

**CONCEPTUAL MAP FOR SUSTAINABLE CITY-REGION DEVELOPMENT**

SYSTEMS	COMPONENTS OF CITY-REGION DEVELOPMENT	DOMAINS FOR THEORY-BUILDING & PRACTICE	CHALLENGES OF SUSTAINABLE DEVELOPMENT	TYPES OF PROJECTS & RESEARCH	PLANNING & DECISION SUPPORT TOOLS
<b>Environmental</b>	<p><i>Natural Capital and Environmental Services:</i></p> <p>Hydrosphere (Water) Lithosphere (Land) Atmosphere (Air) Biosphere (Life)</p>	<p>Environmental Policy and Planning, Air Basin and Coastal Management, Watershed Planning, Fishery and Wildlife Management, Parks and Outdoor Recreation, Forestry, Landscape ecology, Solid and Hazardous Waste Management</p>	<p><b>Environmental Stewardship</b></p> <ul style="list-style-type: none"> <li>Minimizing use/waste of non-renewable resources (fossil fuels, minerals, biodiversity)</li> <li>Sustainable use of renewable resources (aquifers, freshwater, wetlands, soils, biomass, human beings)</li> <li>Keeping within absorptive capacity of local, regional, global sinks (air, land &amp; water)</li> </ul>	<ul style="list-style-type: none"> <li>Land use and climate change</li> <li>Smart Growth/ New Urbanism</li> <li>Water Quality (Toxics &amp; Watershed Management)</li> <li>Sustainability Science</li> <li>Asian Brown Cloud, Aerosols</li> <li>Multiple Species Conservation Planning (MSCP)</li> </ul>	<p>Environmental Informatics, Integrated Ecological Assessment, Cal(IT)2 Living Laboratory (Environment and Civil Infrastructure), 3D Terrain/Bathymetry Model, Regional Ecology Network for Sus Dev.</p>
<b>Social and Cultural</b>	<p><i>Social Capital, Human and Cultural Capital:</i></p> <p>Civil Society, People, Families, Community Groups, Cultural Diversity and Heritage, Knowledge Networking</p>	<p>Social and Community Development (including dynamics of class, race &amp; gender), Public Health and Human Services, Historic and Cultural Preservation, Education and Training, New Regionalism, New Institutionalism</p>	<p><b>Equity and Quality of Life</b></p> <ul style="list-style-type: none"> <li>Flourishing civil life in association with others</li> <li>Affordable health care &amp; adequate social safety net</li> <li>Access to affordable housing, including a secure, healthy environment with adequate basic services &amp; community facilities</li> <li>Fulfilling present generation needs without undermining the ability of future generations to meet their needs too</li> </ul>	<ul style="list-style-type: none"> <li>Community Collaboratives: Risk &amp; Preventative factors for Public and Environmental Health</li> <li>Redlining in San Diego</li> <li>Comparative Immigration</li> <li>Affordable Housing</li> <li>Social Movements</li> <li>San Diego Historical Resources</li> <li>Multiculturalism</li> </ul>	<p>Quality of Life Indicators and On-line Interactive Mapping, Sociology Workbench, Regional Workbench Consortium, Tribal Workbench</p>
<b>Economic (including financial and manufactured/ built capital)</b>	<p><i>Economic Capital:</i></p> <p>Cash, Investments and Monetary Instruments; Job Markets, Systems of Innovation, Networked Infrastructures (transport, water, streets, telecommunications, energy), Housing and Community Facilities</p>	<p>Economic Development, (interlocking local, regional &amp; global systems of production, distribution and exchange), Corporate Environmental Management, Public Finance, Labor Force Development, Land Use Planning, Housing, Transport &amp; Public Infrastructure</p>	<p><b>Economic Efficiency</b></p> <ul style="list-style-type: none"> <li>Efficiency in systems of production, distribution, exchange and consumption</li> <li>Adequately remunerated work</li> <li>Dealing effectively with spatial patterns of urban and regional growth</li> <li>Infrastructure for a “learning region” fostered by high quality education, workforce development, and knowledge-networking across digital divides</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Ecology</li> <li>Industrial Clusters and Innovation as Collective Action</li> <li>Living Wage</li> <li>Water Supply and Infrastructure</li> <li>Digital Divide</li> <li>Green Infrastructure</li> <li>Solar Energy</li> </ul>	<p>Cal(IT)2 Living Laboratory (Transportation and Telematics) SANDAG’s RIS RWBC</p>
<b>Political</b>	<p><i>Political Capital:</i></p> <p>Political Community, Legal and Institutional Organization, Means of Administration, Regional Information Systems and Digital Government</p>	<p>Governance, Public Policy and Management, Regulation and Enforcement, Law and Criminal Justice, Participatory Democracy, Planning and Decision Support Systems</p>	<p><b>Good Governance &amp; Regional Stewardship</b></p> <ul style="list-style-type: none"> <li>Participatory democracy and planning that is accountable, transparent, socially just and equitable, respectful of human rights and diversity)</li> <li>Enhancing Regional Security, Reducing Vulnerability, and Increasing Self-Sufficiency</li> <li>Intercity Collaborative Networks</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive Regional Planning and City-Region Governance</li> <li>Total Maximum Daily Loads (TMDLs) and Non-point source pollution regulation</li> <li>EMS and Regulatory Innovation</li> <li>Homeland Security</li> </ul>	<p>Groupware and Collaboration Tools for Conflict Mediation, Negotiation, &amp; Consensus Building SANDAG’s RIS, Global Planning Grid</p>

Source: Keith Pezzoli; the challenges section draws from the work of Satterthwaite (1997) and Friedmann (2002)