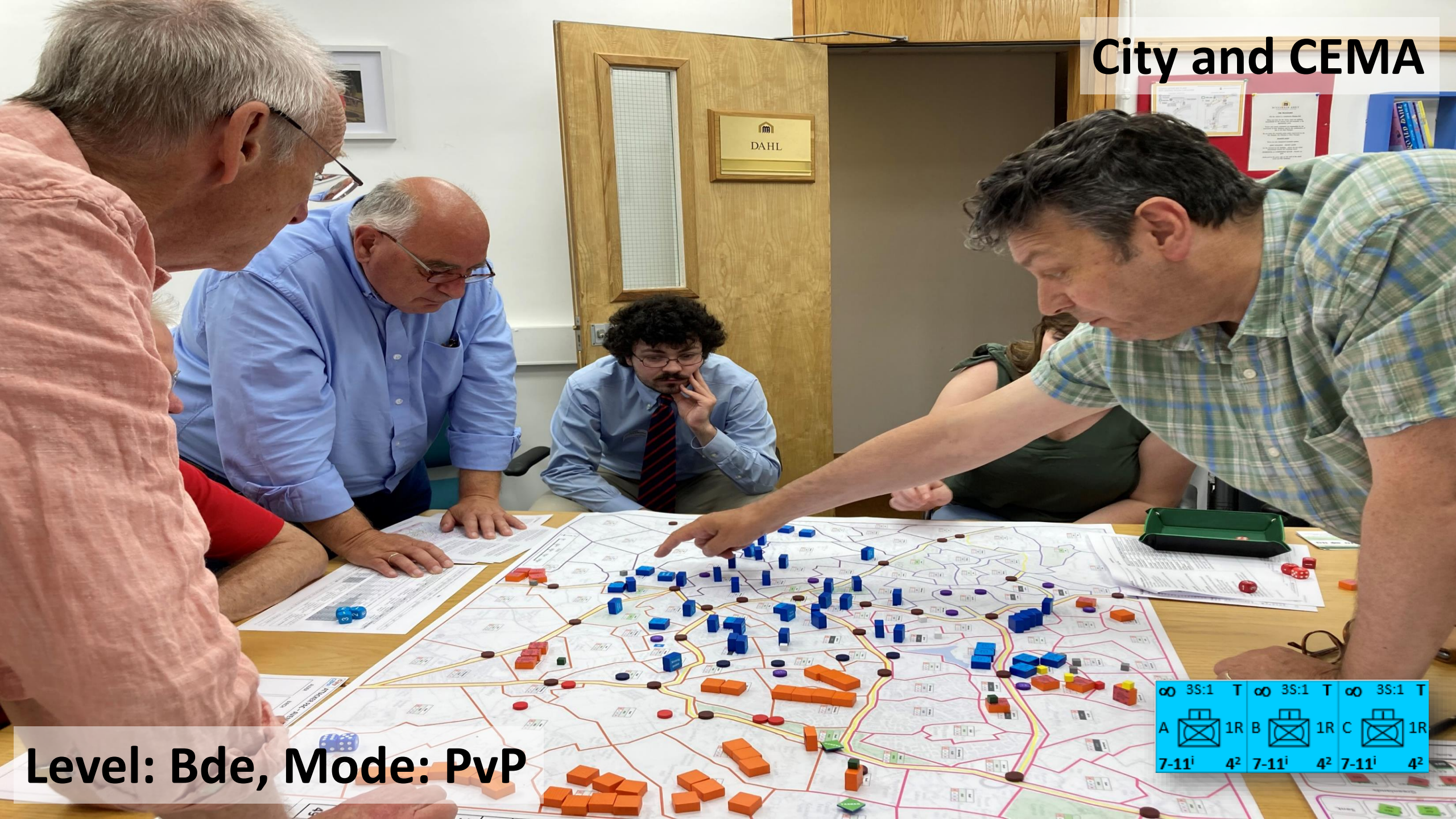
Fellow Jitster



TripodCam

Level: Pl/Coy, Mode: Co-Op

# City and CEMA



Level: Bde, Mode: PvP

$\infty$	3S:1	T	$\infty$	3S:1	T	$\infty$	3S:1	T
A		1R	B		1R	C		1R
7-11 <sup>i</sup>	4 <sup>2</sup>	7-11 <sup>i</sup>	4 <sup>2</sup>	7-11 <sup>i</sup>	4 <sup>2</sup>	7-11 <sup>i</sup>	4 <sup>2</sup>	

