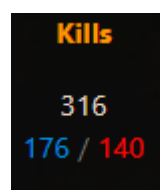


Evaluating differences in sustain between factions - City Fight 13/05/24

City Summary

Quite equal City fight with Destruction winning but 176 Order kills vs 140 for Destro:

<https://killboard.returnofreckoning.com/scenario/ce52217a534d42dfbff85b095f6853c8>



Gear brackets:

1. 57 or under for PvE gear
2. 58 - 67 for Vanq gear
3. 68 - 77 for Trium mix
4. 78+ for Endgame setups

Career	57 or under	58-67	68-77	78+
Destro Tank			1	7
Order Tank		1		7
Destro Dps				8
Order Dps				8
Destro Heal			2	6
Order Heal		1	1	6

For additional information see here: [📊 City Calculations](#)

For the methodology, read up more in detail here:

[☰ Evaluating differences in sustain between factions - LOTD...](#)

Total Kill Damage per faction:

Similar to how it was performed for LOTD, we add up all the kill damage from all members of each faction.

A	B	C	D	E	F	G	H
	DESTRO	Kills	TDMG/kill		ORDER	Kills	TDMG/kill
TOTAL	2719052	140	19422		2206107	176	12535
	4290				209497		
	0				256200		
	9618				338878		
	1906				5074		
	205463				5829		
	259680				13710		
	13640				34004		
	8977				155919		
	11854				311080		
	97063				141525		
	160086				421821		
	242307				7974		
	242138				43		
	92809				1995		
	19902				0		
	80538				41954		
	260248				9531		
	308630				22729		

HP assumptions:

1. All healers get +60 WOU from linis
2. No WP uses Sigmar's Grace (due to being disenchantable by ST focus)
3. Other WOU buffs and debuffs (Zeal/RP, BO/SM, Mara, Bg, Kotbs) cancel each other out.

The second assumption could potentially alter the results by a bit if not true (due to being faction specific), please correct me if SG is used in Cities.

The 3rd assumption might be also not hold true, but we can anticipate that by adding uncertainty to the calculations (+- 500 HP on average)

Approach 1: Average HP assumption

This is the simplistic approach. I might examine later how far off from the detailed approach it is.

Like in the previous LOTD analysis we shall assume an average HP total for both factions. This time, due to the higher gear, I will set that number to **8900** HP (instead of 8500).

- **Destro deaths:** $TTTKsf = \frac{TDMG_{order}}{HP_{destro}} = \frac{12535}{8900} = 1.408$

- **Order deaths:** $TTTKsf = \frac{TDMG_{destro}}{HP_{order}} = \frac{19422}{8900} = 2.182$

- **Destro Recovery:** $R = \frac{1.408 - 1}{1.408} = 0.290$

- **Order Recovery:** $R = \frac{2.182 - 1}{2.182} = 0.542$

$$\frac{R_{destro}}{R_{order}} = \frac{THr_{destro}}{THr_{order}} * \frac{TDMGr_{destro}}{TDMGr_{order}} = \frac{0.290}{0.542} = 0.535$$

significantly lower than 1

Uncertainty

But what if we are off by 500 HP on average?

☐ **Base HP = 8400**

- **Destro deaths:** $TTTKsf = \frac{TDMG_{order}}{HP_{destro}} = \frac{12535}{8400} = 1.492$

- **Order deaths:** $TTTKsf = \frac{TDMG_{destro}}{HP_{order}} = \frac{19422}{8400} = 2.312$

- **Destro Recovery:** $R = \frac{1.492 - 1}{1.492} = 0.330$

- **Order Recovery:** $R = \frac{2.312 - 1}{2.312} = 0.567$

$$\frac{R_{destro}}{R_{order}} = \frac{THr_{destro}}{THr_{order}} * \frac{TDMGr_{destro}}{TDMGr_{order}} = \frac{0.330}{0.567} = 0.582$$

☐ **Base HP = 9400**

- **Destro deaths:** $TTTKsf = \frac{TDMG_{order}}{HP_{destro}} = \frac{12535}{9400} = 1.334$

