GREATER MANCHESTER RESILIENCE FORUM

September 8th 2017

"LEARNING FROM MELBOURNE & other international experience"



Contents

- Melbourne & 100RC resilience program
- "Resilience" international insights
- Implications for MCR







PROBABILITY VS UNCERTAINTY??



PROBABILITY VS UNCERTAINTY??



'Vulnerable Melbourne'

- Climate change flood, rising seas, storm, drought, heat, fire, hailstorms, water shortage: Is 2 / 4 degrees (a) severe, or (b) existential ? – will Melbourne be underwater? Or with 50+ degree summers?
- Social factors: Overcrowding of urban services and streets and places: housing shortage homelessness and inequity.
- Technical factors: an affluent and ordered society.. seeds of change from digital transformation / disruption, such as risks of surveillance & privacy, of social division, economic disruption and political take-overs.

- Economic factors: vulnerability to global markets, geopolitical and trade balances: exposure to commodity markets & energy policy. Privatization of essential services: digital unemployment rural decline.
- Political factors: state withdrawal from public services: demonization of welfare claimants & most vulnerable communities.
- Cultural factors: ongoing trauma on 'national identity'... implications for migration & relations with overseas. Sociocultural responses to climate change & other risks – denial, scepticism, blame, displacement.

PROBLEMS VS OPPORTUNITIES??

(Melbourne Rockefeller 100C report)

Vulnerability Analysis of Mortgage, Petroleum and Inflation Risks and Expenditure (VAMPIRE) Index, 2011 Socio-Economic Indexes for Areas (SEIFA) 2011



High Vulnerability 🕚 🍏 🌐

Minimal Vulnerability

SCENARIO MATRIX



SCENARIO MATRIX

WEAK ENVIRONMENT / HIGH SOCIAL & SPATIAL	STRONG ENVIRONMENT / HIGH SOCIAL & SPATIAL
A) UNDERWATER CITY	b) SUSTA-LIVABILITY
Melbourne could see ever rising sea levels, drought, flood, storm and 50 degree heat waves most of the summer. Environmental protection is minimal, but the community seems to have ways to pull together. (challenge - how to square the community interests with failure in environ & climate policy??	Melbourne seems to achieve its aspirations: social cohesion, economic growth, effective governance and clean green environmental sustainability. What could possibly go wrong? (The challenge is how to realize this aspiration and how to keep it resilient in the face of failure or pressure or conflict ??.
WEAK ENVIRONMENT / LOW SOCIAL & SPATIAL	STRONG ENVIRONMENT /LOW SOCIAL & SPATIAL
c) UNLIVEABLE CITY	d) STRESS-TAINABILITY
Everything went wrong in Melbourne in the next decades: chaotic urban development, out of touch governance, economic crisis and social fragmentation. With the onset of ever rising sea levels, drought, flood, storm and 50 degree heat waves, is there any hope left? (challenge - how to	Melbourne seemed to realize the green dream – green business, green finance, low carbon systems. But in this case the society was divided and alienated and the urban structure showed the gaps between rich and poor. Health workers had to find ways to build mental & cultural resilience to

'Resilient Melbourne'

(notes from workshop & interviews)

- Melbourne as 'world's most liveable city' has a lot to lose...
- New views on vulnerability, of affluence, credit/debt, mobility, globalization
- This brings up less visible forces in AU society, psycho-culturalarchetypal - homelessness, violence, misogyny, ongoing trauma of indigenous peoples...
- Emergency management policy steering towards social / community resilience, following some challenging events e.g. coal mine fire at Hazlewood.
- High expectations of smart cities & technology solutions
- Cross cutting initiatives e.g. Global Compact, green city, edible city etc..

- Is the Melbourne urban development model vulnerable by design? if so what could be done?.
- We need to understand more of thresholds, tipping points & path dependencies...
- Scenario & foresight approach very useful. E.g. what if.... Heat-wave & wildfires & water shortage combines with financial collapse & energy shortage, leading to social unrest & large scale civil disorder...

'Resilient Melbourne'

(notes from workshop & interviews)

- 100RC program is a very active initiative, one part of a larger set of actions...
- Procedural capture (much energy goes into keeping people on board & funds flowing).
- Program delivery takes over with milestones targets etc.
- How to scale up from program delivery to systemic change? Policy learning & embedding approach.
- Resilience gets framed as functional hard hat agenda.
- Then many residents choose to live in high risk locations & then expect government to provide.

- Some agendas easier than others... e.g. housing / homelessness is an ongoing crisis, political & financial:
- Risk of talking to converted, with familiar agendas. Political wind in multi-level governance not always positive.
- Principle of 'shared responsibility' works with agencies... but with citizens it's often problematic.
- E.g. conflict between professional fire services & citizens local fire actions.
- Agencies & practitioners see the need for social/ community resilience, but there are institutional barriers.