# City & CEMA

Understand

Shape

Engage

Consolidate

Transition

UTZ Map

Buy “knowledge” of the city

Cyber protect/hack assets

Civil Affairs actions, inc policing/cultivation/briefing, evacuation

City Dashboard

Civil affairs, cyber & sabotage actions

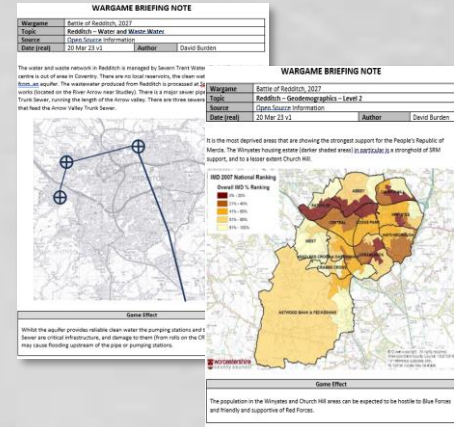
CRTs generate: Rubble, civ cas, civ DPs, fires/TIC, infrastructure damage + reverberating effects

Simple “AI” for civ pop movt – impacts fire power

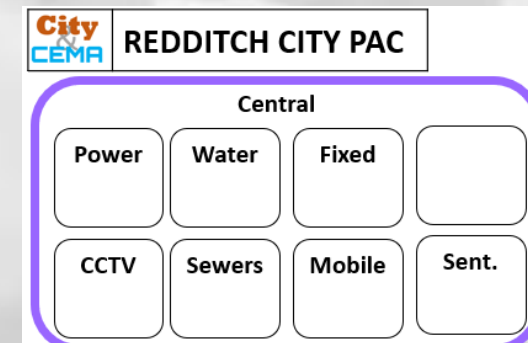
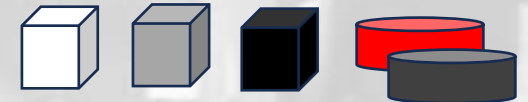
All impact a per-side “Adverse Opinion” track

Discussion-led phase

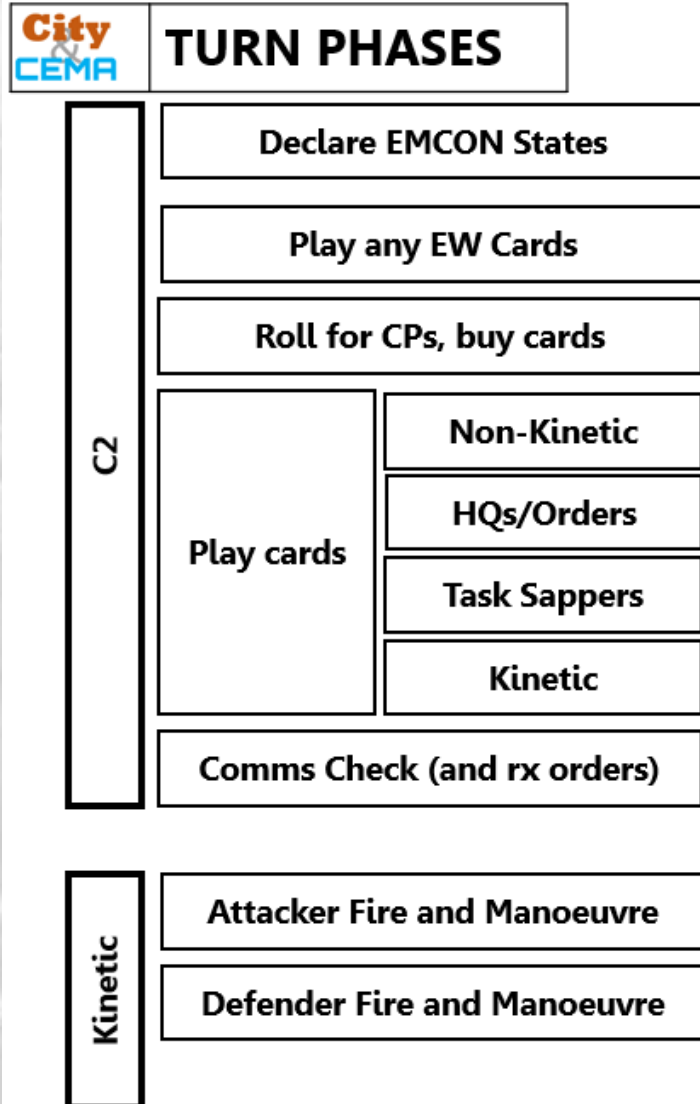
- What happens next military (consolidate for defence, plan for counter-attack, recovery etc)?
- What is the impact on the city and its population?
- How recover – short/medium/long term?




