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This past year found us surprised and damaged by the country’s economic turmoil that has spared no one. Academia—usually protected against external threats—and education in general got hit like never before: the CSU and Cal Poly facing huge deficits; colleges and departments making deep cuts; faculty and staff suffering furloughs and lay-offs; and students seeing classes canceled and job opportunities vanishing. It will take years to recover, but Taoism teaches us to view a crisis as an opportunity to explore and improve the experience of life. When a crisis hits, we must try to view it from another perspective, learn from the experience, and take it as an opportunity for change. This is how the CRP department is learning to face the new challenges, encouraged by the always positive energy of new Department Head professor Hemalata Dandekar. Shining lights on these dark times, giving hope and offering directions, are the incredible works by faculty and students who never cease to create and contribute to a better future: this issue of FOCUS is proof of our tenacity.

With this issue’s Special section, FOCUS draws attention to the work of the European Council of Spatial Planners, an organization representing 26,000 planners in 26 countries. The focus is on their New Charter of Athens, a guiding document for policy makers and planners toward sustainability and quality of life, collaboration and integration, diversity and social equity. A commentary by Mario Moutinho and Diogo Mateus, professors at Lisbon’s Lusofona University, serves as a preamble to the transcription of the New Charter of Athens’s first part: “A Vision for the European City of the 21st Century”.

In the Essays section, alumni Scott Kaiser and Kyle Perata write about their experiences during a 50-hour train ride from California to the APA national conference in Minneapolis, making a strong case for public transportation and improved passenger rail. Environmental psychology professor Daniel Levi discusses attitudes of Cal Poly students towards sustainable cities and their perceived livability based on a survey by grad students Rick Casswell, Ulises Gonzales, and Armando Lopez. Professor Siembieda and grad student Rhianna Ortiz summarize the state of planning for disaster resilient environments in the US, a presentation from a recent conference in Taiwan. The section closes with an interesting essay by graduate alumnus Jason Kambitsis on the impacts of personal digital applications in our lives and their potential for planning.

Faculty and Student Work opens with an essay on sense of place and design by Rachelle Lopez, based on her MCRP thesis, where this discussion fueled her project for downtown Cayucos, Calif. Seniors Chad Endicott, Mark Polhemus, and Marco Gonzales offer a provocative discussion on lessons learned from squatter settlements in India, Brazil, and Turkey. Professors Adrienne Greve and Zeljka Howard summarize their senior planning studio, which produced the City of Benicia’s Climate Action Plan. The plan received an award from the APACA. Professor Cornelius Nwosu collaborates with his students in two essays: with MCRP student Kevin Fang on the impacts of rail configurations on job accessibility in the Bay Area, and with senior Rob Hananouchi on an analysis of parking requirements in conventional zoning and form-based codes in the Miami case-study.

The International section brings Lourdes Flores, professor at the Benemerita Universidad de Puebla, Mexico, discussing her research on the effectiveness of sustainability policies in San Francisco and Montreal. Patricia Cavalcanti, a PhD. candidate from the Federal University of Rio de Janeiro, Brazil, writes about her experience as a visiting researcher at CRP, where she completed a substantial literature review and intensive field surveys on environmental perception and the design of out-patient infusion care units.

The Spotlight section gets started with department head Hemalata Dandekar making an overview of the community-based studios which covered eight California cities in 2009. Alumni Noah Christman reflects on the success of his first job at the peak of the market, its loss, and the aftermath, offering four rules on how to survive the industry’s meltdown. Lisa Wise, MCRP alumnus, CRP lecturer, and principal in Lisa Wise Consulting, writes about her successful professional trajectory.

We hope that you, by reading FOCUS, share our enthusiasm with the quality of work developed in the CRP department, and close the journal with an understanding of why, despite the dark clouds that have formed over us, we continue to share our optimism for a much brighter, sustainable, and equitable future.
Volume VII of Focus ushers in the start of a new decade and the 41st anniversary of Cal Poly’s City and Regional Planning Department. We have some 1,300 alumni to show for these four decades of training planners. We are proud of our roster of distinguished and productive alumni who are contributing to the planning profession in California, both across the USA and in countries around the world.

The department has flourished under enlightened leadership starting from Ken Schwartz in 1968 to William Simbieda in 2009, who now directs CAED’s PDCI - Planning, Design Construction Institute and exercises entrepreneurship in support of research. I am honored to have assumed the position of CRP Department Head on September 1, 2009. I come to Cal Poly following seven years in the School of Planning at Arizona State University--five of them as director--and over two decades in Urban Planning at the University of Michigan. My CRP faculty colleagues are committed to teaching excellence, involved in the community, and exemplary in their collegiality and dedication to the department. It is a privilege to be part of this team. I look forward to assisting the collaborations and partnerships that have characterized their work.

The next few years will test CRP and Cal Poly. The challenging economic conditions we face in the country and in California have a direct impact on us. Nevertheless, our department and its faculty will continue to be totally dedicated to deliver a quality education through learn-by-doing pedagogies and action research. The students will continue their strong engagement and hard work, and strive for and win awards and recognition for their excellent output. In the last year alone, our student projects have won two Awards of Merit from the California Chapter of American Planning Association. One was for an Urban Design Plan for Downtown Delano, the other for a Climate Action Plan for the City of Benicia. Both were cutting-edge efforts that are informing policy. The Benicia Climate Action Plan was adopted by the City Council in September 2009. The Delano Strategic Plan was adopted by the city and won the American Planning Association 2010 National Small Town and Rural Planning Award for a student project.

The reputation CRP has earned, for exemplary student engagement in the discipline and excellent work in communities throughout the state, will continue. With the support of alumni, friends, and well-wishers, our faculty and students will sustain the strength and vital engagement to the practice of planning and to the learning-by-doing approach that has characterized this department in the last forty years.

FOCUS highlights some of the community-based projects that CRP faculty and students have completed this past year. We envision more of these connections in the years ahead. We anticipate expanding our international offerings, continuing to invigorate our curriculum, and building up both our programs, the BSCR and the MCRP, and sustaining them through the difficult economic times we face.

We hope you enjoy reading this issue of Focus. It is a record of some of our significant achievements over this past year. It flourishes and is made possible by a volunteer staff of students and faculty and the efforts of Professor Vicente del Rio, the Managing Editor, and Professor Umut Toker, the Assistant Editor. We urge you to participate in our journal as a contributor, a donor, or simply by sending us your opinions—all these are important ways to participate. Every year through Focus we welcome you to our world and what inspires us.
NOTE FROM THE DEPARTING DEPARTMENT HEAD

PEOPLE SAY CAL POLY IS “THE PREMIER PROFESSIONAL PLANNING PROGRAM IN CALIFORNIA.” WHY I THINK SO.

WILLIAM SIEMBIEDA

This is a period of transition for me and for the Cal Poly City and Regional Planning Department. It is a good time to share with the FOCUS audience some thoughts and provide a retrospective of my journey here at Cal Poly. It is also a chance to tell you part of the City Planning story, and why I believe practitioners throughout the state call this the premier professional planning program in California.

Over twelve years ago Dr. Linda Dalton, who had been department head, spoke to me about applying to be the new leader of the City and Regional Planning department at Cal Poly. At the time I had been at the University of New Mexico for twenty years, arriving there with the mission of creating a new graduate community and regional planning degree in the School of Architecture and Planning. Linda Dalton’s suggestion came at a time when I had accomplished the New Mexico mission, created a program from scratch, and established its place at the university, which was well on its way to educating the majority of city planners in the state of New Mexico. I was ready for something else.

Coming to CRP and Cal Poly in 1998 provided new challenges and the opportunity to experience the great potential of “learning from California.” Cal Poly had much to offer, starting with a rich tradition in physical planning and wonderful alumni who were grateful for having gone here. CRP graduates have held positions as planning directors in many cities and counties of California. The department had a history of many devoted faculty who cared about the students, the quality of teaching, and working with local communities. Ken Schwartz, one of the department’s early faculty members, had been Mayor of San Luis Obispo for many years, and others served on the city planning commission. These devoted people were the wonderful building blocks for CRP and have always provided a solid historical basis for who we are, what we do, and how we do it. We continue this tradition today. The faculty focus on student success, the quality of teaching, and their students get the skill sets they need to be valued planning professionals.