RESILIENCE-III

Example: flood risk, climate adaptation, urban resilience: (based on Arup et al 2014):

'CLEVER / SMART' RESILIENCE-I&II

'WISE' RESILIENCE-III



RESILIENCE MATRIX

	FURTHER>>>	Mode-I Linear	Mode-II Evolutionary	Mode-III Co-evolutionary
		'CLEVER' :	'SMART':	'WISE':
	CLIMATE PRESSURES/RISKS>>	Sea level: heat waves: eco-disruption	Geopolitical instability: migration	Systems disruption & vulnerability
	DEEPER: domains			
tit.	Social resilience			
*	Technical resilience			
\$	Economic resilience			
	Environ resilience			
Þ	Political resilience			
Ħ	Cultural resilience			
	Spatial resilience			
	Super-systems	Capitalist modes of production	Capitalist modes of exploitation	Post-capitalist collaboration
	Structural myths &			

GREATER MANCHESTER



GREATER MANCHESTER FUTURES (www.gm2040.com)



Regional / local & bottom up dynamic

GREATER MANCHESTER FUTURES (<u>www.gm2040.com</u>)

	'GLOBAL	<i>'LOCAL</i>	'GLOBAL	<i>'LOCAL</i>
	ENTERPRISE'	ENTERPRISE'	COMMUNITY'	COMMUNITY'
IPCC scenario labels	A1	A2	B1	B2
Greater	Privatized govt:	Breakup of AGMA	Centralized govt	Decentralization :
Manchester issues	Airport axis grows	etc: local govt as	(UK, EU & global):	new communities in
	to global hub. High	charity fund-raiser.	GM is centre of	rural areas. Low
	growth, inequality	Medium growth,	'Northern Arc'.	growth / high QOL,
	increases.	inequality	Medium growth,	inequality levels.
		increases.	inequality reduced	
Economic,	Private firms, global	Private firms, local	Social enterprise,	Social enterprise,
employment	labour market:	labour market:	global activities:	local activities: Low
	High economic	Medium growth	Medium growth	economic growth
	growth >3%	(2%)	(2%)	<1%
Environment,	ESS degradation &	exploitation &	conservation of ESS	Conservation of ESS
resources	pollution:	privatization of ESS:	& public access:	with privatization:
	Rapid climate	Rapid climate	moderate climate	moderate climate
	change	change	change	change
Urban / spatial	Car-based urban	Localized rural	Intensive large scale	Intensive small
development	sprawl, with sealed	development with	urban form with	scale urban form,
	buildings:	low-tech buildings:	sealed buildings:	with low-tech eco-
	Counter-	sprawl and sub-	Re-urbanization	buildings:
	urbanization	urbanization		De-centralization.

GREATER MANCHESTER FUTURES (www.gm2040.com)



UK PROJECTIONS



RESILIENCE-III – 'WIDER' – GREATER MANCHESTER

C) 'FURTHER' (transformations)	Mode-I Linear	Mode-II Evolutionary	Mode-III Co-evolutionary
	'CLEVER': (complex)	'SMART': (emergent complexity)	'WISE': (cognitive complexity)
Flood & storm	Most urban flood defences are working & maintained. -VS- certain areas are flooded multiple times: flash flood risk increasing	Integrated catchment planning principle & policy: -VS- upstream landuse & farm subsidies increase downstream risk	Integrated 'ecosystems approach' principles: -VS- current disintegration of public services & policy
Heat, drought,	Heat / drought in UK are moderate in near future: - -VS- certain social groups & housing types are high risk	Incentives for private water firms to maintain supply: - -VS- near collapse of elderly care system: split incentives for house adaptation	Integrated neighbor- care-exchange schemes for extreme weather: -VS- social fragmentation & exclusion
One-Planet-	Green infra has increased with post-industrial: GM has	Policies & studies on Green infra & res eff:	Many innovations in socio-eco-cultural

RESILIENCE-III – 'DEEPER' – GREATER MANCHESTER

C) 'FURTHER'	Mode-I	Mode-II	Mode-III
(transformations)	Linear	Evolutionary	Co-evolutionary
	'CLEVER':	'SMART':	'WISE':
	(complex)	(emergent complexity)	(cognitive complexity)
Technical resilience	Mainly functional systems of planning, projects, maintenance etc. -VS- Lack of understanding of combined wild card effects	Privatized utilities are providing investment: -VS- vulnerability if combined with cyber attack, terrorism, technology, pandemic	Potential smart-wise city technology with citizen monitoring – -VS- Risk of techno- determinism & stupefying cities
Economic resilience	diverse metropolitan economic structure -VS- Low productivity, investment etc	High value property & professionals –VS- Majority are excluded, precarious, underpaid	Growing interest in holistic inclusive growth -VS- Dysfunctional & divisive macro- economic system
Political resilience	GM has effective devolved	Average transparency	Effective civil society
	structure - VS -	& accountability - VS -	& / culture of learning
	General lack of participation	low res. by	& innovation - VS -

CONCLUSIONS & MORE QUESTIONS...

- Melbourne experience has different conditions but shows common challenges & questions.
- How to understand combined effects, thresholds, tipping points, low probability / high impact event chains
- How to bridge the gap from defensive engineering, target hardening resilience: to social-community resilience, (potentially effective but less tangible & manageable)

- 100RC program work in progress, much to observe, with common challenges:
- Mainstreaming from innovation to practice?
- Shared responsibility with citizens?
- Citizen distrust & also dependency on government?
- Working with 'cognitive dissonance' at all levels?
- Urban foresight & 'anticipatory governance'?