<p><b>6</b> Riot!</p> <p>U/S/E</p> <p>Create a riot/demonstration in an area sympathetic to you to help block en movement and combat.</p> <p>Covers D3 contiguous area in a positive sentiment area (see Briefing). Place D3 civilians/riot cubes in each area. Reduce by 1 cube at end of each turn.</p>	<p><b>2</b> Civil Affairs Team</p> <p>U/S/E</p> <p>Deploy civilian affairs teams to help manage any refugees or displaced persons.</p> <p>Remove D3 white cubes from the map on your side of the EOT and place in the DP camp. Includes riot cubes. Max 3 uses per turn (via ZCP).</p>	<p><b>4</b> Sabotage Utilities</p> <p>U/S/E</p> <p>Use local sympathisers/saboteurs to sabotage Electricity Network in in one district</p> <p>Success on 4+. Will also take down Fixed and Mobile comms and CCTV in the District.</p>
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# City & CEMA




**EMCON 4 - BLACKOUT**



**Everything off. Line comms only.**

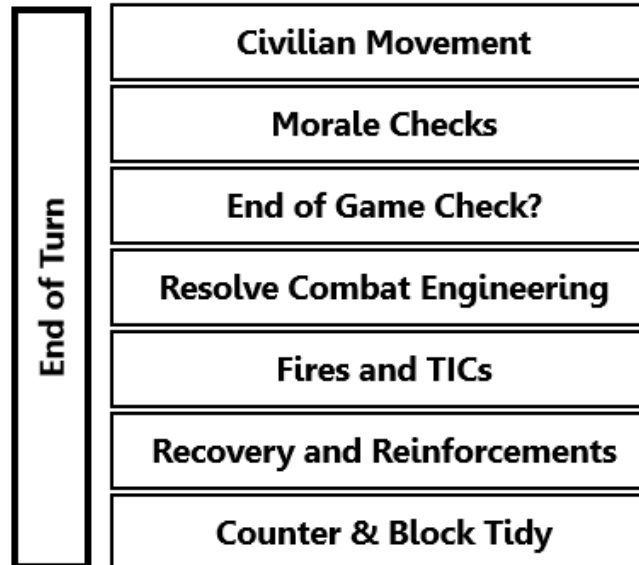
#CapCards Nil unless alt means  
EW ISR DM: -6  
CP Comms DM: OOC  
Drones: None  
DirectFire DM: -2    AssltDM: -4

**EMCON 3 - DATA ONLY**




Voice may not be used. Burst data may be used. Ther emitters switched off.

CP Allocation: -1D6  
EW ISR DM: -3  
Comms Check DM: -1  
Drones: None?  
DirectFire DM: -1    AssltDM: -2



**3 Low Altitude UAV**

S/E




A low altitude EO UAV is tasked. Covers

Covers D2 contiguous adjacent areas. Roll 2D - PV for each block. DM+1 if >2 blocks in area  
On 6+: UNHIDE block or INT+1  
On 12+: Additional INT+1  
On N2..4 shot down, max 3 available

**2 Bde Intercept/DF**

S/E




Bde EW Tp used to try and identify enemy formations and ideally locations from text and DF.

Choose D3 units. Roll 2D-EMCON-PV for each block. On 7+: UNHIDE block  
On natural 12: INT+1

**4 Hack - CCTV**

S/E




Cyber assets hack city CCTV network (if not disabled) in order to identify en troops.

Roll for D6 for each unit in D3 areas (MUST be urban with active CCTV). There may be per district DMs. Fixed Comms must be working in District.  
On 6+:  
• UNHIDE or INT+1

**5 Div/Corp Jamming** N

S/E



Corps/Div EW assets perform jamming on enemy C2 comms.

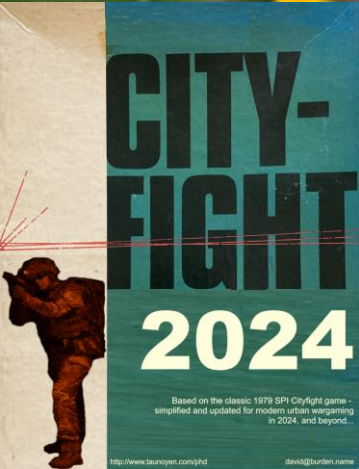
Only roll for effect NEXT turn. Reduce en CP by 2D6 (2D3 if on EMCON 3). If roll 2 BOTH sides lose D6 CP. No effect if on EMCON 4.  
DM -2 on Comms Checks

