

## Harnessing Social Media for Urban Planning: An Overview

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The widespread adoption of the Internet dramatically altered whole segments of our society. Considering the increasing demand for participation in planning practice and new communication possibilities offered by the Web 2.0 and social media, this paper asks how these two add up. How can planners make use of social web?

### 1. The Rise of the Social Media

In 2004, O'Reilly Media Web 2.0 conference marked the beginning of the Web 2.0. The term did not indicate a new version of the World Wide Web ("Web"), nor an official specification; instead, it marked a certain point in the evolution of the Web, in which the static web pages became a thing of the past, whereas the interactive web pages filled with the user-generated content became a point of reference. This opened new opportunities and paved the way for the new kinds of the Web applications.

While the term "Web 2.0" has a broad meaning and incorporates different kinds of interactive and user generated content, in this paper solely on Social Media as one of the most prominent applications on Web 2.0. As defined by Kaplan and Haenlein (Kaplan & Haenlein 2010), "Social Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content". Kaplan and Haenlein further differentiate Social Media on Blogs, Collaborative projects (e.g., Wikipedia), Social networking sites (e.g., Facebook), Content communities (e.g., YouTube) and virtual social and game worlds. Among these, virtual worlds are still not as popular as other types of Social Media and for this particular reason are omitted from this paper.

Beginning with the 21<sup>st</sup> century, the Social Media literally changed the way we interact socially and provided a platform for communication and exchange of ideas and information. Number of active Facebook users surpassed 1.15 billion in 2013 (Ref. ad. 1)—that is more than 3.6 times the population of US, or almost as the population of India; in 2013 Twitter users generated on average 400 million messages (tweets) each day (Ref. ad. 2); the image below illustrates a trend by depicting 500 million "check-ins" on Foursquare over the period of three months only. The Social Media dramatically altered our personal communication, and many segments of our society—businesses, sciences, arts and governments.



Figure 1: 500 million “check-ins” on Foursquare (source: <https://foursquare.com/infographics/500million>)

## 2. Social Media from the Planning Perspective—the Application Scenarios

Parallel to the evolution of the Internet, the planning practice evolved too. We witnessed a shift from the traditional, technical, top-down planning paradigm, to a more collaborative (even bottom-up) approach to city planning. Communication between different actors and bodies, and involvement of public throughout the planning process and decision-making, has become a standard component of planning practice.

Bearing in mind the increasing demand for participation in planning and easier than ever communication possibilities offered by the Social Media, the current challenge is to link the two. The crucial question thus is—how can planners and planning itself benefit by using the Social Media?

Social media provide different opportunities, like:

- Population sampling and data mining (non-participatory);
- Providing/delivering one way information or making announcements,
- Communicating, surveying, asking questions, asking for opinions, requesting feedback;
- Civic engagement, community empowerment and collaboration.

There are many ways planners can use social networking services in their everyday planning practice. Different approaches can be roughly divided into the following groups:

- Using existing (vertical) social networking services;
- Using services built for the specific planning purpose/tasks;
  - Establishing a new service, built from the ground up;
  - Opting into the existing state-level service;
- Adding new (horizontal) layer atop of already established services;
  - Starting a new service, built from ground up;
  - Using existing service;

Each approach has its benefits and shortcomings, which have been explored and the results are summarized in the next passages. Different cases or examples from the world practice have been taken to illustrate these approaches. The list of the used examples is not meant to be conclusive, nor does it necessary represent the best ones.

### ***Using existing social networking services***

Social networking services such as Facebook, Twitter, or Foursquare can be used to expand the outreach capabilities of the government agencies, including the planning related ones, and to broaden the abilities to interact with public. The typical use case scenarios are sharing information, plan mock-ups, making announcements, conducting polls, asking and answering questions, brainstorming, etc.

This approach is widely used. For example, in 2013 the Victorian government used Facebook, Twitter and YouTube to share ideas and engage citizens in a consultation process for the preparation of the New Metropolitan Planning Strategy for Melbourne.



Figure 2: Plan Melbourne Facebook page (source: <https://www.facebook.com/PlanMelbourne>)

Similarly, the city of Louisville is currently using Twitter as a platform to gather ideas and visions about the future of Louisville and to enable public to comment and discuss issues with community leaders.

