



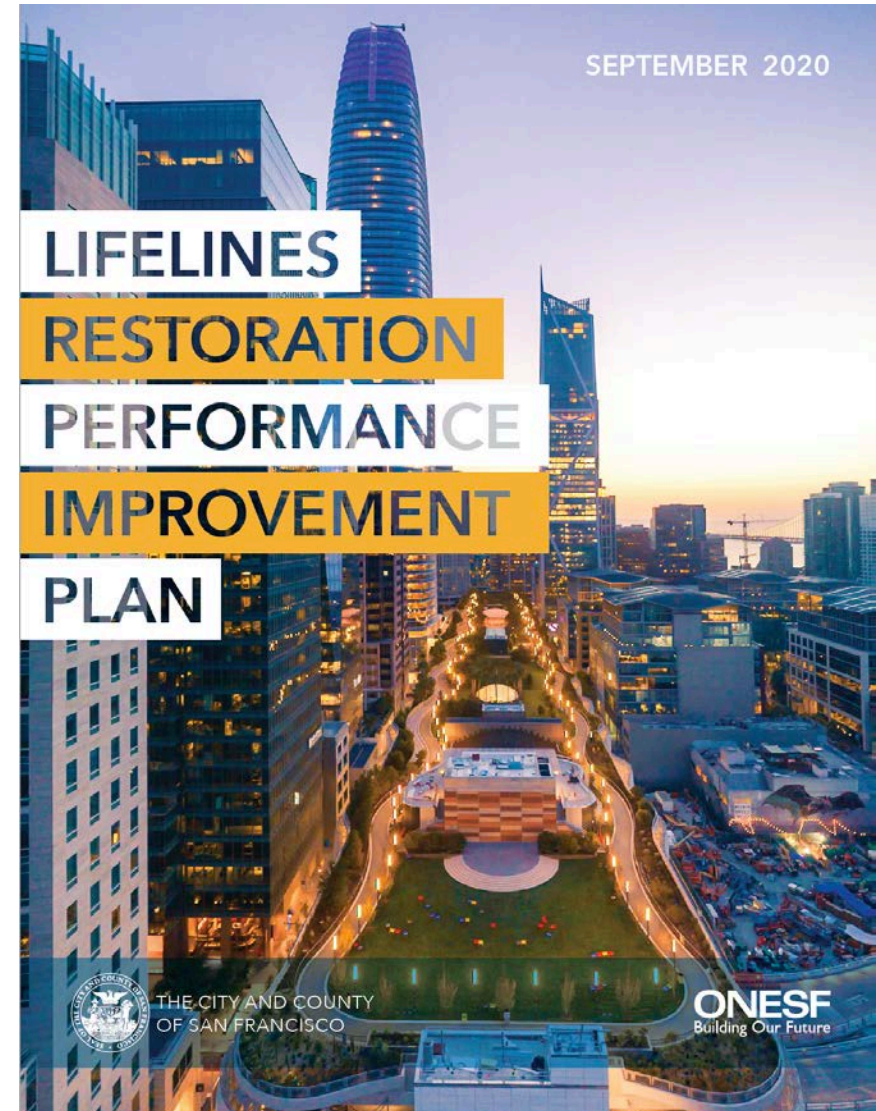
LIFELINES COUNCIL

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Item #5

Lifelines Restoration Performance Project Review

- ▷ Published in October 2020
 - How would we like lifelines to perform in an earthquake?
 - How would lifelines perform if an earthquake happened today?
 - What actions are needed to close the gap?
- ▷ Review the report at:
onesanfrancisco.org/lifelines-program

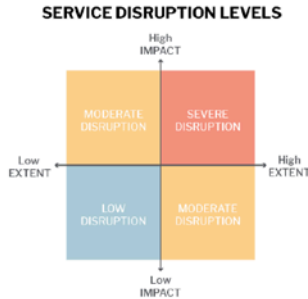


Common restoration picture across all lifeline systems

Sector	Organization	Emergency Response		Short-term Restoration		Long-term Recovery		
		0 hours	72 hours	2 weeks	2 months	6 months	1 year	3 years
Electric Power	PG&E	Red	Orange	Blue +				
	SFPUC	Red			Blue	Blue +	Grey	
Fuel	Kinder Morgan ^{1,2}					Blue +		
Communications	AT&T Wireless	Red	Orange +	Blue	Grey			
	Comcast	Red	Orange	Blue	Blue +			
	Verizon Wireless	Red	Orange +	Blue	Grey			
	SF Dept of Technology	Red	Blue	Blue +				
Highways & Local Roads	Caltrans ²	Red	Orange		Blue	Blue +	Grey	Blue +
	Golden Gate Bridge	Red	Orange		Blue	Blue +	Grey	
	Public Works	Red	Orange		Blue	Blue +	Grey	Blue +
Potable Water	SFPUC	Red	Orange	Blue	Blue +	Grey		
Transit	MUNI	Red	Orange	Blue	Blue +	Grey		
	BART ²	Red	Orange	Blue	Blue +	Grey		
Natural Gas	PG&E	Red	Orange	Blue	Blue +	Grey		
Wastewater	SFPUC	Red	Orange	Blue	Blue +	Grey		
Solid Waste	Recology	Red	Orange	Blue	Blue +	Grey		
Port	Port of San Francisco	Red	Orange	Blue	Blue +	Grey		
Airport	SFO	Red	Orange	Blue	Blue +	Grey		
Firefighting Water (EFWS) ³	SFPUC	Blue +					Grey	

The service disruption levels are defined as:

- Severe = disruptions with high spatial extent & high impact disruptions.
- Moderate = disruptions with low spatial extent & high impact, OR high spatial extent & low impact;
- Low = disruptions with low spatial extent and low impact;
- No disruption



Where,

- Extent = spatial reach of the disruption and proportion of people within the area that are affected.
- Impact = severity of consequences and the duration of the disruption. For example, complete loss of water supply is high impact (independent of how many people are affected), whereas a boil water advisory is low impact.

¹ Kinder Morgan has not provided expected restoration performance. Kinder Morgan has many unknowns and externalities that make estimating restoration of fuel delivery challenging.

² Worst case scenario is Hayward Fault

³ Goal of EFWS is low disruption immediately after an earthquake. After post-earthquake fire fighting needs are met, SFPUC will focus efforts on restoring potable water first and then return to complete needed repairs to the EFWS system.

Cross-Cutting Recommendations

- ▷ Speed Restoration
- ▷ Mitigate Interdependencies
- ▷ Facilitate Road Access
- ▷ Reduce Reliance on Fuel and Power

Next Steps

- ▷ Validate performance goals
- ▷ Track progress
- ▷ Provider updates on actions being to improve their restoration times, mitigate interdependencies and reduce the impact of future disasters

Thanks!
Any questions?

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