DUMMY

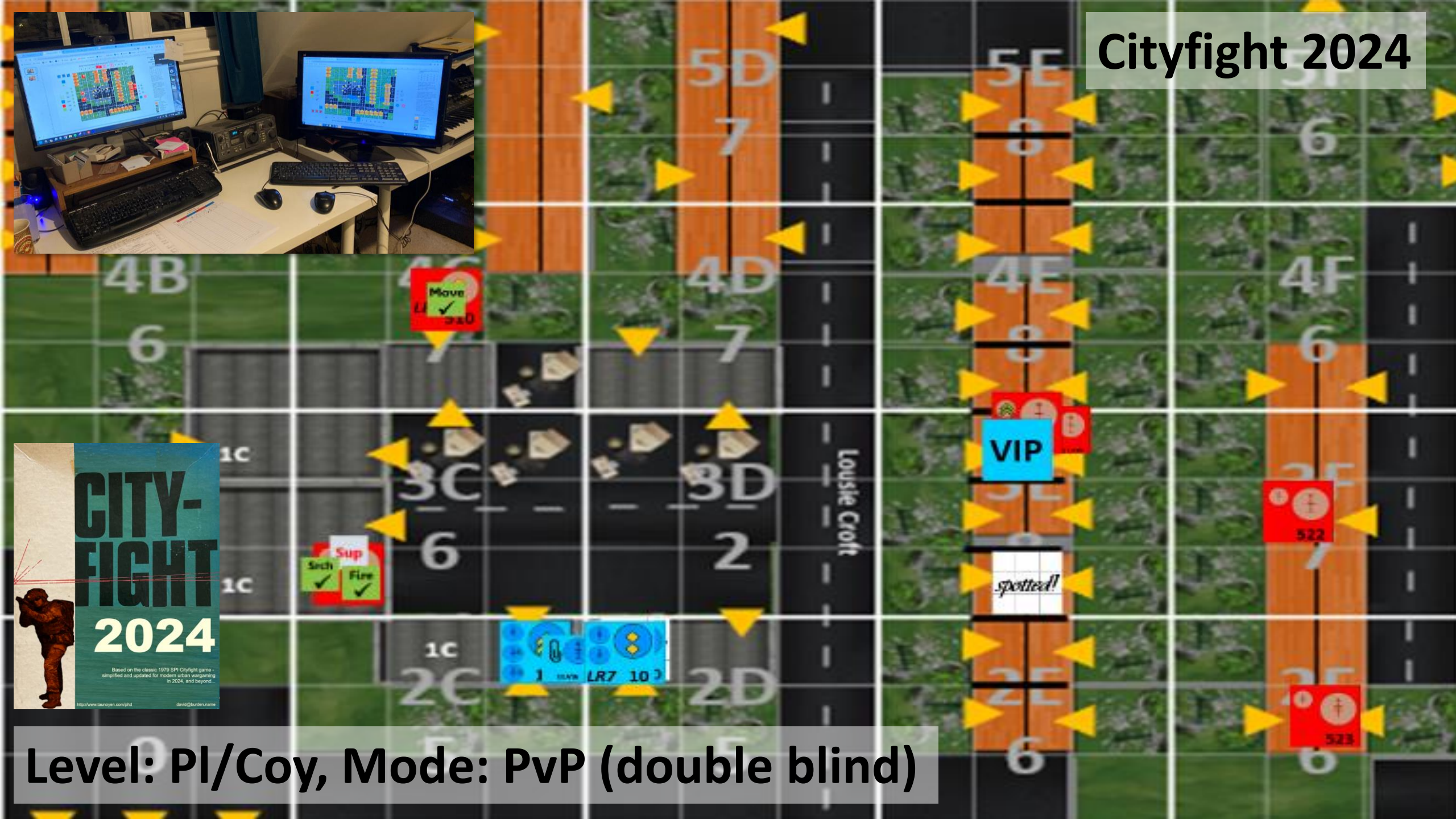
∞ 3S:1 WT  
A 5M  
6-10' 4<sup>2</sup>

INT  
+1

# Cityfight 2024



Level: Pl/Coy, Mode: PvP (double blind)

