

Peer-to-plan CSS 2.0: A Web 2.0 application to facilitate public collaboration in the project planning and design process.

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Introduction

This paper describes how Peer-to-plan CSS 2.0, a concept for using Web 2.0 techniques to facilitate citizen involvement in planning and designing major transportation projects, could be applied to development of California's high speed rail (HSR) system on the San Francisco Peninsula.

Public Involvement in Transport Project Planning

All major transportation projects require public involvement in the design and environmental evaluation process. Federal and state guidelines and regulations set forth specific requirements that must be met in these programs. While many public involvement programs are perfunctory and simply meet the minimum requirements, some progressive public agencies have recognized that high quality public involvement programs can lead to much improved projects, reduced public opposition and faster project implementation, the later two benefits also helping to reduce project costs.

A variety of tools have been developed to facilitate high quality public involvement in the planning process. A good example is the Context Sensitive Solutions (CSS) method. The CSS method is a collaborative, interdisciplinary approach that involves all stakeholders in developing transportation projects that fit their physical settings and preserve scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS helps promote best practices, builds community and fosters a sense of ownership over both the problems and opportunities associated with major infrastructure projects. Both Caltrans and Federal Highway Administration encourage using CSS to help improve project planning.

The Peninsula Rail Program (a local agency helping the California High Speed Rail Authority plan the HSR project on the San Francisco Peninsula) has agreed to use the Context Sensitive Solutions process to help increase public collaboration in the HSR design process on the Peninsula. The Peninsula is a particularly complicated design problem because it is a highly developed and densely populated area with many active citizens that are very concerned about the impacts of HSR on their communities.

Updating Context Sensitive Design: Peer-to-plan CSS 2.0

While the Context Sensitive Solutions process is an excellent tool for involving the public in collaborative planning and design, it suffers from the limitation of requiring the collaboration to take place in highly structured meetings. The problem, as with any meeting-based system, is that those who are unable to attend the meeting cannot participate; of course they can participate through the normal channels (e.g. letters, e-mail, telephone calls, etc.) but they cannot participate in the real collaborative aspects of the process.

The goal of Peer-to-plan CSS 2.0 is to extend the possibility of full collaboration in the CSS process to everyone using a suite of Web 2.0 applications. This suite of applications would be developed and tested as part of the Peninsula HSR planning and design process.

A useful model for using Web 2.0 techniques to improve collaboration in complex government processes exists in the Peer-to-Patent process described by Beth Simone Noveck in her book, *Wiki Government*. Peer-to-Patent enabled outside experts to help U.S. Patent Office staff evaluate new patent applications. Patent office staff believes that the system helped save time and money, as well as improved the decision-making process.

Peer-to-plan proposes to use a similar process to improve transportation project planning and design. As Noveck explains, "Ordinary people, regardless of institutional affiliation or professional status, possess information – serious, expert, fact-based, scientific information – to enhance decision-making, information not otherwise available to isolated bureaucrats. Partly as a result of the simple tools now available for collaboration and partly as a result of a highly mobile labor market of 'knowledge workers,' people are ready and willing to share that information across geographic, disciplinary and institutional boundaries."

In the paper: *Web 2.0 Applications for Improving Public Participation in Transport Planning*, Andrew Nash (co-author of this proposal) describes how transportation agencies are using Web 2.0 applications and outlines several conceptual systems that combine these applications to facilitate public collaboration in transport planning. One proposed application is called "Peer-to-plan" (borrowing the name from Noveck's system). Peer-to-plan has been designed for use in the environmental planning process (NEPA, CEQA).

In a nutshell the Peer-to-plan process facilitates the creation of groups who agree to collaborate on evaluating the environmental documents and providing recommendations to the lead agency. The Peer-to-plan website would provide the tools needed to encourage participation and facilitate group collaboration. The Peer-to-plan process would take place as part of the regular public involvement process and technically the group report would be the same as any public comment.

The Context Sensitive Solutions method is a specific tool that is part of the environmental planning process. Since Peer-to-plan is designed as a modular system consisting of specific applications needed for the project at hand, incorporating it into Peer-to-plan is simply a matter of developing the needed applications. The next section outlines the benefits of using the updated CSS approach for the Peninsula HSR planning; this is followed by a more detailed description of the proposed Peer-to-plan system.

How Peer-to-plan CSS 2.0 will improve Peninsula HSR planning

At first glance it might appear that the Peer-to-plan CSS 2.0 process would simply add a layer to an already long planning process: another public comment to be considered, responded-to and addressed. However, this misses two crucial points.

First, if the commenting groups attract the right people to participate (partly a question of website application design) the quality of the group reports will be high. High quality reports and ideas will be voted-up by the community making it clear what information should be considered in the decision-making process.