In my first four years, I focused on slowly rebuilding the program, hiring bright faculty, and telling the Cal Poly CRP story to a broader audience on campus and in California. In these years college support for faculty development was modest, and I remember that only the department head was provided any travel funds. Our tiny computer lab in Dexter Hall had no Internet connections and no printer, and one tenure-track faculty member simply never returned from Christmas break my first year. Wow, how times have changed. Little by little more and better students came to our degree programs, and the students won many national and state awards. There is much to be grateful for. In 2009, 183 undergraduate students and nearly 50 graduate students were enrolled in the department. CRP graduates work all over the United States and in six foreign counties (Spain, Mexico, Hong Kong, Canada, Australia, and England).

We also began to receive more outside support from alumni, their families, and from the professional community. Through private donations and gifts CRP has established many new scholarships and fellowships including the McDougal Urban Design Scholarship, the Paul Crawford Scholarship, the Berrier Awards, and the Errett-Fisher Family Foundation fellowships. Cal Poly students have received more California Planning Foundation fellowships than any other program in the state.

As I look at the CRP faculty now, there are only two members who were here when I came, Paul Wack and Zeljka Pavlovich-Howard. Both have contributed a great deal to making CRP a great department. Paul has

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1 During the last 10 years CRP graduates have been planning director’s of San Francisco, Las Vegas, Clovis, Santa Paula as well as the counties of Ventura, San Luis Obispo, San Benito and Lake (all in California).

2 Before I accepted the position at Cal Poly, Steve French, who taught here in the early 1990's, said it would take three years to rebuild the program. I thought this was too long, but Steve knew the local culture better than I did.
The present-day CRP faculty is deep in urban design and development and environmental planning expertise and practice, and we have solid expertise in transportation planning, a growing area of student interest. Each faculty member has added something special and has shown dedication to making the department a wonderful place to work and to learn. CRP remains dedicated to teaching the California general plan process, as well as newer areas such as climate action plans, transit-oriented development, disaster mitigation, visioning, and form-based codes. There is a real sense of pride in the faculty and mutual respect for each other and our mission. These are positive and valued attributes and make for a good place to learn, to teach, and, increasingly, to produce meaningful scholarship of national and international merit.

There are many differences between now and then. When I arrived CRP was somewhat marginalized, suffering from a few years of interim leadership. Now, the department is a solid contributor to the college, a valued department in the university, and a leader in scholarship and community-based studio education by serving communities on the Central Coast, the Central Valley, and Los Angeles.

CRP has become a respected department because the students and the faculty have played a part in building the respect we now enjoy. The faculty lecture in other departments, teach interdisciplinary courses, and work with faculty in other colleges who share common planning and design research interests. This has made us all stronger, and served to share our message of building better communities to the larger university community.

The respect the department now enjoys is a result of many factors moving in very positive directions. Our students have earned national awards from the American Planning Association and the American Institute of Certified Planners, and the community-based projects have helped us redefine the community studio experience at both the BSCRP and the MCRP levels. We practice what other programs only write about. Our courses are strong and get stronger each year, as the instruction is updated and digital tools are integrated into the curriculum. We have broadened the traditional offerings and have globalized the thinking and the practice. Other universities across the United States interested in having a professional undergraduate planning program come to Cal Poly to see how we do it.

We have benefited from having some very brilliant and devoted students who simply want to be the best. I am always proud of the CRP students who lead the Bank of America Low Cost Housing Team Competition to victory over US Berkeley, Stanford, and UC Davis (three times in 10 years). Ah, how sweet it is, and how motivated are our students.

The growth of our master’s program has added to who we are today. We always have had a few good students in each master’s class. But in the last few years we have had more and more better students, from more and more places around the US. They have made us a better department. Being nationally ranked in the Planetizen surveys of 1997 and 1999 is a vote of confidence in our educational model, our students, our journal, and our faculty. When I first arrived we struggled to put together a small master’s cohort, and by 2009 we had many more great applicants than we could admit. Mike Boswell who has coordinated the MCRP degree program for...
many years deserves special credit for picking the best of the crop and making the case for why Cal Poly should be their choice of graduate education in California.6

Today we are more international (or global) than ever before. It was not always this way. In 2000 I took 16 students and two faculty members to Honduras to work with a local university to design an entire new community for the thousands of people who lost their homes due to Hurricane Mitch. This trip was the beginning of our efforts to enter into international exchange program. We now have five international exchange programs (with Mexico, Brazil, Honduras, Switzerland and Portugal). The most successful exchange program is with Brazil (for students and exchange scholars), and we have Vicente del Rio to thank for that. I suspect that we will continue to engage globally in different ways. Why? Because it is intellectually interesting, fun, and students want to do this. I suspect that CRP, as in the past, will not look to Europe but to Asia for new alliances as well as strengthening what we are already doing in Latin America. Now some of our students even take their internships abroad (seven different countries by the last count).

We are now in an era when other universities, like San Francisco State University and Fresno State University are asking us to partner with them for a Cal Poly MCRP degree there. They want to partner with us because we “are the real deal.” CRP is a program of excellence that others want to share in.

In 2009, the CRP department moved from Dexter Hall back to the Engineering West building, where it had been located in the 1980’s. As I walked through the department’s newly painted and furnished studio spaces and the wonderful computer lab, checking out the new windowed faculty offices again, I was happy that CRP is doing well and that I am a part of it. I want to thank each and every faculty member, the old ones and the new ones, for the support and commitment to building a great department. I see only more good things for us in the future. I truly hope, that in some substantive way, I have helped you to build your academic and professional careers and be the best you can be.

Linda Dalton told me that anything is possible at Cal Poly if you want to work for it. You need to make it happen. After serving three deans and four provosts during my tenure here, Linda’s words still ring true to me. Our future is what we will make it. Planning is really about inventing the future and the management of urban change. Both involve a passion for making better communities. CRP does this well now and will continue to do this through its leadership role within the College of Architecture and Environmental Design.

George Hasslein, the founding dean of the college, started City and Regional Planning because he saw the need for a degree program in a design college that crossed disciplinary boundaries which would have the ability to address issues of the city in ways no other college program could do. From where I sit, George Hasslein would be proud of what CRP stands for and does today. We have fulfilled Hasslein vision and are part of his legacy. I sometimes sit with his wonderful bronze statue in the office outdoor quad and talk with him about what is happening. I tell him to read FOCUS, the excellent department annual journal, which provides a historic record of events in the CRP department.
of great student and faculty work. We talk about how the CRP student slogan “get and education, get a job, make a difference” does reflect why people hold the program in esteem.

Planning professionals who have watched the program change and grow over the past ten years comment on the quality of the student work produced, the great presentations made at city council hearings, and the depth of faculty knowledge and their contribution to the profession. CRP is firmly linked to the California planning profession. This is an important part of who we are, and why many people say Cal Poly-SLO is “California’s premier professional planning program.” This outside validation and the genuine success of our students make me feel it was well worth the time and the journey.

From time to time, Paul Wack would put his head into my office and ask if “Are you having fun yet?” At times I could not answer his query honestly. I think the “fun” Paul Wack asked about was always there. From time to time, I just needed to get out from under the paper work to find it and to enjoy it.