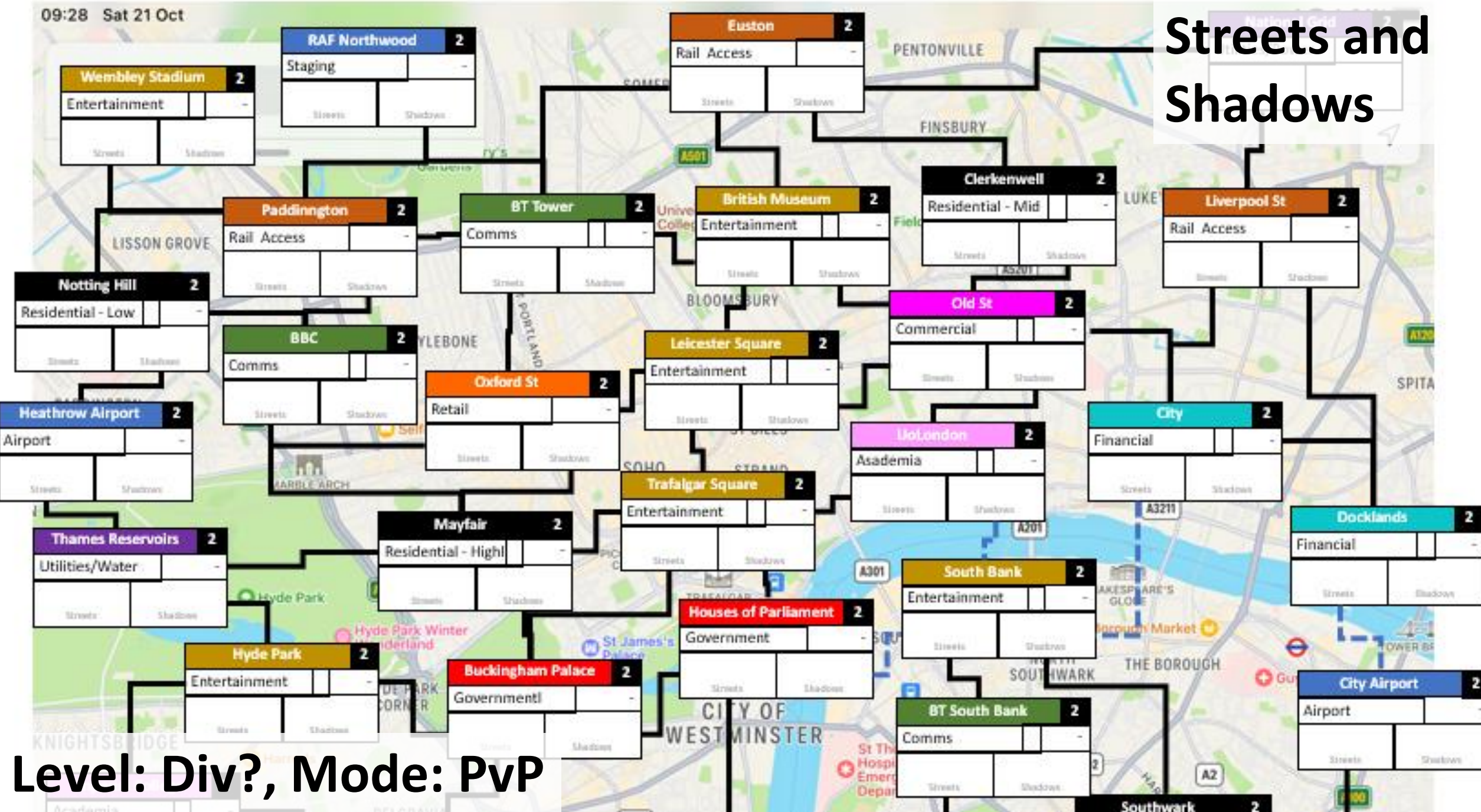


# Brick by Bloody Brick

Level: Coy, Mode: PvP

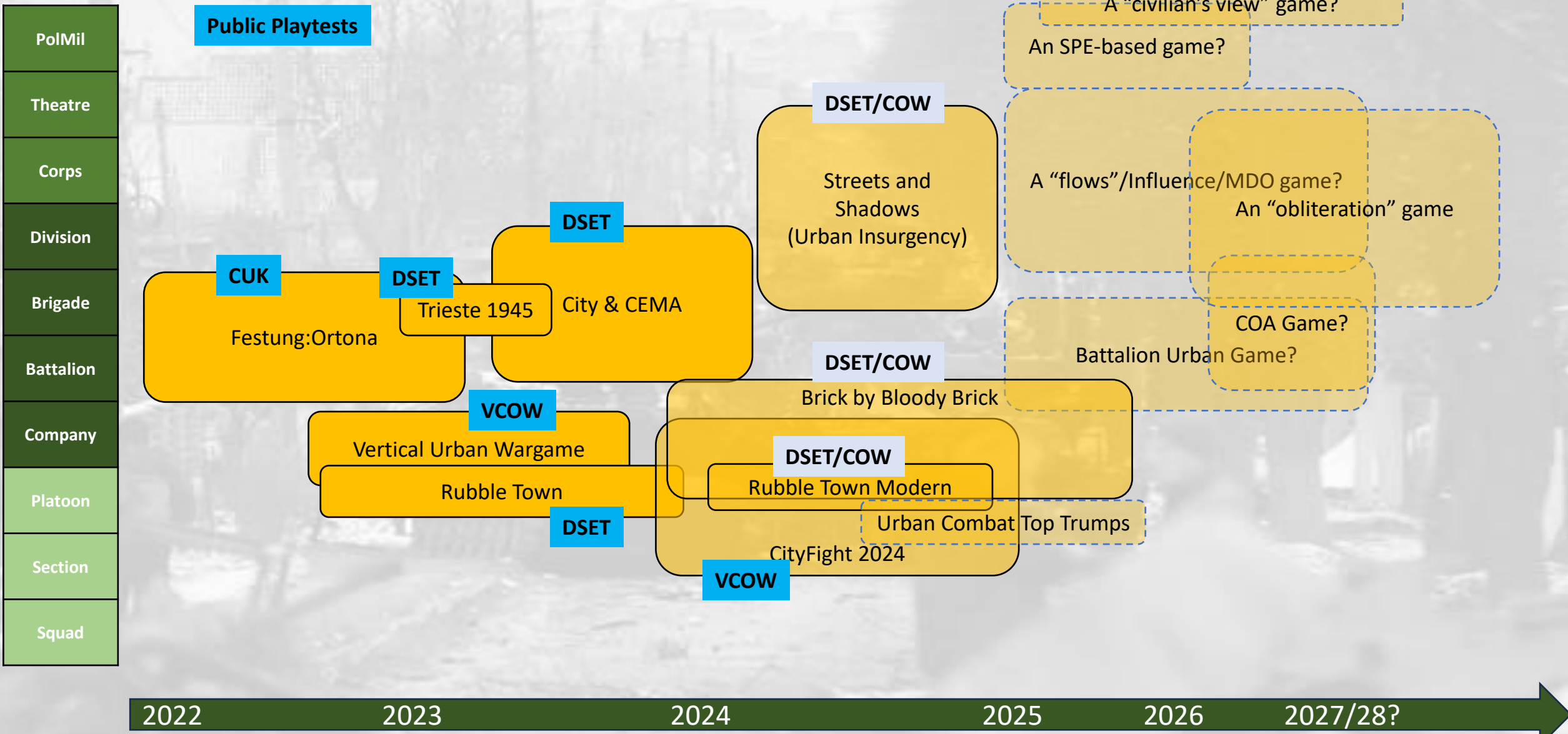


# Streets and Shadows



Level: Div?, Mode: PvP

# My Urban Wargames



# The Civilian Population



# Extending the Urban Wargame

## Understand

What is the city like? The people? The infrastructure?

## Shape

How are you going to deploy? What can you do to shape the battle

## Engage

The fight!

