1. METROGIS in Minnesota (US): a case of strategic management at unit level

a. Description of the system

Introduction

The case was written as a prime example of strategic management as espoused by Bryson (2011) by the same author[1]. It describes the creation and continued operation of MetroGIS, the regional geographic information system initiative in the Twin Cities area of Minnesota in the US (see www.metrogis.org). It describes MetroGIS as a voluntary collaboration and virtual organization involving 300 local and regional government units, partners in the state and federal governments and academic institutions, non-profit organisations and businesses. It provides a regional forum to promote and facilitate widespread sharing of geospatial data. It provides a view of how the initiative was developed over three phases, from early 1995 until 2008.

Phase 1

The first phase is designated as phase I strategic plan formulation and initial implementation, occurring from early 1995 to April 1996. The article describes how the idea for a regional GIS system was first suggested by staffers working for the Metropolitan Council (MC), the regional government. Local authorities were at the time required to develop land use and other plans in accord with regional plans, based in part on making use of MC data. But one key problem was that at MC level, there was no data on local land use, necessary to make realistic projections in terms of local population and employment growth. This in turn frustrated local authorities.

At the time, GIS technology and the relatively new internet appeared to hold promise for a fairly quick, accurate and metro-wide system of collating land use and other kinds of data. The head of the MC GIS unit convinced the deputy regional administrator to convince the council members (the MC formal policy-makers) to hire someone to conduct an exploration of this idea. The hired planner started the project with seven counties, which led to a more ambitious concept: broadening the stakeholders to include all local and other governmental units that served the metropolitan area and collaborating to address a host of shared geospatial data beyond land use parcel data. The MC was willing to invest 1,1 million dollars for this project. The planner took the lead, as a strong champion of the idea, on organising a series of formal and informal discussions and two major forums of 75 plus stakeholders each to explore the issue of whether to pursue a regional GIS and whether the MC should lead the initiative. A consensus developed in favour of this. The MC then officially accepted responsibility and started the definition and design phase or “implementation phase I”.

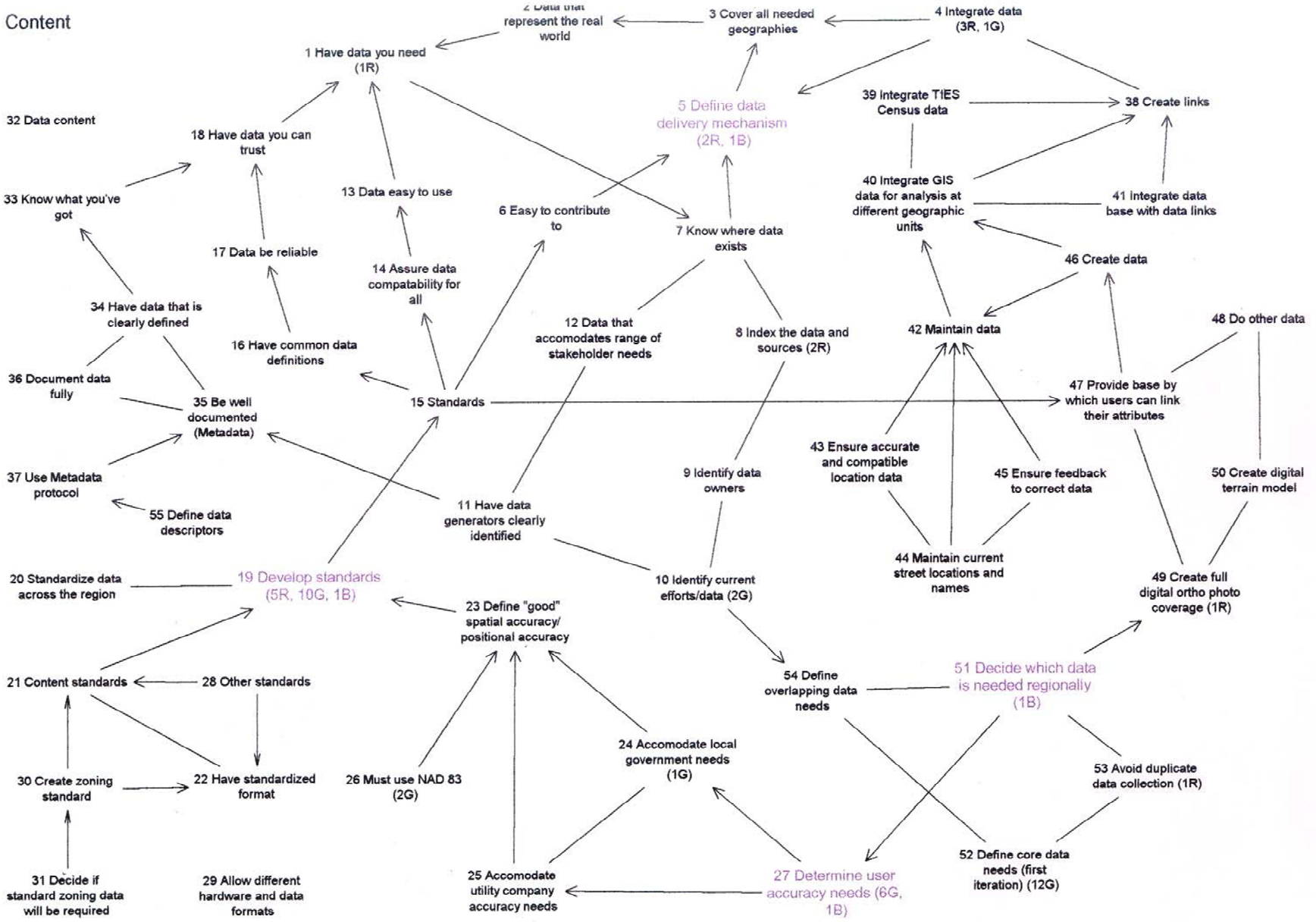
[1] Bryson, Crosby and Bryson (2009), “Understanding strategic planning and the formulation and implementation of strategic plans as a way of knowing” in International Public Management Journal, 12 (2)