No, I have not retired from Cal Poly but simply have changed roles. Now I am a regular faculty member, and I also direct the college’s new Planning, Design, and Construction Institute that serves all the college faculty and also community clients. My hope is to make a contribution to the department as a teacher and a scholar alongside my colleagues and the great CRP students. I recommend you look at the department website often to see the great things we are doing. You are also invited to contact, and get to know, Dr. Hemalata Dandekar, a talented, experienced, and warm person who has taken on the leadership position in CRP. I am honored and delighted that she chose to join us as Department Head. Surely, she will lead the department to its next level of excellence.
New Urbanism has a passionate following. Membership in the Congress for New Urbanism (CNU) is appended professionally to the end of names, ranking with PhD or AICP. The founders speak of their first meeting in Algonquin tone\(^1\), replete with recitation of how the name emerged. It is a most necessary movement: the congealing of sprawl. Sixty years of tract houses, ubiquitous, proliferous, and in their use of land, often ridiculous. This needed to be changed. But why did it take so long? Why did earlier attempts to derail sprawl fail—remember neo-traditionalism? Why does it now seem to have traction?

This last question might be answered thus: architects got involved. They get things done, i.e. built. Having these designers step beyond their buildings into the public space has generated this most recent momentum in urban compact design. So dominated by that profession, my late business partner Paul Crawford began a talk to CNU with a play on the alcoholic’s apology “My name is Paul, and I’m a planner.” The architects laughed. Kaiser Rangwala warned planners that architects would “eat their lunch,” asserting that planners had retreated into entitlement bureaucracy, and too far from urban design.\(^2\) Architects would now not only design, but arrange the buildings and determine their use in the realm formerly recognized as the planner’s.

With that, and with no apology, I state that I am a planner. (I am also a lawyer, and for that I often apologize). I have seen new urbanism in practice. I have seen the truly inspired designs that end the suburb. But I have also witnessed a great number of dead ends, dangerous paths, and false hopes.

A few weeks back, the City Council of Visalia, California voted to “send back to the drawing board” a compact mixed use, pedestrian friendly model of good design. Why? Because the developers didn’t want it, said they could not afford it, and would fight building it. In this recession, cost is a strong message. The argument was well received that this development was elaborate.

But aren’t these cheaper than standard subdivisions? Probably so in their ultimate form. The roads are narrower, buildings compact, and land to unit ratios much lower. It was not stated this way, but the developers argued in essence that they could mete out the costs of the old subdivision, building on a few lots at a time. It was more difficult/costly to build a development that needed a large critical mass to be coherent. This as opposed to a standard subdivision that just needed streets, utilities and “lot for sale” signs.

I have attended a number of charrettes where new urbanist principles are embedded in specific plans for the redevelopment of older downtowns, for a revitalization of suburban sprawl, and to create new communities in greenfields where none exist now. They all have their challenges. In the older downtowns, success is more likely when transit opportunities create a demand for compact housing. However, the costly retrofitting of buildings into the mandates of the new regulating plans and codes is not always accounted for. And perhaps the strongest impediment is a reluctant public works director. I have seen them watch from the back of the room while designers fashion narrower streets and fewer parking spaces—worlds the engineers think will be less friendly to fire trucks and utilities. In the excitement generated by the charrette, their voice is stalled. They wait until the initial process is over, then report to the City Manager or Mayor that the design won’t pencil out, or will have safety issues or will result in too many cars with no place to go. They know how to keep mute during the meetings powered by architects and planners. They know that their moment will arrive, when they are not combating the excitement of the feverish charrette, when they can quietly and effectively send the plan to the shelf. I have seen it happen a half dozen times.

The charrette is a brilliant tool for design. It short circuits the long, linear process that most planning efforts must endure. In a few days, with the right professionals around the table and the public in clear view, iterations of ideas can occur in moments, rather than be spread apart by draft reports, email exchanges and long weekends and the holidays. One charrette I was involved with generated nearly 2000 working hours in a 10 day period. That is one working person’s year.
The resulting plan was wonderful. However, it pushed under the carpet a nasty intersection problem. A
thoroughfare needed to push through the downtown, cross a commuter rail line, and over an adjacent ravine.
The Utilities Commission had balked at the at-grade rail crossing, and the solution was either build a massive
(six lane) bridge or ignore the connection. Given the excitement and speed with which the charrette was
proceeding, the connection was ignored. It was left to some future project. The design would all but preclude a
bridge, setting up a nasty future fight with the Commission.

Such issues are legion for planners. In these days there are no easy projects left. All the easy stuff has long been
done. The work these days is with brownfields, the leftover awkward sites, and redevelopment. Unless you are
out in the middle of nowhere, and there you are dealing with endangered species, wetlands and cultural remains.
So planners are more adept now at shouldering the burdens of the tough problems, working out solutions that
involve many publics and public works directors. Sometimes solving these problems takes months and years –
beyond the horizon of the charrette.

When an architect designs a building, it is reasonable for them to expect that it will be built soon, within a
handful of years. And that the entire thing designed will be built. It is not so with planning projects. Look at any
downtown. Perhaps the one you grew up near. How much has it changed in the last fifty to seventy years? In

And so here is another dilemma. When I see a rendering of a bold new building, I can expect that it will shortly
be realized. The finished product looks like the edifice in the handsome drawing, except the trees aren’t as
mature. Not so in planning. Except when a large developer can come in with extraordinary resources, the
picture in the specific plan will not be realized for years, decades, or perhaps, ever.

Buildings will change one at a time. Some will be granted unfortunate variances. Some will fight the code and
only approximate the rendering from the charrette. Some will just sit and continue to occupy the now awkward
space they originally inhabited. It will take a very long time to see these great ideas realized. So is it deceptive
to sell a revamped downtown with a rendering? Perhaps it is the only way; however, we planners need to be
aware of the limitations of change. It is imprudent to oversell the potential for urban change.

I remember a discussion one very late night during a form-based code charrette about an existing subdivision.
This area looked like every cul-de-sac development you might imagine. Every home sat back from the sidewalk
prominently pushing out front its garage and lawn. An architect asked, “Why don’t we require with every future
building permit that these houses remodel in a way to get the house fronted on the sidewalk?” I had no response.
“Over time, the homes would conform to our new codes. Eventually the subdivision would evolve into true
new urbanist principles.” I thought, ‘Eventually the sun will burn out. I wonder which will happen first.’

I take to heart Mr. Rangwala’s admonition, “Where great leaders such as Ebenezer Howard, John Nolen, Frederick
Law Olmsted, and Daniel Burnham once produced grand development plans, many planners today seem resigned
to the largely bureaucratic function of reviewing and processing development applications. If planners are to
continue to make a significant contribution to the communities they serve and take a more active role in the design
and construction of urban built form, their education and training will have to provide them with new skills.”

Mr. Rangwala is a scholar and a gentleman (and an architect and a planner), and a friend of mine. I hear his
message clearly. Planners need to be part of the change when we recreate our cities and suburbs. And we will
need to learn the right tools to do this. We will learn from the architects, because they know how to get things
done. However, I suggest that the architects should take care when they eat our lunch, that they not take too
large a bite.

We all need to take the longer view.
Umut Toker, PhD. is assistant professor at Cal Poly’s City and Regional Planning Department.

**New Urbanism**
SPECIAL

european council of spatial planners
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THE NEW CHARTER OF ATHENS 2003
THE EUROPEAN CITY OF THE 21ST CENTURY

In this Special section, FOCUS draws attention to the work of the ECTP-CEU (European Council of Spatial Planners - Conseil Europeen des Urbanistes) and its vision for the European city of the 21st Century, The New Charter of Athens 2003. Originally founded in 1985 as the European Council of Town Planners to bring together planning organizations of countries in the European Community, the ECTP-CEU has since changed its name to the European Council of Spatial Planners to better fit this multi-language endeavor while maintaining its original acronym. The ECTP-CEU represents more that 26,000 planners in 26 countries and works in conjunction with 25 organizations such as the Association of European Schools of Planning.1

Joining the efforts of the American Planning Association’s international division2, FOCUS understands that both students and US professionals must learn about the work of the ECTP-CEU and similar international organizations given the strong implications of globalization and multiculturalism on contemporary planning practice and education, and the advantages of mutual cooperation. From another perspective, it also is important to consider the New Charter of Athens and the European experience given that much of the inspiration for today’s new planning and urban design approaches in the US planning and urban design—such as new urbanism, smart growth, and sustainable urbanism—result from the observation of European cities, models, and experiences.