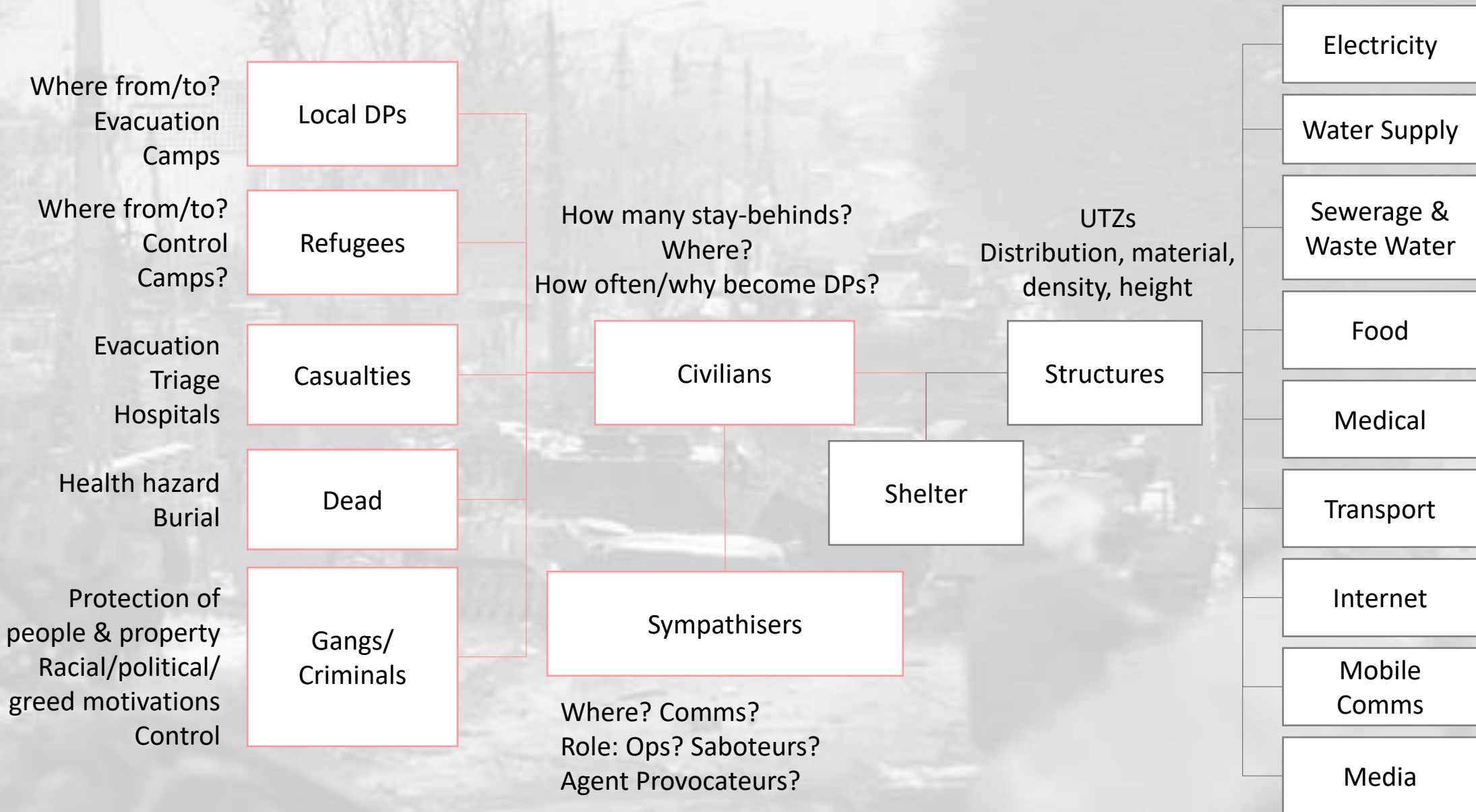
## Consolidate

Picking up the pieces! What do you need to be ready to do next?

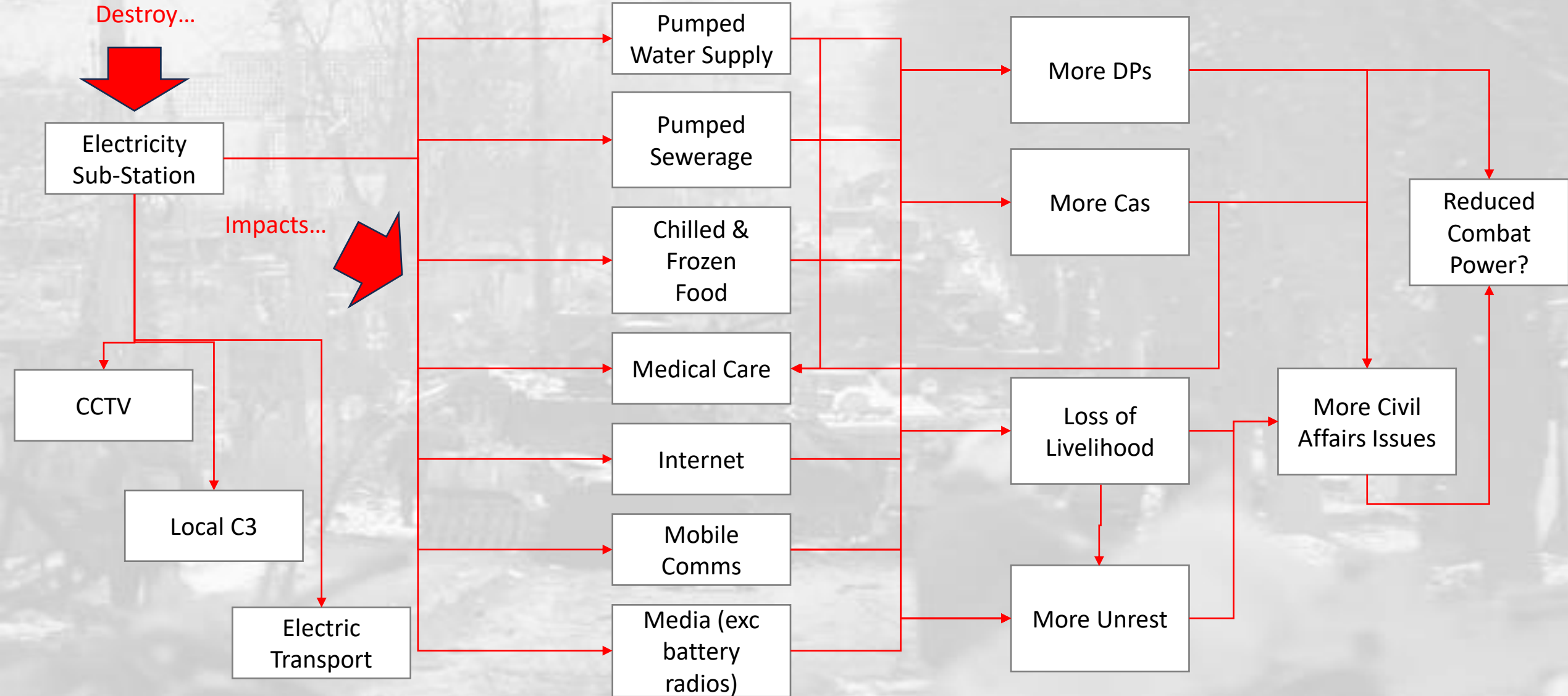
## Transition

How much damage has done? What's the impact on the population? How do they recover?