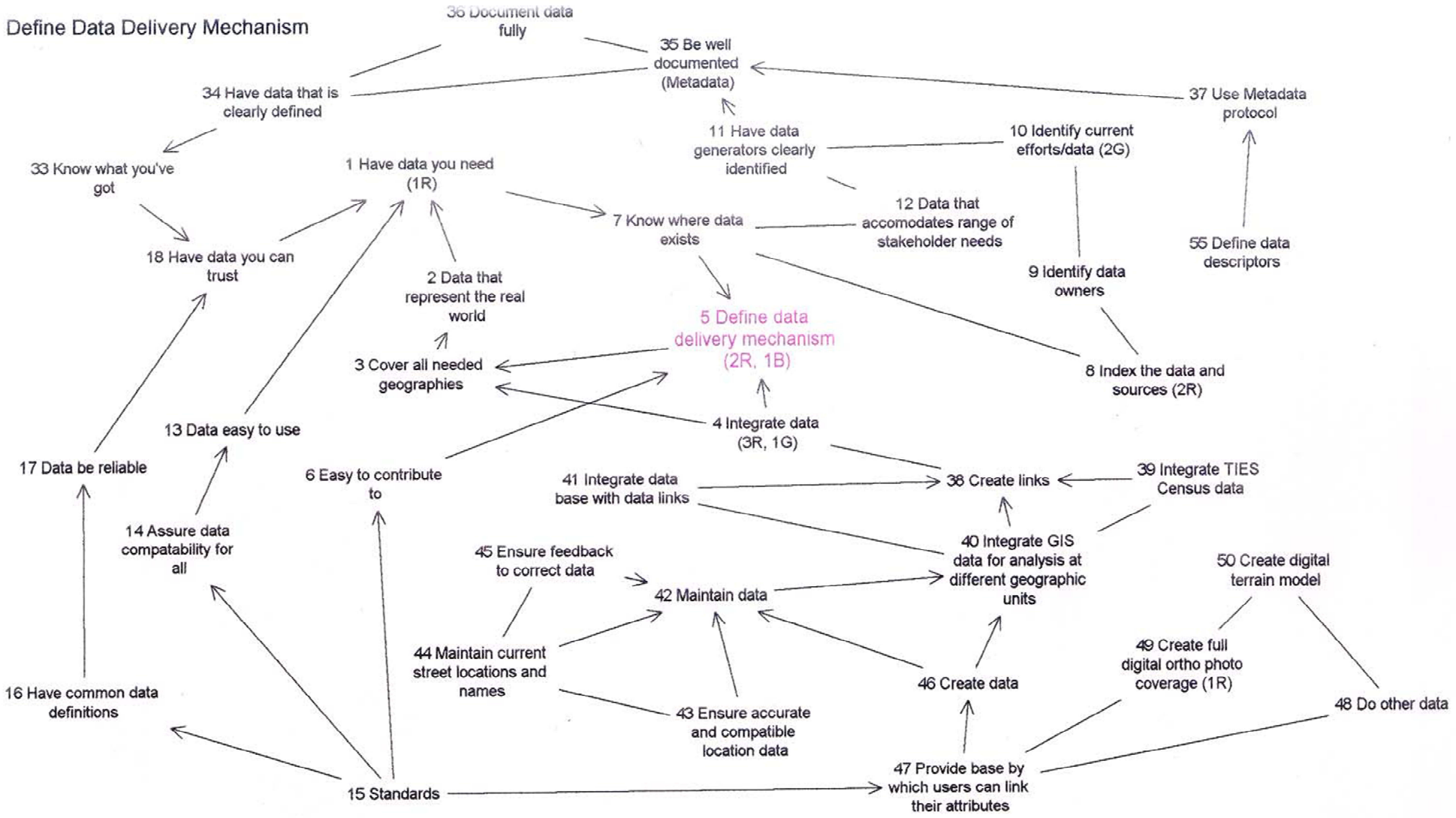
The key event was a strategy mapping[2] exercise called the Strategic Planning Forum, in December 1995, where 22 invited representatives of government, non-profit and business developed word and arrows diagrams with arrows indicating that some activity may lead to something else. 250 ideas were created and linked by the group over the course of the day. The group then categorised specific ideas that they thought captured important elements of a possible goals, strategic issues and some key actions.