In a conference held in Athens in 1998, the ECTP-CEU adopted the New Charter of Athens: A Vision for Cities in the 21th Century, and resolved it should be kept under a constant process of revision and updating. It is very symbolic that this happened in Athens, the city where the original Charter was adopted during the International Congress of Modern Architecture in 1933.3 However, in differing from the original Charter of Athens which guided modernism with a very strict perspective of what a city should be and look like, the New Charter represents a drastic change towards a new paradigm of sustainability, integration, participation and collaboration.

Revised during the ECTP-CEU’s 2003 General Assembly in Lisbon, the New Charter of Athens promotes a vision for The Connected City: while European cities should remain “creatively competitive” they must function as a network, cooperating and complementing each other, retaining their cultural richness and diversity, promoting social connectivity, and integrating man-made to natural environments. The vision regards spatial planning as “vital for the delivery of sustainable development” and asserts that the “prudent management of space… requires trans-disciplinary teamwork… at various scales in long-lasting processes”. The ECTP-CEU believes that the ability to take a range of issues into account and translate them into spatial terms is a particular attribute of the planning profession.

As an introduction to The New Charter of Athens, FOCUS presents the invited commentary by Mario Moutinho and Diogo Mateus, planners and professors of Urbanism at the Universidade Lusofona in Lisbon -with whom Cal Poly’s CRP Department has an academic exchange agreement. Following, we transcribe ECTP-CEU’s Vision for Cities in the 21st Century, part A of the charter. The whole document also includes a framework for implementation that identifies the main issues and challenges affecting cities at the beginning of the third millennium (part B), and a discussion on the role of spatial planners for implementing the Vision (part C). The document is available from the ECTP-CEU’s website at www.ceu-ectp.org.
The New Charter of Athens published by the European Council of Spatial Planners (ECTP-CEU) comes at a time when Europe, and to some extent the entire world, is debating urban issues in light of the effects of urban pressure and the necessary implications regarding how we think and organize urban areas. The New Charter of Athens attempts to update the vision of how cities should grow. In the Charter’s first part (Part A), the ECTP-CEU has taken on an eminently political role, while in the second part (Part B) - more concurrently with its mission – ECTP-CEU defines the principles that should be followed by town planners in this new way of thinking about the global city or the city of connectivity.

It is important, however, to place the New Charter of Athens within the context of European policy. Ever since the 1970s, the European Union (EU)1 and the Council of Europe (CE)2 have been debating issues related to urban space, namely political aspects, but throughout the 1980s, 1990s, and in the 21st century ECTP-CEU has produced a set of documents aiming to establish specific criteria regarding the issues of urban and territorial planning. Between 1980 and 1982, the CE promoted a debate on cities through the Urban Renaissance Conferences, and in 1983 it published the European Regional/Spatial Planning Charter (DGOT, 1988). This document points out that spatial planning is an important tool for the evolution of European society, where international cooperation becomes essential and all European citizens should have the possibility to participate, within an adequate institutional framework, in the introduction and implementation of spatial planning measures. This Charter took on a political spirit but points to a set of methodologies to be followed for ordered and coherent spatial use.

In the 1990s, the CE issued the European Urban Charter (see CLRAE, 1992; 2002; 2004; 2007), a document fashioned like a Charter of Citizens’ Rights, where a set of methodologies for the improvement of the quality of living in European cities is laid out. Following the Lisbon Strategy3, which defined guidelines for European policy at the dawn of the 21st century, and the document Towards an Urban Agenda in the European Union (EU, 1997), negotiations among members of the European Union led to the adoption of a Territorial Agenda in 2007 (EU, 2007). In this Agenda, the European regional policy is taken as a comprehensive strategy, and territory is understood as a network. The studies promoted by the EU and by the CE in the 1990s greatly contributed to this political position which was upheld by both institutions.

The ECTP-CEU’s New Charter of Athens –which final version was approved in 2003– goes beyond the definition of a vision for the European city of the 21st century, by also defining the role that spatial planners must play in assisting the harmonious development of the globally-considered European territory, where community participation is crucial. So, as a technical document, the New Charter of Athens signals to spatial planners the path they should follow in the development of their professional activities based on the ECTP-CEU’s vision. The document’s Part B develops along four main axes that reflect the organization’s understanding of the social and political, economic and technological, environmental, and urban changes that are affecting European cities. The document discusses the trends, issues, and challenges of each of these axes of change, and defines a set of commitments and roles for spatial planners in different fields: as scientists, designers, political advisors, or urban managers – this reflects a global vision where spatial planners, whatever their function, may find paths to contribute to a better European City.

However, it is important that the New Charter of Athens be understood as a document that points to a path, in what is a revision of the philosophy behind the original Athens Charter and its adaptation to the present day
without entirely following its model (see Corbusier 1957/1942). The New Charter is not an update but rather a new vision upon which the future of cities and the practices to be followed by spatial planners should be grounded. As with any guiding document, it is crucial to relate the positions assumed in it with the specificities of the territories where action must be taken.

It is important to emphasize the need to shed light on the role of the spatial planner as an independent technician who, after studying the territory, puts forward a set of measures that will be capable of developing the territory at the same time that the measures ensure the quality of living of the territory’s populations, working with them in the sustainable spirit of enhancing existing resources. ECTP-CEU’s New Charter of Athens points to a path to be followed which, after the due adaptations to local specificities, may constitute the basis for an ethical and responsible technical attitude. For this vision to happen, it is fundamental that politicians in charge define the goals and strategies for the territory together with the technicians, the participation of stakeholders, and the general population, so that spatial planners may do their job properly.4

End Notes

1 The European Union was established in 1957 in Rome, by a treaty signed by representatives of six countries, Belgium, Germany, France, Italy, Luxembourg and Holland, to set the foundations of an increasingly closer union between the European peoples, ensuring, through common action, the economic and social progress of these countries by eliminating the barriers that divided Europe. In 1973, the founding countries were joined by Denmark, Ireland, and the United Kingdom; in 1981 by Greece; in 1986 by Spain and Portugal; in 1995 by Austria, Finland, and Sweden; in 2004 by Cyprus, Slovakia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland and the Czech Republic; and in 2007 by Bulgaria and Romania. In 2009, there was a total of 27 countries in the European Union.

2 Today The Council of Europe, which was founded in 1949, with its seat in Strasbourg, gathers 47 Member States. Its main mission is to strive for a closer union between its members. Its main activities take place around human rights, democratic principles, education, culture and heritage, and social cohesion. It is a separate organism from the European Union, but all the European Union’s Members are members of the Council of Europe. Its structures are a Committee of Ministers – the decision-making body – and a Parliamentary Assembly with representatives from all 47 Member States. Aspects related to Spatial Planning are dealt with at the Congress of Local and Regional Authorities of the Council of Europe, which gathers the local and regional authorities of the member states.

3 The Lisbon strategy is a political plan, adopted by the European Union in a conference in March 2000 at Lisbon. It aimed to achieve a competitive economy by 2010, based on social and environmental values. For more information see <http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm>

4 In order to better understand the New Charter of Athens, we recommend the following documents:

   From the Conference of Local and Regional Authorities of Europe [CLRAE]

From the ECTP-CEU (European Council of Spatial Planners - Conseil Europeen de Urbanistes)


From the EU - European Union


The Leipzig Charter, 2007

Territorial Agenda of the European Union, 2007

References


A Vision for the European City of the 21st Century: The New Charter of Athens

The ECTP-CEU (European Council of Spatial Planners–Conseil Européen des Urbanistes) is confident that in the 21st century Europe will advance decisively towards the goal of integration. Within this developing framework, ECTP-CEU presents a common and widely shared Vision on the future of European cities (Part A). This is a vision of a network of cities, which will:

- retain their cultural richness and diversity, resulting from their long history, linking the past through the present to the future;
- become connected in a multitude of meaningful and functional networks (this item seems circular since it refers back to “a network of cities”);
- remain creatively competitive whilst striving for complementarity and co-operation;
- contribute decisively to the well-being of their inhabitants and users;
- integrate the man-made and the natural elements of the environment.