If experts can be attracted to participate in the project groups, and the Peer-to-patent example suggests that they can be, then the reports can effectively raise important policy issues early in project planning when they can be addressed without

significantly impacting project schedule. In fact the name Peer-to-patent reflects the fact that interested experts (peers) were attracted to participate in the program; Peer-to-plan would attract a broader audience, but this audience would include people with useful expertise (the planner living in the neighborhood as well as the creative transport designer living in another country).

The second way Peer-to-planner could actually speed-up the process would be if several people, say members of a neighborhood group, form a community that develops a single report. This would mean fewer comments to address rather than more (since often all members of a community group submit the same, or very similar, comments).

Furthermore, by engaging and empowering the public in the planning and design process, Peer-to-plan CSS 2.0 will result in a project built with the best ideas. It will establish a sense of communal ownership that will help reduce design costs and minimize delays.

In summary, Peer-to-plan CSS 2.0 will be an open, collaborative forum in which everyone can contribute ideas to the Peninsula portion of the California HSR project. We envision:

- Broadening the opportunities for participation by non-expert stakeholders and interested parties
- Establishing a network of self-selected and invited experts to offer useful ideas in the design process where specific questions must be answered
- Meeting with the CHSRA to identify the critical points in the project schedule when additional expertise would be helpful
- Capturing ideas via an online collaboration system that uses reputation-rating software in moderated forums to rate the comments, enabling the best ideas to float to the top
- Inviting the public to help build a database of experts through a viral network
- Augmenting public hearings on the project with real-time, online feedback

The following section outlines these concepts in more detail by describing exactly how they would be achieved in Peer-to-plan CSS 2.0.

Peer-to-plan CSS 2.0 approach for Peninsula HSR planning and design

The Peninsula Peer-to-plan CSS 2.0 system will consist of 5 applications linked together in a single Internet portal. These applications are:

- **Wiki-based planning document** – the wiki-based planning document would be a description of the Peninsula HSR design options. This document would consist of text, diagrams, photo montages, simulations and other media that describe the design itself.

The initial version of this document would be prepared by the Peninsula HSR planners and, in fact, it already exists – it is the project description. Members of the public and the ad-hoc project groups could enter questions directly on the text (the document text would be highlighted and a hyperlink inserted, clicking on the link would display the comment/question text).

Once the comment/question was created, other viewers could read it and would have several options, they could add to the comment, reply to the comment, rate the quality and importance of the comment, etc. (much as one can do with a YouTube video or Digg posting).

Finally, the project planners could respond to the comment/question directly by adding their response as a link to the document. The public would have the ability to ask questions about the response and evaluate the quality and/or whether it responded to the original question.

- **Design Library** – the design library would be a wiki-based database of design options. The design options would consist of examples of design solutions for various types of problems. For example: a variety of examples of elevated railway structures in different parts of the world. For each example text would describe the design option and multimedia files would illustrate it. As a wiki anyone could add information to the examples and/or add new examples. The goal is to help citizens better imagine how these design options could be integrated into their community.
- **Environmental Impact Library** – the environmental impact library would be a wiki-based description of how different impacts are evaluated, technical standards and mitigation measures. For example, one section would describe sound impacts. In the case of the Peninsula HSR project the environmental impact library's main function would be as an educational tool, helping citizens better understand how impacts are evaluated and what can be done to reduce them. Since this library could be used for many projects it would be possible to develop excellent multimedia descriptions that would be understandable at all levels.

It would be relatively easy to create the standard environmental impact information library as much of the information already exists and professionals would have a big incentive for placing this information on line (in fact, most of the information is probably already on-line, it just needs to be organized so that it can function as the library). Once an initial library is available, it can be improved as better techniques and more educational resources are developed.

- **Google Sketch-up Design Center** – the Google Sketch-up design center will be a part of the website that enables users to highlight their Google Sketch-up designs for the Peninsula HSR corridor. In this part of the website other users would be able to collaborate with their fellow 'citizen' designers and/or use a variety of tools to provide their input (e.g. text comments, quality rating system).
- **Peninsula HSR social networking center** – the Peninsula HSR social networking center would be the place where users collaborated to provide their recommendations to the decision-makers.

The social networking center will be designed to encourage like-minded citizens to form self-selected ad-hoc groups in support of particular designs and plans. These individuals, working collaboratively, would prepare design recommendations (for example: the HSR tracks should be underground through Palo Alto). They would then justify these recommendations using information from the Design Library, Environmental Impacts Library, Sketch-up Drawings and the Planning Document.