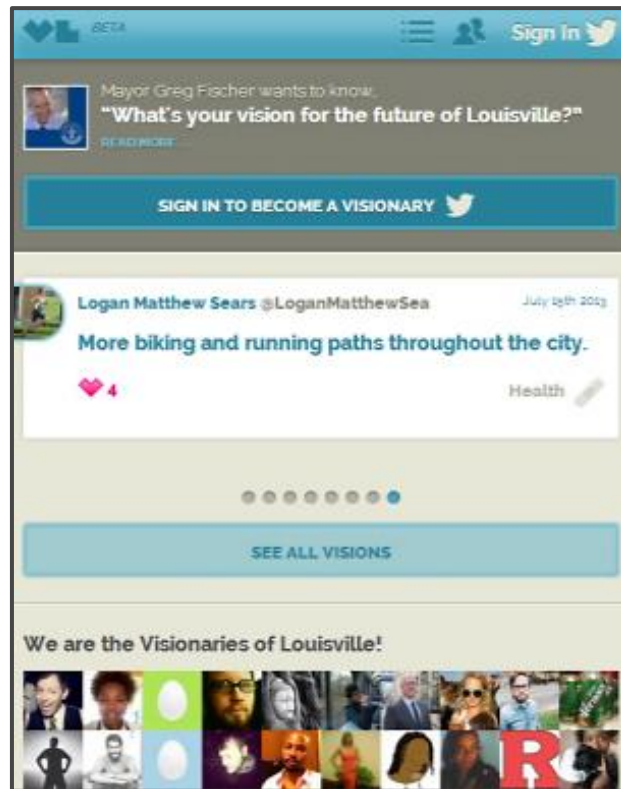


Figure 3: VizLou web page showing its Twitter feed (source: <http://www.vizlou.org/>)

Social networking services can be used for data mining too, without the explicit permission from the users. Even a simple query “New York parks” at Foursquare.com provides a map indicating a “rank” of each park, together with the users’ comments that may contain some valuable information. However, this method does not fall in the domain of citizen participation, and generates some ethical questions that should not be overlooked.

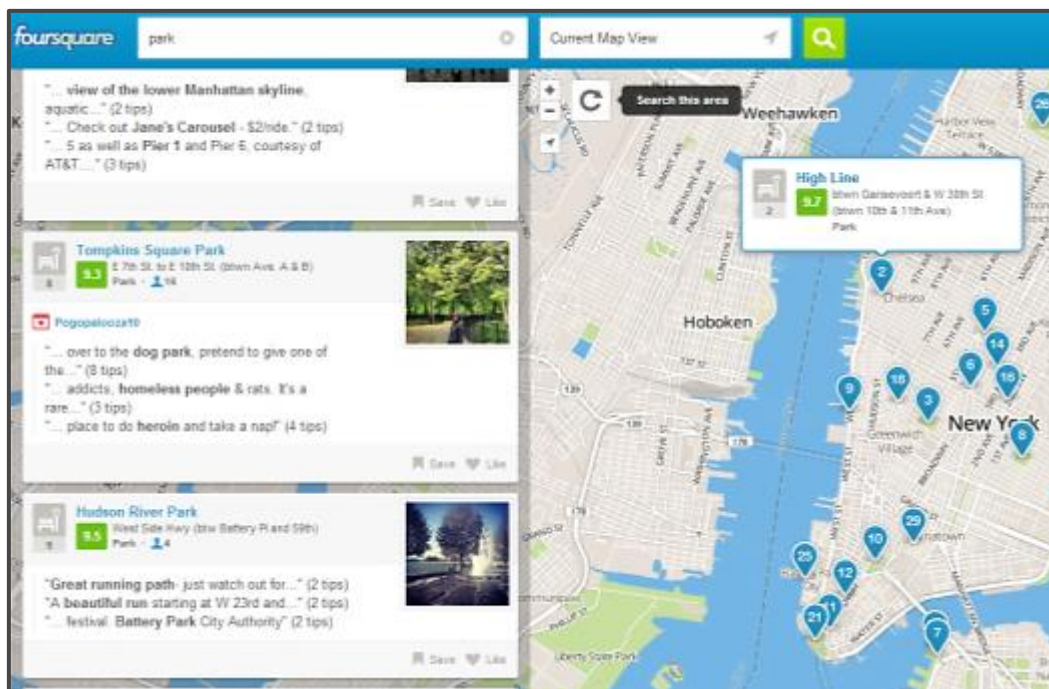


Figure 4: New York parks—Foursquare (source: <http://www.foursquare.com/>)

There are some advantages by using the existing social networking service as compared to the others, conventional approaches, such as:

- There is already the existing user base,
- They are easy to implement,
- There are no maintenance costs.