Besides the Vision, the New Athens Charter 2003 also includes a framework for implementation (Part B) which consists of:

- a brief summary of the main issues and challenges that affect cities at the beginning of the third millennium;
- the commitments required by spatial planners in realising the Vision.

This 2003 version of the New Charter of Athens is addressed primarily to professional planners working throughout Europe and those concerned with the planning process – to give direction to their actions, for greater coherence in building a meaningful network of cities in Europe connected through time, at all levels and in all sectors.

Spatial planning is vital for the delivery of sustainable development. In particular, it concerns the prudent management of space, a critical natural resource, limited in supply, but with growing demands upon it. It also requires trans-disciplinary teamwork involving different skills at various scales in long-lasting processes. The particular attribute of the planning profession is its ability to take a range of issues into account and to translate them into spatial terms. ECTP-CEU is aware of both the variety and the universality of the planning profession in Europe as it takes into account the rich diversity of its cities and regions.

1. The Vision

1.2. The Connected City

In the second half of the 20th century, many dire predictions about the future of European cities were expressed. They included the lowering of productivity, abandonment and implosion of central areas, rampant crime, heavy pollution and dramatic environmental degradation, as well as loss of identity. Happily, these predictions did not materialise, although today the cities of the Old Continent are far from ideal as they face daunting challenges.

In response, at the dawn of the new millennium, the European Council of Town Planners proposes its vision. Neither a utopia, nor an outlandish projection of technological innovations, it focuses on the Connected City – and is essentially a snapshot of how we would like our cities to be, now and in the future. This vision is a goal towards which we, the planners of Europe, are committed to work and to contribute, to the best of our
professional abilities -- a goal that can be achieved by the combined efforts of all honest stakeholders in the processes of sustainable urban development and management.

The connected city comprises a variety of connective mechanisms acting on different scales. These include tactile and visual connection to the built environment, as well as connections between a diversity of urban functions, infrastructure networks, and information and communication technologies.

Connecting Through Time

Ancient settlements were created to provide shelter and safety for people and to exchange products. They gave rise to organised societies, developed a wide range of skills, became highly productive and grew into powerful centres of civilisation. They were built in carefully selected places, maintaining a clear distinction between the city limits and the surrounding rural and natural areas, even when fortifications became obsolete and were removed.

Compared to urban areas in many other parts of the World, European cities are distinguished by a long history of development, closely reflecting the characteristics of the political, social and economic structures of nations. It is this history and diversity which has made them different.

By contrast, the cities of 21st century Europe are becoming more difficult to distinguish, as human activities, initially located within urban centres, are now spreading widely into the hinterland, consuming rural and natural areas. Transportation and other infrastructure networks, constructed to serve and connect these dispersed activities, actually fragment and degrade space – the major non-renewable natural resource. Slowly, but inexorably, the new complex networks link together small and large cities, so as to create an urban continuum, already evident in many parts of Europe, within which, the classical cities become just a component of the new networks. Inevitably, the effects of this damaging trend must be addressed in any vision on the future of cities.

The future is built at every moment of the present through our actions. The past provides invaluable lessons for the future. In many respects, the city of tomorrow is already with us. There are many features of present city life which we cherish and value, and which we hope to bequeath to future generations. What is the basic problem with our existing cities? In our view, it is the lack of connectivity, not only in physical terms, but also in relation to time, which affects social structures and cultural differences. This does not just mean continuity of character in the built environment, but also continuity in identity, which is in our view an important value to be fostered in a dynamic world. For the future, the notion of the network city needs to be stressed, a series of poly-centric urban networks, many of which transcend national boundaries within the new Europe.

1.2. Social Connectivity

Social balance

The future welfare of humanity requires people to be considered both as individuals, with specific freedoms of choice to be maintained, but also as communities connected to society as a whole. This is an important goal for the connected city, which is responsive to the interests of society as a whole, whilst having regard to the needs, rights, and duties of various cultural groups and of individual citizens.

Facilitating multi-cultural expression and exchanges among different social groups is necessary but not sufficient. There are large economic disparities to be tackled within
the European Union, which are seemingly generated by the present system of free markets, competition, and
globalisation. If these trends continue, they will lead to the rupture of the social and economic fabric. To avert
this, a new approach to governance must emerge, involving all stakeholders, that tackles social problems, such
as unemployment, poverty, exclusion, criminality, and violence. Thus the city which is connected socially will
be able to provide a high degree of security and sense of ease.

Although these noble social objectives go beyond the scope of the planners’ mandate, the connected European
city of the 21st century will also provide a wide range of economic and employment opportunities for all
people living and working within it. At the same time, it will secure for them better access to education, health,
and other social facilities. New forms of social and economic structures will provide the diverse framework
required to eliminate social disruption created by imbalances.

Involvement

Future European cities will be used not only by resident citizens, but also by other consumers of their facilities
and services on a permanent or temporary basis (commuters and visitors). There will be foreign low-skilled
workers, as well as highly educated professionals (residing for long or short periods). Most probably these
two groups will figure prominently in the activities of a number of cities. As a consequence, democratic
institutions will respond to the needs and well-being of all these social groups. Current systems of urban
governance, limited mainly by the votes of permanent residents, will not be able to respond equitably to the
new social conditions, especially in matters relating to urban development. In the connected city, new systems
of representation and participation will be developed, making full use of easier access to information and the
wider involvement of active citizens’ networks, thus giving them all -residents and users- a voice in the future
of their urban environment.

Sufficient time must be built into the decision-making processes relating to spatial planning and development,
so that social links can be established, and positive interactions facilitated. At the same time it must be
acknowledged that in the connected city of the future, many groups of residents, both permanent and temporary,
will be content to make use of urban facilities and services without wanting to be involved in local decision-
making. Nevertheless, these residents will demand quality and will be prepared to pay for the services and
facilities which are provided.

Multi-cultural richness

Due to the growing trend towards European unification, which will have a slow but clear impact on mobility
and employment patterns, European cities will again become truly multi-cultural, as well as multilingual. New
connections will be established, involving a delicate and adaptive balance, so that these cities maintain both
their cultural and historical heritage and character, and encourage each of the groups residing or working within
them to retain their own social and cultural characteristics, and to play a commensurate role in considering
issues relating to their social and physical environment. Sustainability –integrating the economic, ecological
and social dimensions of change, based on participation and involvement – will be a pivotal objective for
making this possible.

Connections between generations

The changing balance between the different age groups of an ageing European population brings the need to
restore the ties of cohesion between generations. This new and growing social challenge must be addressed
not only in social and economic terms, but also in the establishment of adequate city support networks and infrastructure, including new activities for the retired and elderly and public pedestrian spaces for interaction among all age groups.

Social identity

The personal identity of citizens is strongly related to the identity of their cities. The dynamics due to immigration in the connected city will contribute to the establishment of newer and stronger urban identities. Each city will develop its own social and cultural mix – a result of both its historical character and emerging developments. As a result, there will continue to be a great diversity in the character and identity of cities and regions in different parts of Europe.

In the connected city, the exchanges among cultures in the urban environment and their communication and gradual fusion will give city life a much greater richness and diversity. This in turn will add to its overall attractiveness, not only as a residential environment, but also as a place for work, education, business, and leisure.

Movement & Mobility

In the European cities of the future, citizens will have a varied choice of transportation modes at their disposal, together with accessible and responsive information networks.

In the connected city and its regional hinterland, new technologies will be applied creatively to provide a variety of systems of transportation of persons and materials, and of information flows. At the local scale, technology and traffic management will be deployed to secure a decrease in the reliance on private vehicles. At the strategic scale, linkages between neighbourhoods, cities, and regions will be facilitated by the evolution of the European transportation network, providing rapid, pleasant, sustainable, and economical connections between places of work, living, leisure, and culture. Within city networks, mobility will be improved by interchange facilities between the various modes of transport. These improvements to infrastructure will be balanced with safeguarding peoples’ options to live and work in quiet areas not connected to rapid transportation networks.