The figure below shows the overall map, constructed on the basis of four smaller maps, one of which, concerning "defining data mechanisms" is also depicted below as an example of a more focused map.

[2] Retrieved 15/8/2017 via https://www.metrogis.org/getmedia/1f80f549-a1d3-4421-9467-e90ecb6aa226/1995_ConceptMapping.pdf.aspx : see annex 1 for a complete set

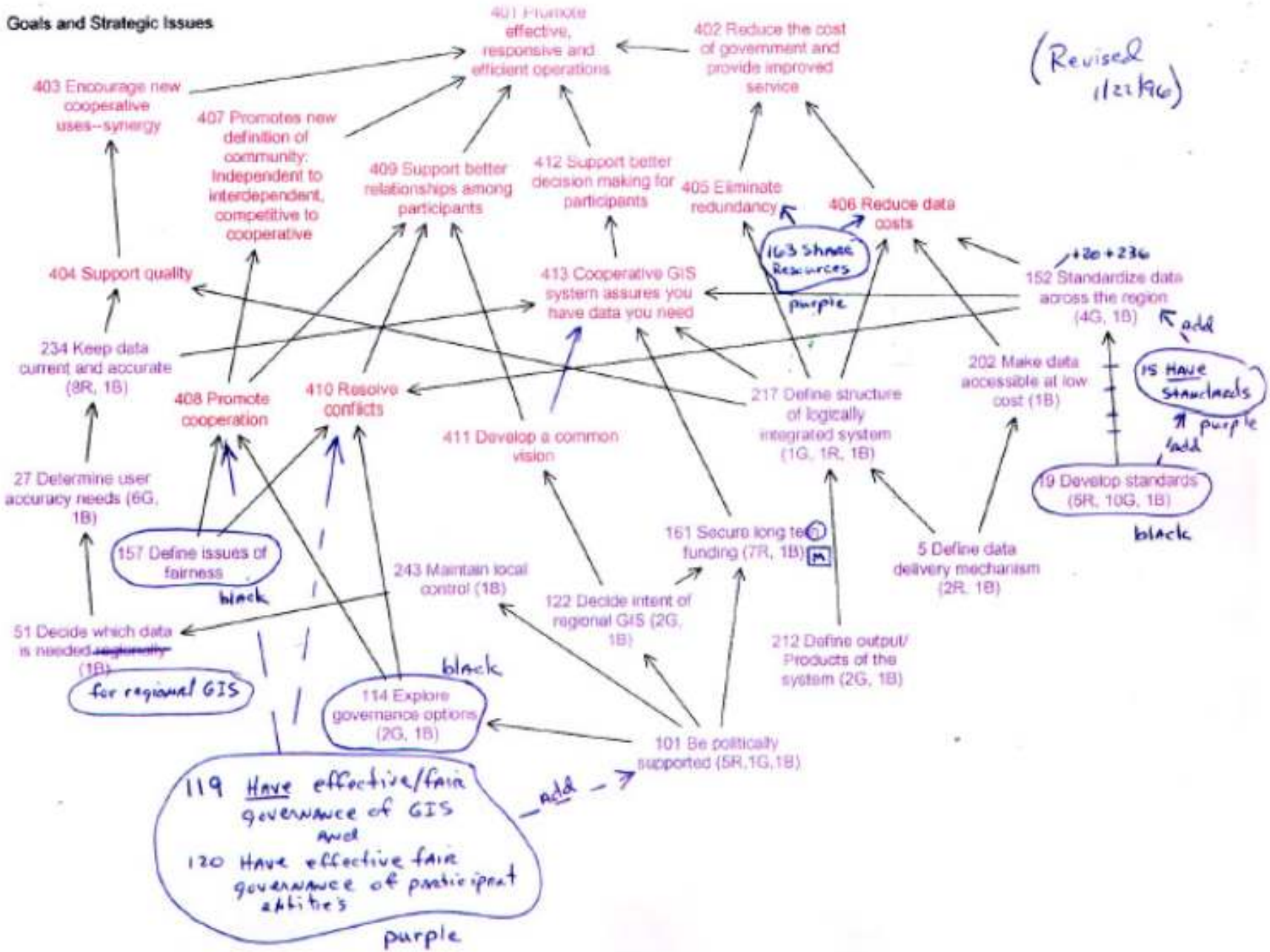
Figure 1: MetroGIS phase 1 overall strategy map and one detailed sub-map





The final output of the exercise is presented below. The colors on the maps have the following meanings: Red = Goal; Purple = Strategic Issue. Also the “letters” have a meaning: (B) = Strategic Issue; (R) = Action Item -- Long Term; (G) = Action Item -- Short Term. An arrow to a concept means: "may lead to" or "influences". An arrow from a concept means: "consequences of an action".

Figure 2: final output map of phase 1 MetroGIS



The map can be read from bottom to top. For example; ”101 Be politically supported”, contributes to “122 decide intent of regional GIS”, which in turn contributes to a goal, namely “411 Develop a common vision” etc.

Ultimately, on the basis of the exercise, participants agreed on statement of intent (containing basic elements of mission and goals) and strategic issues to be addressed over the next four months and discussed guiding principles to foster successful collaboration (see box below).

A coordinating committee (CC) was then set up. This created four advisory teams (on data access, content, policy and standards) to help consolidate, in March and April 1996, the needs expressed at the Forum. By April 1996, a formal mission statement, goals, guiding principles (see box below, slightly modified over the years from the original), set of core services and functions and five strategic projects were created and agreed by key stakeholders, including the CC and the MC.