However, when deciding for, or using this approach there are issues that are to be considered:

- These are privately owned services
  - Privacy issues
  - Who owns information?
  - Specific service policies may limit the scope of their use
- They are not fit for every need
  - User interface is often not appropriate for planning purposes, which may limit the scope of its use
  - Social networks tend to reinforce a positive approach (e.g., there is a “Like” button, but not “Dislike” etc.)
- User bias—careful research is needed to determine the user profile;

The existing social networking services require planners to adapt to the specifics of the service, instead the other way round. Taking into account the advantages mentioned above, this approach could be used as an excellent supplementary way for informing the public, conducting polls, or communicating and discussing the planning issues with the citizens.

### ***Using purposely built service***

On the other end of the spectrum, the second most common approach to the use of Social Media are the services that are specifically built to enable e-participation in planning. We can differentiate the two subtypes of these solutions: first are the state-level services that municipalities can opt into; second are the stand-alone custom-built solution.

Services such as System48 in Inđija (Serbia) (Brković & Sretović 2012) or MansfieldTomorrow are examples of this approach. System48 city service is designed to improve cooperation between the local government, municipal departments, and public utility enterprises on one hand, and service recipients on the other. It allows citizens to report different issues easily. The value of the system for planning purposes rests within the stage of the on-going and post-project monitoring, as well as a means of securing relevant information on vulnerable sites, environmental quality, specific issues that require immediate planning responses, etc.

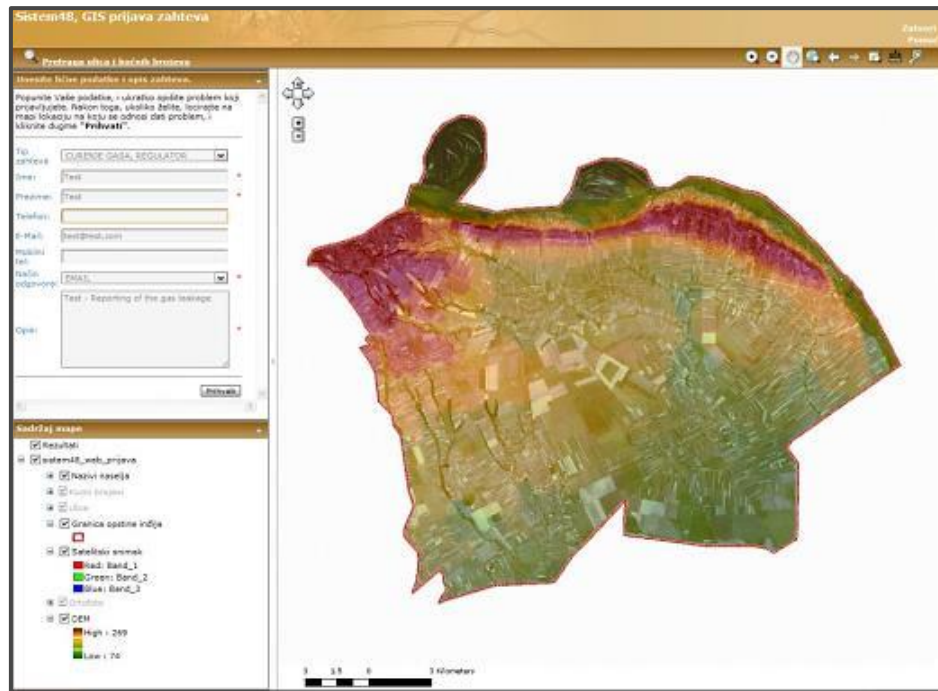


Figure 5: Reporting an issue and pinpointing its location on the web-based map (Source: [http://gis.indjija.net:7777/sistem\\_web\\_prijava/](http://gis.indjija.net:7777/sistem_web_prijava/))

MansfieldTomorrow is a website based on Shareabouts framework (Ref. ad. 3) created with the aim to allow public to “address issues such as where new development should occur, what that development should look like, how to promote local businesses and support farms ... make living in Mansfield more affordable for working families, and ... preserve the essential characteristics of our town.” (Ref. ad. 4)