The spatial organisation of the connected city will include a full integration of transportation and town planning policies. They will be complemented by more imaginative urban design and easier access to information, thus minimising the need for unnecessary travel. Ease of movement and access will be a critical element of city living, together with greater choice in the mode of transport.

Facilities and Services

According to the needs of present and future citizens, housing and services will become increasingly accessible – their provision will be flexibly adjusted to new and emerging patterns of needs. More housing will be provided at affordable prices, in addition to educational, commercial, cultural, and recreational facilities and services. These will be supported by running costs that citizens can afford, and complemented by a strong sense of community identity and security.
1.3. Economic connectivity

European cities of the 21st century will also be strongly connected at the economic level, thus inducing the creation of a closely-knit financial network of great efficiency and productivity, maintaining high levels of employment and ensuring a competitive edge in the global arena, whilst adapting dynamically to changing internal and external conditions.

Globalisation and regionalisation

At present, economic activities are influenced by a combination of two main forces: globalisation and specialisation (local or regional). On the one hand, new economic activities will be more than ever knowledge-based, with both production and services applying innovative technologies. These developments will not necessarily be site-specific, but will be determined on the basis of economic criteria.

On the other hand, there will be an increasing demand for rare and refined products and services associated with particular traditional production methods and typical places of origin. In the first case, their quality/price relationship will play a significant role in development decisions. In the second, qualitative characteristics will be predominant. Thus a balance will have to be found between endogenous and exogenous factors of development, which will become a particularly strategic challenge for European cities and regions. With the opening up of Europe to the East, greater integration will encourage and strengthen the diversity of cultures, which will promote the establishment of new economic, social, and cultural connections.

In such a context, cities will be called upon to make strategic choices about their economic orientation. They will have the option to interpret in local terms the demands and processes of globalisation, with the emphasis on increased diversity of opportunity. They will also be able to cultivate their own economic signature. Local and regional economies will be increasingly connected to the economies of other cities and regions, both nationally and internationally. Enhanced economic connectivity will thus contribute towards full employment and greater prosperity for the citizens of Europe.

Competitive advantages

In the 21st century, the cities that will be economically successful will be those that capitalise upon their competitive advantages. For this purpose, a high degree of multi-level connectivity will prove to be a major asset. Capitalising on the cultural and natural attributes of cities, managing their historical character, and promoting their uniqueness and diversity will be a significant advantage. In addition, providing a pleasant, healthy, and safe living-and-working environment will add considerably to the attractiveness of cities for the demanding economic activities of the future.

A successful city utilises the best of its existing attributes, both endogenous and exogenous, to position itself economically. It constantly learns and adapts so that it maintains its advantages through changing circumstances. Trends must be continuously monitored, and multiple scenarios regularly examined, in order to anticipate both positive and negative forces, and to take appropriate action.
City networking

To increase their competitive advantages, individual cities will be compelled to join various networks, which will function effectively as more or less integral systems, with cities as nodes, connected either physically or virtually or both.

These polycentric urban networks will be of various types, such as:

- networks of similarly specialised cities, which through functional and organisational co-operation reach the visibility, the size, and productivity needed to compete or to develop common goals;
- networks, linking cities with different specialisations in order to supply to each other; specialisation may also guide the allocation of public projects among the same cities;
- networks of cities connected to each other in a flexible system of exchange of goods and services;
- networks of cities sharing common (economic and/or cultural) interests linked together to strengthen their profile and thus their competitive advantage.

The types of connections between the nodes of the different networks will be strongly related to the types of flows, which will move either material goods or information / functional elements.

Such polycentric networks of cities, connected in various ways, will support the distribution, growth, and strength of economic activities throughout Europe. Defining the new networks and positioning individual cities within them will require a considerable involvement of experts who will translate these dynamics into spatial strategies.

Economic diversity

The economic connectivity of European cities will not be to the detriment of their diversity, but will contribute to it, as participation in a collaborative system will encourage specialisation and diversity, based on the competitive advantages of each city. The factors affecting economic activities (cultural and natural heritage, existence of educated and skilled work forces, pleasant environment, strategic location and others) will be combined in different ways in each city, thus contributing to urban variety, and allowing each city to determine its own balance between economic prosperity and quality of life.

1.4. Environmental connectivity

Input-output

As human beings belong to a living species, maintaining a possibility of contact with natural elements is not only a source of well-being, but also a prerequisite for survival. The environmental aspect of sustainability, however, is not only restricted to the maintenance and expansion of natural areas within our cities and their periphery, it involves many other elements.

- Perhaps the major issue in the 21st century will be the wise use of resources, especially natural, non-renewable ones, and primarily space, air, and water.
- A major step will be to protect cities from pollution and degradation, so that they can maintain their usefulness.
- The cities of the new millennium will manage the input and output of resources carefully and economically, by relating them to real needs, and using innovative technologies, and in minimising their consumption by re-using and recycling them to the highest possible degree.
- Energy production and use will be a major concern, with unprecedented levels of efficiency and an increasing use of renewable energy sources.
• In addition, the city will cease to export its wastes to the surrounding areas, and will become a self-sufficient connected system, treating and re-using the majority of input resources.

A similar environmentally sensitive approach, involving risk assessment, will be used to minimise the impact of natural disasters. Thus, earthquake damage will be contained by limiting urban development in seismic-prone areas through appropriate zoning. Rivers, torrents, and floodplains will be used, via catchment zone management, to mitigate the effects of floods and other extreme weather phenomena caused by climate change and poor engineering. Forests and green areas in and around the city will be increased, so that they are able to play a major role in improving air quality and stabilising temperatures. These measures will also have positive side-effects, in mitigating the impacts of rampant urbanisation.

Healthy cities

Environmental management and the practical application of the principles of sustainability will lead to a city that will be altogether healthier for human habitation. In the future European city health hazards in food and materials from toxic substances will be largely eliminated. These measures will be complemented by a wide range of health and social services, with an emphasis on prevention, equitably available to all citizens.

Nature, Landscape, and Open Spaces

The opportunity for all to live and work in proximity, connected to well-maintained elements of cultural and natural heritage, such as significant landscapes, archaeological sites, monuments, traditional neighbourhoods, parks, squares, and other open spaces, water bodies (lakes, rivers, wetlands and the sea shore), nature reserves, and rural areas will be carefully preserved and facilitated. Spatial planning will continue to be an effective tool for the protection of these elements of natural and cultural heritage, as well as the vehicle for the creation of new areas of open spaces which connect the urban fabric.

The emotional connection between human beings and their environment – their sense of place - is a fundamental need for successful urban living. The best-loved cities and urban places offer a rich and positive environmental experience. Environmental quality is a major factor in guaranteeing the economic success of a city – it also contributes to social and cultural vitality.

Energy

New forms of energy, obtained from non-polluting and renewable resources, will be used to cover the energy needs of 21st century cities, especially in key sectors, such as transportation and microclimatic control. In addition, energy delivery systems and facilities will become highly efficient through innovative technologies, while energy consumption will be dramatically reduced. These breakthroughs will have very positive side effects in curbing air pollution, greenhouse gases, and climate change.

1.5 Spatial synthesis

The economic, social, and environmental connections described above will have a strong impact on spatial planning.
Spatial linkages

Through careful planning and other appropriate interventions, the spatial networks in and around cities will be enhanced. In the Connected City, the essential functions of city centres and other key nodes will be maintained and improved; communications and transportation networks will serve these efficiently, without allowing the latter to sap their vitality.

At the same time, the natural areas of the Continent will be effectively protected against the extension and multiplication of these urban networks, through a combination of regulatory and stimulatory measures, as well as by promoting awareness of their value and the essential need for conservation and enhancement.