Naturally the individuals working together as a group would be provided with collaborative tools (e.g. Google documents used in group mode) and the idea is not that the groups write long detailed documents but rather that they explain their thinking and reasoning (e.g. what arguments make the most sense to them). They will be able to make reference to the various libraries for those seeking more information on a particular aspect of the group plan.

These group plans would be made available on the social networking section of the website. Others could “become a fan” of a particular plan or design and/or join the group to contribute their ideas. A rating system would be provided to ensure that the best design ideas bubbled to the top of the list. (Design solutions would also be geo-coded on a Google Maps map for easy access.)

It’s also important to understand that this process will not be limited to people living in a certain neighborhood of a certain city. Experts from around the world will be able to weigh-in on particular aspects of the project. Perhaps there is a constituency for building a four-track elevated structure like Berlin’s S-Bahn with artist studios, restaurants and new business incubator spaces in the arches underneath the tracks. People who use these spaces in Berlin will be able to add information about how this works in practice to the group discussion.

Note that so far in the discussion of these social network groups we have not mentioned any official planner participation. Naturally the Peninsula HSR planners would be allowed to participate, but their role should be focused on explaining inaccuracies or clarifying concepts rather than expressing opinions. But, the important point is that if they allow the process to take place they will probably not need to participate significantly, instead other citizens will probably identify and solve these problems (that’s the beauty of open collaboration). The top rated group recommendations will probably be extremely high quality and very accurate.

(Note that, similar to other Web 2.0 applications, the Peer-to-plan applications will include systems to prevent people from gaming the rating system or corrupting the recommendations.)

At the end of the process the decision-makers will be able to use the recommendations along with the formal environmental documents to help guide their design decisions. The top rated recommendations would probably play an important role.

Practical Considerations: How could this be done?

There has been tremendous grassroots involvement by individuals and community groups on the San Francisco Peninsula in the HSR project. Cities on the Peninsula have been approached by experts from around the world who want to contribute their ideas at no charge. The Peer-to-plan CSS 2.0 would provide an effective forum for collecting input from local citizens and experts from around the world.

The first step in the process would be to work with internet application developers to prepare a more detailed description of the Peer-to-plan CSS 2.0 suite of internet applications and a plan for creating these applications (including a budget and schedule).

If the agencies decide to fund the project the approach will be to make maximum use of open source software. This will encourage independent application designers to suggest (and develop) improvements and refinements to the system.

There will be very significant time pressure on the project. Therefore the plan would be to develop a skeletal version of the website and add functionalities over several months. Most of the basic elements needed to build the applications already exist, the key is to combine them in a way to make them work most effectively.

Summary

We are under no illusions that using the Peer-to-plan process will eliminate opposition to HSR on the Peninsula, nor that it will magically lead to an optimized design. Instead we recognize that Peer-to-plan will improve the HSR design and help increase support for the project (both by helping better explain the benefits and costs as well as by including citizens in the design process, two key elements of the CSS process).

Developing this technology with the specific goal of applying it to the California HSR project is opportune because there is great interest in “getting it right.” If the first legs of the California project fail, public support will wane and could impact the success of high speed rail nationally.

The next few months are an ideal time to incorporate an online collaborative process into the project because the CHSRA will release its Draft Alternatives and Business Plan soon and its draft Environmental Impact Report in 2010. The Peer-to-plan CSS 2.0 process will greatly facilitate the public input process and the collaborative working process used in Peer-to-plan CSS 2.0 will help improve the project design while building support for the project.

On the other hand, relying on traditional public input processes could lead to frustration, as evidenced by the lawsuits that have already been filed against the current HSR project in California. The urgency and scale of the HSR project make it the perfect platform for launching Peer-to-plan CSS 2.0.

On the flip side, by making a commitment to try the Peer-to-plan CSS process, the California HSR Authority can show that it is adopting a truly innovative planning and design process – which could give California’s project a leg-up in the funding process.

We are excited about the possibility of working together with the California High Speed Rail Authority and its partners in developing and using this innovative new planning process. Please contact us to get started!

Additional Information and Contacts

CSS Web site: www.contextsensitivesolutions.org/. (Created by Project for Public Spaces in collaboration with Scenic America to assist the FHWA)

Federal Highway Administration: www.fhwa.dot.gov/csd/index.cfm

Utah Department of Transportation: <http://tinyurl.com/Utah-DOT-CSS>

Wiki Government, by Beth Simone Noveck (Brookings Institution Press, 2009)

Web 2.0 Applications for Improving Public Participation in Transport Planning, Andrew Nash, 2009; <http://www.andynash.com/nash-publications/2009-Nash-Web2forPT-14nov09.pdf>

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