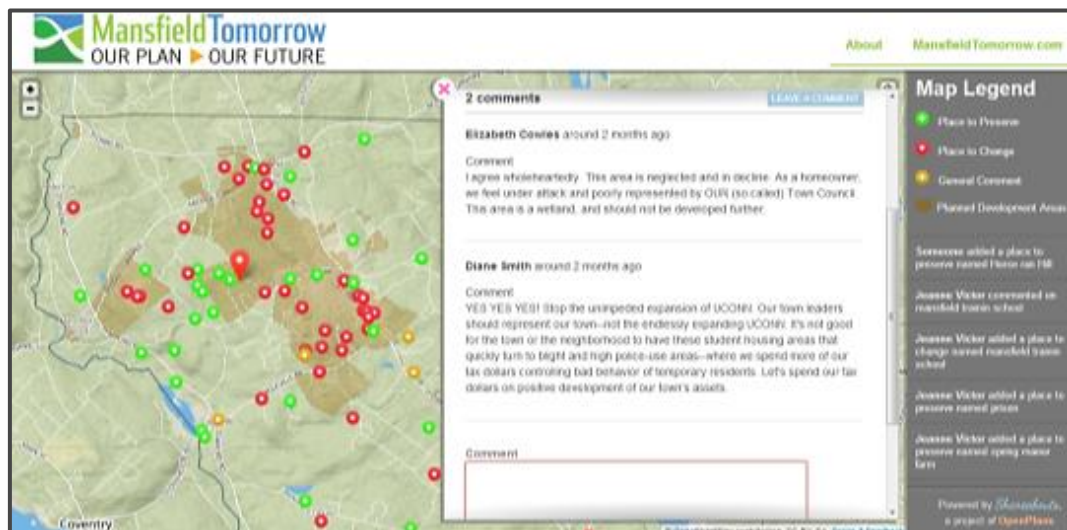


Figure 6: MansfieldTomorrow web app (source: [map.mansfieldtomorrow.com](http://map.mansfieldtomorrow.com))

The benefits of this approach are:

- Allows flexibility and custom tailoring to the specific needs for planning purposes;
- Complete control and ownership of data;
- Allows tight integration with city GIS;
- Allows tight integration with city services and/or municipal departments;

However, whilst it does have its advantages, this approach also has the shortcomings. The degree to which these shortcomings come across depends on whether the service is created

from scratch, or is it a state-level service that municipalities can opt in. The shortcomings fall into one or more of the following:

- Effort, time, money and people needed to build the service;
- Maintenance costs;
- In order to function, it is necessary to attract users first;
- User bias—careful research is needed to determine users' profiles;

### ***Adding horizontal layer atop of the already established social networking services***

This is a somewhat novel approach taken by services such as SeeClickFix from US, or Urbanias from Brazil. It tries to combine the benefits of using the existing social networking services (particularly its established user base), with flexibility of custom/purposely build solutions. Furthermore, it tries to traverses across the multiple social networks, further extending the user base and the ways it can be interacted with. Similar to the purposely-built solutions mention above, this approach also can include privately owned services that municipalities can opt into or stand-alone custom-built applications.

SeeClickFix is a mobile phone and a web tool that allows citizens to report non-emergency issues, communicate with public officials, add comments, suggest resolutions, or add pictorial documentation. It also connects with other social networks, allowing the reports to be made via Facebook application or Instagram. Likewise, Urbanias from Brazil uses a Facebook app and a mobile app with similar functions.