Connecting through character – continuity and quality of life

In parallel to these spatial considerations, the attractiveness of European cities will be maintained and enhanced, thus contributing to an improved quality of urban life for all, since nearly three quarters of the European population lives in cities. Urban design will be a key element of the renaissance of cities, to break down the isolation between parts of the city and to achieve retention and continuity of character, in the face of the impersonal trends of homogenisation. There will be a number of policies, measures and interventions, in which the planner will play a key role. They will include:

- The revival of urban design to protect and enhance streets, squares, footpaths, and other thoroughfares as key linkages in the urban framework.
- Rehabilitation of degraded or inhumanly planned pieces of the urban fabric.
- Measures to facilitate personal contacts and opportunities for leisure and recreation.
- Measures to ensure the individual and collective feeling of security, as it is a key element to guarantee urban well-being.
- Efforts to create memorable urban environments derived from specific genius loci, thus enhancing diversity and character.
- Maintenance and cultivation of a high level of aesthetic excellence in all parts of the urban networks.
- Conservation through planning of all significant elements of natural and cultural heritage, and the protection and expansion of open space networks.

Each of these positive developments will be handled in different ways in each country and in each city, depending on local historical, social, and economic conditions. At the same time, however, cohesion within the expanded European Union will increase, as its administrative and social structures mature, and guidelines on planning matters are gradually incorporated into the acquis communautaire. Through this process, common objectives for the cities of Europe will come to be widely accepted, whilst their diversity and the unique character of each will be highly prized and maintained.

A new model for Europe

In a global community, which is trying to find its common future amongst recurring conflicts and often-flawed political and economic experiments, one of the main contributions of Europe in the 21st century will be the new model of its ancient and modern cities: cities, which are truly connected, which are innovative and productive, creative in science, culture, and ideas, whilst maintaining decent living and working conditions for their people; cities, which will connect the past with the future, through a vital and vibrant present.
GREENHOUSE GAS EMISSIONS AND THE CASE FOR IMPROVED PASSENGER RAIL

SCOTT KAISER AND KYLE PERATA

A trip by train to the American Planning Association’s national conference in Minneapolis served as an opportunity for Scott Kaiser and Kyle Perata to reflect on passenger rail, one of the most important issues in contemporary planning. Besides the intensity of the beautiful American landscape, they also experienced the problems affecting this mode of transportation, and here they and discuss the need for a complete transportation systems approach to close critical gaps in our rail infrastructure.

It’s not often we wake up with picturesque 14,162-foot, snow-covered Mount Shasta out our window. On Amtrak’s northbound Coast Starlight, we awoke to this scene our first morning aboard the train. As night gave way to day, we watched in awe as the train crawled along the base of Mount Shasta and descended onto the Modoc Plateau in northeastern California. Less than twelve hours before, we boarded the Coast Starlight in the San Francisco Bay Area, heading to the American Planning Association’s national conference in Minneapolis and anticipating some of the country’s most beautiful scenery on our way.

President Barack Obama has already begun to shift national policy to reduce the nation’s greenhouse gas emissions. The most recent example is his decision to raise fuel economy standards. Investing in railroads is another strategy for achieving the president’s goal to reduce nationwide greenhouse gas emissions 80 percent by 2050 and make the United States a world leader in combating climate change. Obama has discussed the potential benefits of high-speed rail service between several midwestern and northeastern cities (Brown, n.d; The Office of the President-Elect, 2008). In a conscious attempt to reduce our greenhouse gas emissions, we decided to travel by train to the 2009 national APA conference. In addition to reducing our greenhouse gas emissions, we set out to better understand the current state of the nation’s passenger rail infrastructure and the lessons planners can learn for improving regional and national rail networks.

From the 20th Century Limits to the 21st Century

With the invention of the first steam-powered locomotive in 1830, a new form of transportation was born that was capable of carrying people and goods on a scale never seen before. Rail lines were constructed across the country at a staggering rate, and ridership grew exponentially during the mid-1800s. The transcontinental railroad was completed in 1869, and between 1880 and 1890 more than 70,000 miles of new track were laid. By 1910, approximately 90 percent of total trips were made by car (Itzkoff, 1985). Over the next two decades, the nation’s passenger rail network slowly disintegrated.

The success of passenger rail travel in this country was short-lived, however, due in part to the mass production of the automobile. Passenger rail travel peaked in the 1920s, and by the end of the decade people were four times more likely to be traveling in cars than in trains (Itzkoff, 1985).

During World War II, as the country rationed supplies to aid the war effort and commercial production of automobiles was halted, people returned to trains in record numbers. Unfortunately, this second life could not be sustained. Throughout the 1940s and 1950s, passenger rail service was forced to compete with the growing popularity of the personal automobile, the emergence of the commercial airline industry, the passage of the Federal-Aid Highway Act, and the creation of the Highway Trust Fund. By mid-1950, approximately 90 percent of total trips were made by car (Itzkoff, 1985). Over the next two decades, the nation’s passenger rail network slowly disintegrated.
The decline of passenger rail travel was partially slowed when, in 1962, U.S. Senator Claiborne Pell introduced a plan calling for reinvestment in passenger rail infrastructure along the northeast corridor between Boston and New York as a demonstration project. While the project was limited in scope, the “Pell Plan” served as a model of public and private partnerships funding rail transportation. In the late 1960s, Congress passed the Rail Passenger Service Act. The Act – modeled after the Pell Plan – established Amtrak as the government agency that would operate national passenger rail service. Amtrak began service in the spring of 1971. During the early and mid-1970s, however, less than ten percent of transportation was by passenger rail.

Interest in rail service fluctuated through the 1990s and in the early part of the new century. Amtrak service saw slight reductions during the Clinton and Bush administrations. Near the end of his presidency, however, George W. Bush signed an Amtrak funding bill authorizing $1.5 billion for high-speed rail projects.

A renewed public interest in alternative transportation began catching steam in the summer of 2008, with gas prices reaching almost $5 a gallon in some parts of the country. In the November 2008 elections, 23 out of 32 transit-related ballot measures passed across the nation (Cabanatuan, 2008; TRAC, 2009). In California, voters approved a $9 billion bond measure to fund a high-speed rail line connecting San Francisco with Los Angeles. High-speed rail and other forms of public transportation now have a supportive ear in the White House with the election of President Obama. In addition, the American Recovery and Reinvestment Act of 2009 includes $8 billion for high-speed rail and $1.3 billion in grants to Amtrak for infrastructure improvements. The Act also increases subsidies for transit passes.

All Aboard!

Our train journey from California to Minneapolis identified some of the advantages and disadvantages of rail travel in the 21st century.

Efficiency of Travel

According to Itzkoff (1985), train travel requires one-seventh the amount of energy to transport a load compared with hauling it by truck and is the most efficient form of passenger travel. “A single set of tracks can transport as many as 50,000 persons an hour,” Itzkoff notes. “Performing the same feat on the highway requires more than 12,000 cars traveling in four lanes with four occupants in each car” (Itzkoff, 1985). Several studies conclude carbon emissions are more intensive when released at higher altitudes compared to the same emissions released at ground level. In addition, airplanes release other pollutants (such as nitrogen oxide and sulfur dioxide) that have harmful effects when released in the upper atmosphere (IPCC, 1999). Therefore, we estimate our train trip reduced our carbon emissions by 0.242 tonnes of carbon dioxide compared with traveling by plane.1

The trip to Minneapolis took approximately 50 hours. In terms of time, airline travel is a far more efficient mode of transportation. In places outside the U.S. such as Europe and Japan, however, high-speed rail lines have been constructed to reduce travel time over longer distances, making the train a more attractive mode of transportation.

Figure 1
Waking up with a view of snow-covered Mt. Shasta outside our window.

The Great American Landscape

It quickly became apparent why some people choose modern-day train travel over flying. Traveling by train offers something the airlines cannot: the stunning American landscape. As we wound down the Cascades into the Willamette Valley and the agricultural heartland of Oregon to Portland, we met a passenger who was photographing the countryside from the train for her photography book. Pulling into Portland late that afternoon, we had stunning views of the Willamette River along with the city skyline and bridges.