# The Civilian Population



# Reverberating Effects

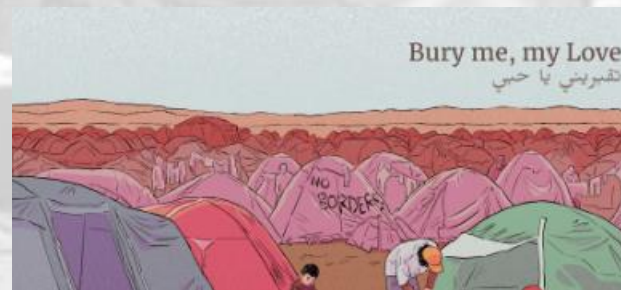


# Representing the Civilian Population

- Non-Player Representation
  - Passive: e.g. City of Confusion
  - Active: e.g. City & CEMA
- Umpire Control
  - White Cell Guide
- Player Representation
  - Aims? Actions?
  - Riot Games
  - Humanitarian Games
  - Matrix Games
  - Orthogonal Games
- Focus of Representation
  - This War of Mine



***This War of Mine***  
(Oracz&Wiśniewski/  
Awaken Realms, 2017)



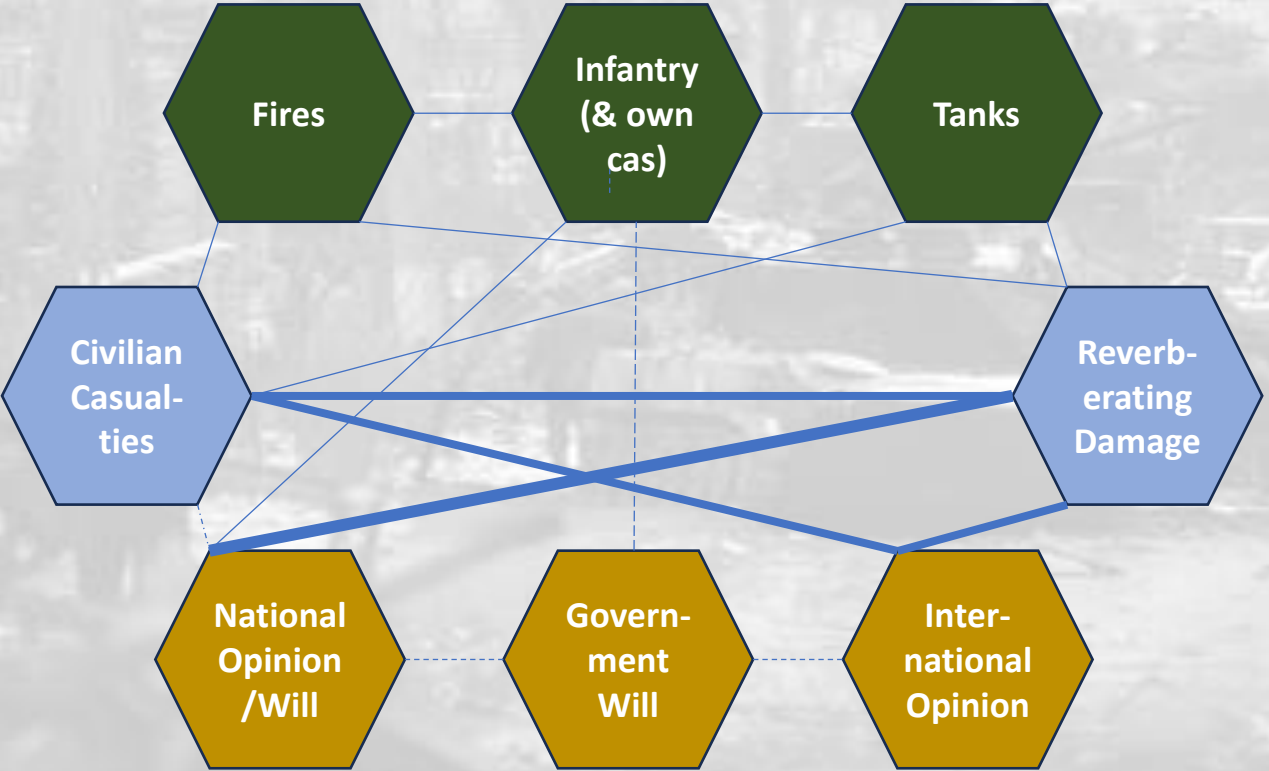
***Bury me, my Love***  
(The Pixel Hunt, 2019)



***Liyla & The Shadows of War***  
(Rasheed Abueideh, 2016)

# Gaza and the Ukraine

- UAVs, Tanks, DirectHE, Precision Fires, SubT
- Urban Fronts vs Rural Fronts
- The Urban Calculus



Debris is seen on site of the destroyed Mariupol children's hospital as Russia's invasion of Ukraine continues, in Mariupol, Ukraine, March 9, 2022. Ukraine Military/Handout via REUTERS/File Photo



The Guardian. Destroyed buildings in the Shejaiya residential district of Gaza City on 26 July. Photograph: Majdi Fathi/NurPhoto/Corbis

# Experiments in Mixed Reality



IT'S TIME TO PLAY.  
HAVE YOU GOT OUR GAME?  
SEARCH URBAN WARGAMING PHD



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# WARGAME HERE