- **Order deaths:** $TTTKsf = \frac{TDMG_{destro}}{HP_{order}} = \frac{19422}{9400} = 2.066$

- **Destro Recovery:** $R = \frac{1.334 - 1}{1.334} = 0.250$

- **Order Recovery:** $R = \frac{2.066 - 1}{2.066} = 0.516$

$$\frac{R_{destro}}{R_{order}} = \frac{THr_{destro}}{THr_{order}} * \frac{TDMGr_{destro}}{TDMGr_{order}} = \frac{0.250}{0.516} = 0.484$$

But what if we Order have more HP on average due to WP's buff?

- All 3 WP's use Sigmar's Grace for 68 extra Wounds
- 18/24 = 75% of Destro get the buff
- Average HP increase of 68*0.75 = 51 WOU (510 extra HP)

☐ **Best case scenario for the ratio to be near 1: 8400 HP + 510 bonus HP for Order**

- Destro deaths: $TTTKsf = \frac{TDMG_{order}}{HP_{destro}} = \frac{12535}{8400} = 1.492$

- Order deaths: $TTTKsf = \frac{TDMG_{destro}}{HP_{order}} = \frac{19422}{8910} = 2.180$

- Destro Recovery: $R = \frac{1.492 - 1}{1.492} = \mathbf{0.330}$

- Order Recovery: $R = \frac{2.180 - 1}{2.180} = \mathbf{0.541}$

$$\frac{R_{destro}}{R_{order}} = \frac{THr_{destro}}{THr_{order}} * \frac{TDMGr_{destro}}{TDMGr_{order}} = \frac{0.330}{0.541} = 0.610$$

Results

As shown, the ratio of Recovery between Destro and Order should be ~between 0.5 and 0.6

due to definition for ratios:

$$\frac{R_{destro}}{R_{order}} = \frac{THr_{destro}}{THr_{order}} * \frac{TDMGr_{destro}}{TDMGr_{order}} \sim \mathbf{0.55} \Rightarrow$$

$$\frac{THr_{order}}{THr_{destro}} * \frac{TDMGr_{order}}{TDMGr_{destro}} \sim \mathbf{1.82}$$

with those being the true damage and healing rates during kills.

In total, **Order was overall ~82% better at collectively healing allies (unsuccessfully) and damaging enemies (successfully).**

Interpretation

This might **explain why they got 176 kills vs Destro's 140 (26% more kills), despite losing the City battle.**

It also highlights **Order's innate design for sustain:**

Despite managing to **recover their dying people much better** (by delaying the process),

$$TTKsf_{order} = 2.312 \quad \text{vs} \quad TTKsf_{destro} = 1.408$$

they really **didn't do much better at healing overall** than Destro did:

Career	Healing v
	2,831,958
	2,096,012
	1,975,944
	1,852,190
	1,741,449
	1,727,585
	1,713,079
	1,667,511
	1,533,131
	1,450,858
	1,424,054
	1,423,737
	1,366,553
	1,360,102
	1,338,236
	1,171,455
	806,794

While I wouldn't necessarily try to translate these results in overall faction balance, it DOES show that something went extremely differently in the 12/05/24 LOTD skirmish:

☰ Evaluating differences in sustain between factions - LOTD...

(WIP) Approach 2: Individual HP calculation

The more complex approach. Which also takes more time since I individually calculated the total WOU stat of each player (who died).

It also requires the additional assumptions that no RR points were spent on Wounds and that additional WOU buffs like BO's/SM's or RP's/Zealots were not relevant in kills. Or at least that they were perfectly mirrored. Finally, that the racial WOU tactics (Choppa/BO) were not being used by those who died.

All these assumptions should theoretically lead to an underestimation of the average HP total for those who died (potentially by 300 HP on average)

4 x Knights 2400

hp from

8.6k



Onlyhealing	59.6k/59.6k
40 - 82	300/300

from 9.7k

60.1k



by
Only
of
<Entropy and Chaos>