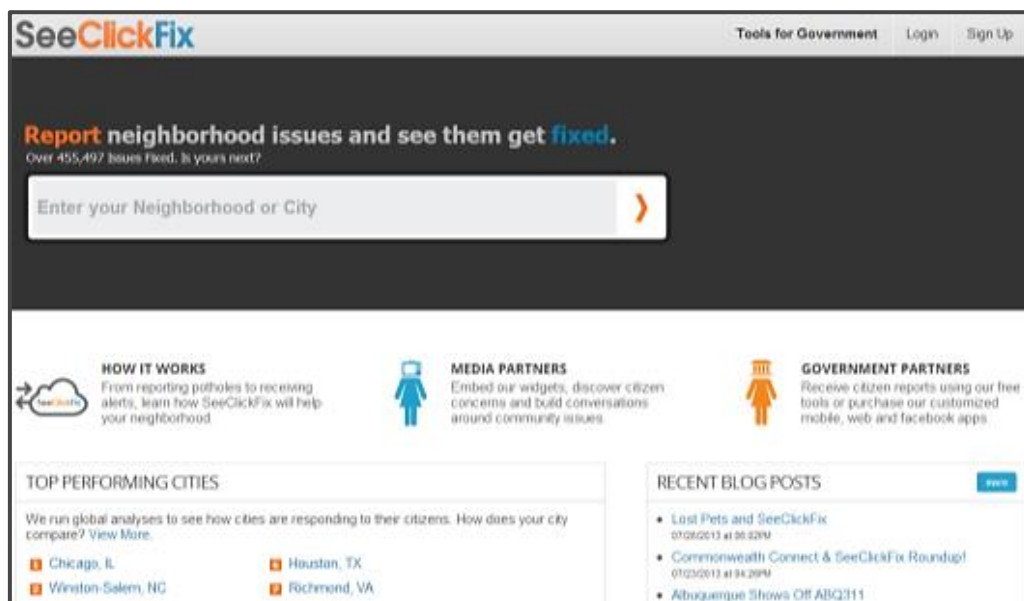


Figure 7: SeeClickFix web reporting (source: [www.seeclickfix.com](http://www.seeclickfix.com))



Figure 8: Urbanias Facebook app (source: <https://www.facebook.com/Urbanias>)

Whilst somewhat more difficult to implement, this approach does indeed combine best of the both worlds. Likewise, it also inherits some of their weaknesses, such as building and maintenance costs and a possible user bias. In addition, even though it does start with an existing pool of users, it still needs to attract them to actually use the service, though this is somewhat easier than starting with a no user pool at all.

### 3. Concluding remarks

The assessed capacity of the Social Media as applied to planning is shown in the following table:

Service	Flexibility (more is better)	Costs (less is better)	Ease of attracting users (more is better)	Achievable/likely participation (more is better)
Existing services	■	■	■■■■■	■
New service	■■■■/■■■■■ (opt into/new)	■■/■■■■■ (opt into/new)	■■/■ (opt into/new)	■■■/■■■■■ (opt into/new)
Horizontal layer	■■■/■■■■■ (opt into/new)	■■/■■■■■ (opt into/new)	■■■■/■■ (opt into/new)	■■■/■■■■■ (opt into/new)

Figure 9: Comparison of different approaches to the use of Social Media in planning

One can observe that the flexibility is directly proportional to the achievable/likely participation levels, and approximates cost of the service. The users are easiest to attract when a service is based on the existing social network, which is already in use and to which the users are accustomed to and know how to use it.

With regards to the participation ladder as defined by Weidemann and Femers (Carver & Peckham 1999), the Social Media are in the domain of limited participation. This stage of the ladder implies deployment of the particular modes of public involvement and the ways of acquiring their responsiveness. Participants are usually required to obey the timeframes as defined by planning authorities, and have to comply with existing laws and institutional



arrangements. Rarely does the public have a genuine power in starting the planning process or carry it out. Finally, it is only in the domain of purely theoretical study that the possibility there is for what Shirky (Shirky 2005) describes as collaboration instead of institutions.

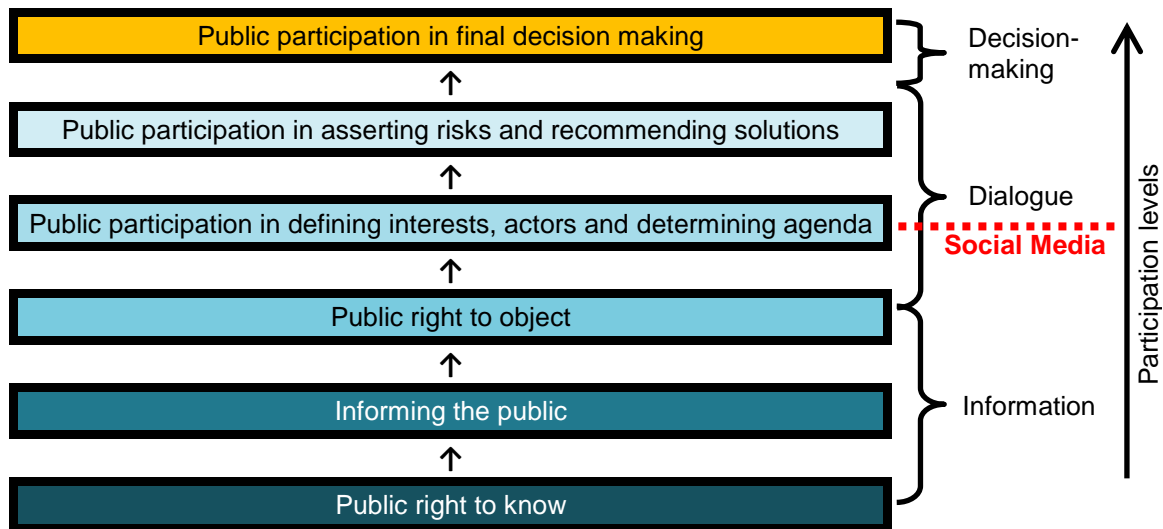


Figure 10: Participation ladder, taken and adapted from (Carver & Peckham 1999)