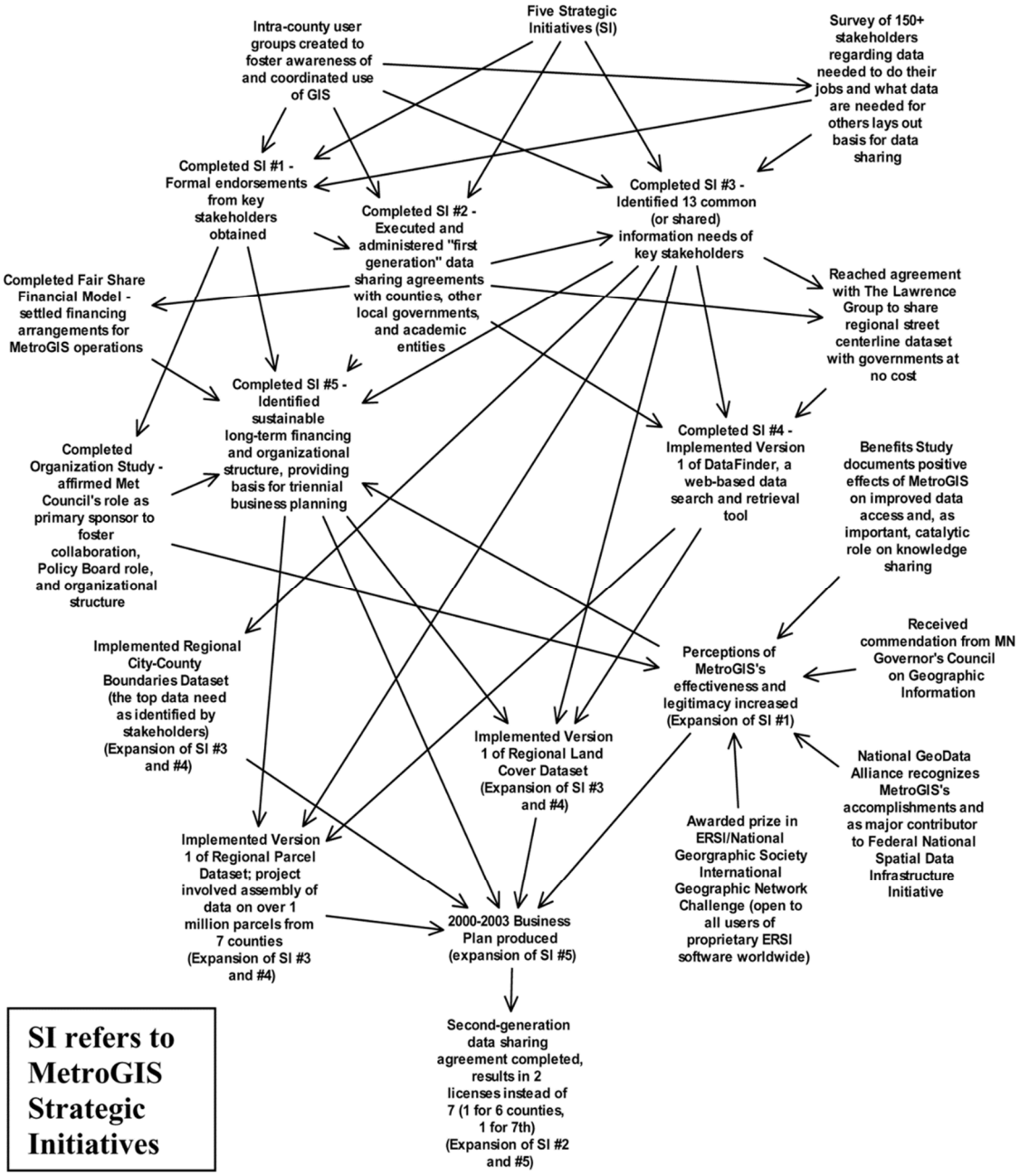
The mission was “to provide an ongoing stakeholder-governed, metro-wide mechanism through which participants easily and equitably share geographically referenced data that are accurate, current, secure, of common benefit and readily usable”. The desired outcomes of MetroGIS included: “improved participant operations; reduced costs; and support for cross-jurisdictional decision making’’ (Bryson et al, 2004, p. 192).