The Social Media should be understood and taken as a medium that support the participatory process, while they do not generate it by themselves. In order to make them functional and operational, the adequate legal, technical and administrative support is necessary. The legal component is of a particular importance and it presents the key factor in making the socially responsive environment within which the citizens are given a prominent role, together with a workable model of interaction between local governments and their citizens. Only there where the citizens' involvement in public affairs is guaranteed, the Social Media may play an important role throughout the planning process.

Notwithstanding the above, the successful application depends on the citizens' readiness to use them, and their willingness to become the active constituents of the planning process. Thus, one of the challenges planners and all those who are involved in making Social Media usable for planning purposes are faced with, is to create the user-friendly and easy to approach modes of their use.

The level of e-participation depends on the complexity and refinement of the technology in question. As a rule, the complex and high-tech technologies are used by rather a limited poll of users, while the more simple ones are available to a much larger audience. „The effects of use correlate to the level of sophistication of the instrument; the more sophisticated the instrument is the better results are obtained, while their accessibility and use adversely correspond, the simpler they are the wider their use there is“ (Bajić Brković 2006). Furthermore, „in reaching a wider audience there is a trade-off between making it as simple as possible for any user to be able to participate and knowing exactly who it is.“ (Macintosh 2004)

In order to use Social Media efficiently for planning practice, it is necessary to:

- Encourage inclusion of all groups, through the promotion of systems, rising public awareness, and enabling an access to modern technology;
- Choose a right tool, or multiple tools, in addition to the traditional ones;
- Acknowledge the fact that the acquired data or input do not represent public in general nor the entire population, but only its subset, and:
  - carefully study users of the system in order to determine exactly which group it does represent, and use the output accordingly,
  - do not use these systems as a sole or a main source of data, instead, use them to supplement or verify data obtained in other ways;

The Social Media should not exclude the established ways of public participation; instead, they offer the complementary modes for doing things, and present a promising alternative for those who choose to use them. The Social Media and conventional or already existing e-based modes are not mutually exclusive—they complement each other and provide an option for better planning.

#### 4. Acknowledgments

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#### 5. References

- Bajić Brković, M., 2006. Fenomen digitalnog grada. In *Zbornik radova: Upravljanje održivim prostornim razvojem gradova*. Belgrade: Institut za Arhitekturu i Urbanizam Srbije – IAUS.
- Brković, M. & Sretović, V., 2012. Urban Sensing – Smart Solutions for Monitoring Environmental Quality: Case Studies from Serbia. In *Congress Proceedings. 48th ISOCARP-International Society of City and Regional Planners World Congress: Fast Forward: Planning in a (hyper) dynamic urban context*. Perm, Russia. Available at: [http://www.isocarp.net/Data/case\\_studies/2215.pdf](http://www.isocarp.net/Data/case_studies/2215.pdf).
- Carver, S. & Peckham, R., 1999. *Geographical Information and Planning* J. Stillwell, S. Geertman, & S. Openshaw, eds., Berlin, Heidelberg: Springer Berlin Heidelberg. Available at: <http://www.springerlink.com/index/10.1007/978-3-662-03954-0> [Accessed July 29, 2013].
- Kaplan, A.M. & Haenlein, M., 2010. Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), pp.59–68. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S0007681309001232> [Accessed May 22, 2013].
- Macintosh, A., 2004. Characterizing e-participation in policy-making. In *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the*. IEEE, p. 10 pp. Available at: <http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=1265300> [Accessed February 4, 2013].
- Shirky, C., 2005. Clay Shirky on Institutions vs Collaboration. Available at: [http://www.ted.com/talks/clay\\_shirky\\_on\\_institutions\\_versus\\_collaboration.html](http://www.ted.com/talks/clay_shirky_on_institutions_versus_collaboration.html).

1. <http://newsroom.fb.com/Key-Facts>
2. <https://blog.twitter.com/2013/celebrating-twitter7>
3. <http://www.shareabouts.org/>
4. <http://www.mansfieldtomorrow.com/>