Box 1: guiding principles MetroGIS phase 1

- Pursue collaborative, efficient solutions of greatest importance to the region when choosing among options;
- Ensure that actively involved policy makers set policy direction;
- Pursue comprehensive and sustainable solutions that coordinate and leverage resources: i.e., build once, make available for use by many;
- Leverage the Internet and related technology capabilities;
- Value knowledge sharing as highly as data sharing;
- Seek cross-sector (public, non-profit, academic, utility, and for-profit) solutions, including data enhancements from many sources to serve shared geographic information needs when in the public interest;
- Pursue interoperability with jurisdictions that adjoin the Twin Cities metropolitan area, seeking consistency with standards endorsed by state and national authorities;
- Acknowledge that the term ‘‘stakeholder’’ has multiple participation characteristics: contributor of resources, consumer of the services, active knowledge sharer, potential future contributor, potential future user, continuous participant, and infrequent participant;
- Acknowledge that funding is not the only way to contribute: data, equipment, and people are also valuable partnership assets;
- Rely upon voluntary compliance for all aspects of participation;
- Rely upon a consensus-based process for making decisions critical to sustainability;
- Ensure that all relevant and affected perspectives are involved in the exploration of needs and options;
- Enlist champions with diverse perspectives when implementing policies and carrying out activities.

Source: Bryson et al, 2009, p. 193

Figure 3: MetroGis Phase 2: description of events



The five strategic initiatives (SI) involved (Bryson et al , 2009, p. 193-4):

- Obtaining formal endorsement from key stakeholder organizations of the Metro- GIS principles and expectations (SI #1);
- Executing and administering data sharing agreements with key partners (SI #2);
- Identifying and addressing common priority information needs among the stakeholders (SI #3);
- Implementing an Internet-based data search and retrieval tool, now known as MetroGIS DataFinder (SI #4);
- Identifying a sustainable long-term financing and organizational structure (SI #5).

Phase 2

Phase 2 -sustained strategic plan implementation- started in May 1996 and was completed in June 2001. This involved carrying out the five projects. These were supported by intra-county user groups set up by the same coordinating planner who started the whole process.

The projects were also expanded. New datasets were added, efforts to increase perceptions of legitimacy and effectiveness of MetroGIS were continued, a first formal business plan was adopted in April 2000 and in June 2000, the MC approved a statement of intent to continue support of MetroGIS' coordination function,… This allowed MetroGIS to shift emphasis to concluding the needed agreements for long term financing, data sharing and congruence with geospatial policy for the rest of Minnesota and beyond. The phase ended with completion of the second generation data sharing agreement in June 2001. Figure 3 below shows how the original 5 initiatives (denoted in the figure as SI#) expanded and led to this final output.

Phase 3

As of July 2001, phase 3 -continuation of strategic plan implementation and development of next strategic plan- first focused on further implementation with several major initiatives following on from the original strategic initiatives: DataFind Café (state of the art internet enabled GIS data distribution), a 2003-5 business plan and a performance measurement program (to ensure MetroGis was accomplishing its goals and meeting the needs of its community). In addition, a program audit was conducted in 2006 intending to challenge the continued existence of MetroGIS, that however had a beneficial effect as it concluded MetroGis was producing far more benefits than it cost.

Surviving the audit set the stage for a new round of strategic planning with the same methodology (mapping) during an event in February 2007 with results integrated into the new 2008-2011 business plan. The output of the event is depicted in Figure 4[3] (see annex 2).

The mapping exercise (Bryson et al, 2009, p. 197-8) led to eight major activity areas to focus on:

- Develop and maintain regional data solutions to shared information needs;
- Expand endorsed regional solutions to include support and development of application services;
- Facilitate better data sharing through making more data available, having more uses, and improving processes;
- Promote a forum for knowledge sharing;
- Build advocacy and awareness of the benefits of collaborative solutions to shared needs;
- Expand MetroGIS stakeholders;
- Maintain funding policies that get the most efficient and effective use out of available resources and revenue for system-wide benefit.

In addition, a new mission statement was formulated: “expand stakeholders’ capacities to address GIS needs, maximize investments in existing resources, and foster widespread collaboration of organizations—not just governments—that serve the metropolitan area.” (Bryson, 2017).

The events in phase 3 are depicted schematically in Figure 5.

[3] Taken from the 2008-2011 business plan, appendix A. Retrieved on 15/8/2017 from https://www.metrogis.org/getmedia/d5736c4b-a54e-47b0-9a22-bc512cb05834/2008_2011_MetroGISBusinessPlan.pdf.aspx

Figure 4: mapping exercise phase 3 MetroGIS

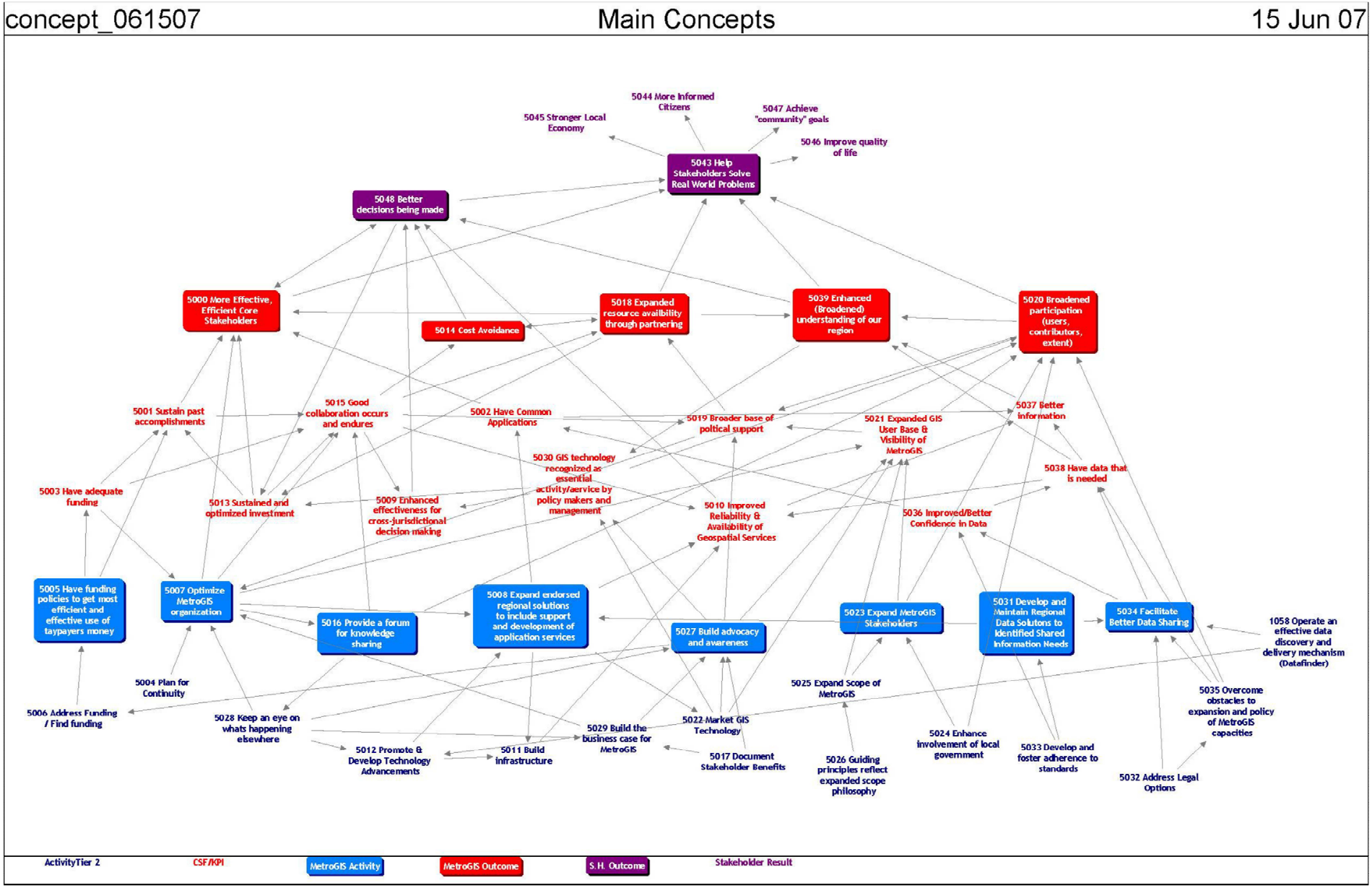
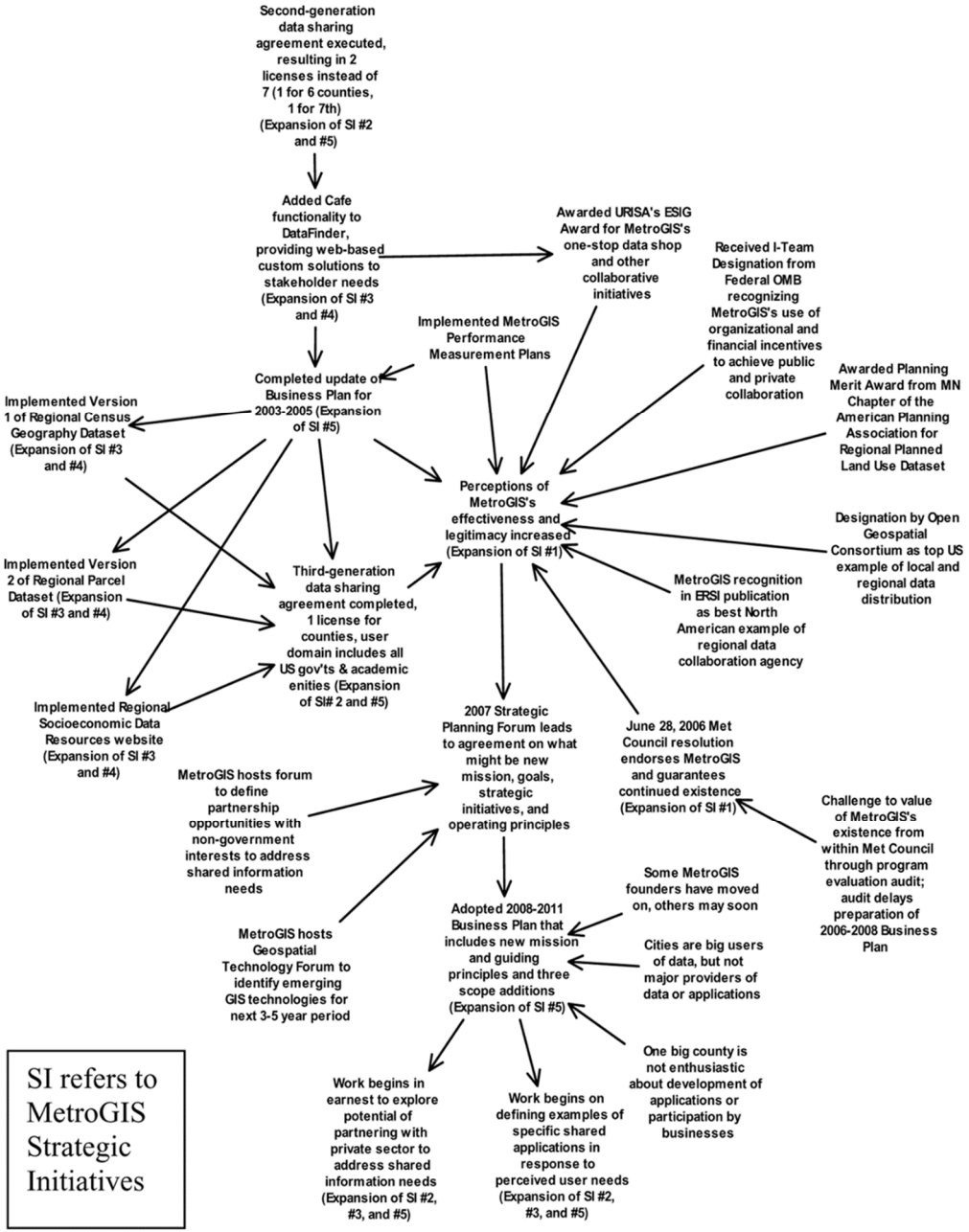


Figure 5: Phase 3 of MetroGIS



b. Reflections

Bryson et al (2009, p. 202) state that "In the process of developing the maps, each member of the group got to know and understand the content and linkages; got to know each other member's views of the content and links; learned, discovered, and/or constructed what mission, goals, strategies, and actions are or might be; and could envision what pursuing the strategic plans might look like."

For Bryson et al (2009) a strategy mapping exercise like this, helps participants make sense of their world as well as what they may want to do and the reasons for it.

MORE REFLECTIONS TO BE ADDED AFTER DISCUSSION.