We headed east from Portland, and as the late afternoon sun waned, we crossed the Columbia River into Washington and snaked through the Columbia River Gorge along the river. We passed the time playing some intense games of Boggle – loser picked up the beer tab at dinner. We took in the beautiful cliffs and the behemoth river from the viewing car before retiring to our roomette for the night.

We awoke early. With Glacier National Park a little over an hour away, we had enough time for breakfast in the dining car. We were seated across from an older couple who were leading an America By Rail tour group. They shared with us the benefits of seeing the country by rail and stories of train trips past. We said goodbye to our new acquaintances as we pulled into Whitefish, Montana, a quaint little town nestled amongst the Rocky Mountains. A few snowflakes floated through the air as a reminder of the storm that passed through a few hours earlier. With a few extra minutes at the station, we took the opportunity to walk into downtown and purchase famous Montana roasted coffee.

Over the next few hours, the trip from Whitefish toward Glacier National Park and beyond took us through some of America’s most spectacular scenery. We watched from the viewing car as we passed snow-covered mountains, valleys, and rivers still partially frozen. We met a young man traveling from Portland to New York City who makes this an annual journey. He enjoys “seeing the country” and believes train travel is better for the environment. As we sat and talked with our new friend, we marveled at the grandeur of the Rocky Mountains and the beauty of Glacier National Park. Every bend of the track brought a new landscape to be discovered.

A Rail Network Stuck in the 20th Century

Our fellow passengers, experienced in train travel, also told us about some of the downsides of the U.S. passenger rail network. Traveling through Montana, we met a retired teacher from Boston who frequently travels by train along the northeast corridor (Boston, New York, and Washington DC). On this particular trip, he was living a 50-year-old dream: to travel the country by rail. His passion for trains far outdid our own enthusiasm for this trip. He compared his experiences of train travel in the United States and abroad, noting that U.S. train service is inferior to the efficient passenger rail networks of Europe and Japan. When asked what he thought was needed, he had an answer: “more support for rail and other transit must come from the government.” In his opinion, the success of the European and Japanese train networks is a result of government support. He believes that creating a successful passenger rail network at the national level will require cooperation among Amtrak and other state agencies.

Another passenger literally ride a train around the world. He described his passion for train travel and retold stories of his train adventure from Austria to Beijing, which included a portion on the Trans-Siberian Railroad and a stop in Ulaanbaatar, Mongolia.
He mentioned the differences in accommodations among trains across the world. The Amtrak roomette, he said, does not compare in quality to these other trains.

As our last full day came to a close, we packed our belongings, since we were due in to St. Paul at 7:00 AM. When we awoke at 6:30, we were informed by our car attendant that the train was delayed and we had time to enjoy one last breakfast. At 9:00 AM we disembarked at St. Paul.

Train travel offers a unique experience to those who can find the time to ride. People we met spoke positively of their experiences but unanimously identified the need to improve passenger rail to make it a more attractive form of transportation. Unfortunately, the current network is not as time-efficient as it could be. For passenger rail to be successful at the national level, the network must evolve to meet the demands and expectations of the 21st-century traveler.

**Skyscrapers, Skywalks, and Conferences – Oh My!**

It’s not a coincidence the two major themes at this year’s national APA conference were climate change and sustainability. Conference sessions ranged from planning for the predicted impacts of climate change on resources, infrastructure, and health to incorporating sustainability principles and policies within comprehensive plans. Some of the conference sessions discussed planning for climate change using existing approaches while others presented emerging technologies.

Almost every session related to climate change and sustainability stressed the link between land use and infrastructure—a link that keynote speaker Jeff Boothe, in an address titled “Rebuilding America,” called “absolutely a critical piece of the puzzle” in reducing greenhouse gas emissions (Boothe, 2009). And in this particular puzzle, alternative transportation infrastructure is perhaps the key piece. The importance of transit being in place before new development occurs was a key theme in multiple sessions. Jeff Boothe emphasized that planners must begin to shift their focus from reducing congestion to limiting vehicle miles traveled (VMT) by locating development adjacent to existing transit infrastructure. Another speaker called for planners to return to traditional planning along existing rail lines.

Another theme that emerged from conference sessions is a shift from local to regional planning as a way to reduce greenhouse gas emissions. Commuting behavior between municipalities often falls outside local emissions reduction measures. Regional planning is integral in linking local land use efforts with local and regional transportation systems, including bus and train transport.

Throughout the conference, we asked planners about the current state of passenger rail in the U.S. and the future role of passenger rail in reducing greenhouse gas emissions. Lack of funding for rail infrastructure at all levels—local, regional, and national—was identified as a major issue. The planners we talked with believe that passenger rail infrastructure will play a critical role in reducing the nation’s greenhouse gas emissions, but that major investments will be needed at all levels of planning and government. As one planner stated, “it will take a combination of both regional and national agencies” to provide an integrated and successful alternative transportation network. Another planner emphasized the
need to take a “complete systems” or “complete transportation” approach, creating an integrated transportation system with easy connections between high-speed or other national rail lines and local or regional networks. Planners noted a handful of successful networks – including the northeast, Chicago-to-Milwaukee, and Portland corridors – that might serve as examples.

What's a Planner to Do?

Complete transportation systems are integral to combating climate change and increasing the accessibility of public transportation. Providing links among national, regional, and local networks is critical to creating accessible, alternative forms of transportation. Planners agree it will require a combination of local, state, and federal government efforts to create an integrated network of local, regional, statewide, and nationwide rail transportation systems.

We experienced the gap between the national and local networks when we arrived in Minneapolis. Upon our arrival at the train station, we had no viable transportation option other than the automobile. Our experience illustrated Jeff’ Boothe’s remark in his keynote address that most Americans don’t have the option of using alternative transportation. A complete transportation systems approach could help close these critical gaps in our rail infrastructure.

Funding will be a critical issue. While recent initiatives at the regional, state, and federal levels have allocated dollars to alternative transportation, planners and policymakers must continue to find creative ways to secure funding. Congestion pricing – charging drivers who use roads during peak travel times – is the newest approach to funding alternative transportation and boosting ridership. The stimulus bill, America’s Clean Energy and Security Act, and other recent legislation have laid the framework for increased funding for national transportation infrastructure, but there is still much more work to be done (111th Congress of the US, 2009).

The next generation of planners will play a starring role in climate change planning. We must become advocates for rail transportation and educate the public on the advantages and benefits of a viable rail network. We must demonstrate to the public how we will accomplish these goals and what the end results will be. In addition to being advocates for the rail system, we must give policymakers the information they need to make the appropriate investments in rail infrastructure.

We may be seeing the beginning of a shift back toward investing in trains. Americans have a deep history with the railroads. As planners, we must ensure that this history extends far into the future.

References


In his environmental psychology class, professor Daniel Levi posed a question to grad students Rick, Ulises and Armando: are sustainable cities also good places for people to live in? This article is based on the results they obtained from a survey with Cal Poly students which investigated the perceived livability and human impacts of several planning aspects expected in a sustainable city.

Sustainability is a current trend in urban planning that encourages cities, counties, and regions to have less environmental impact. Promoting cities that are green, pedestrian friendly, and compact creates benefits to the environment; however, it is unclear how people perceive the human impacts of various proposals for sustainability.

Sustainable development relates to urban designs that lower energy and resource use and pollution (Jabareen, 2006). Sustainable design concepts include compactness and density, mixed land use, social and housing diversity, sustainable transportation, passive solar design, and integrating nature into the urban environment. Compactness and density minimize sprawl and transportation use, protect the surrounding rural environment, and reduce energy consumption and pollution. Mixed land use reduces the use of cars for commuting, shopping, and recreation. Social and housing diversity are important for economic stability and environmental justice. Sustainable transportation uses walking, cycling, and public transportation to reduce energy consumption and pollution. Passive solar design reduces residential energy consumption. Natural areas within and surrounding a community reduce pollution and help to preserve ecological diversity.

There is certainly a need to create sustainable cities from an environmental perspective, but are these sustainable cities good places for people? Livability refers to the quality of life for a group of people who live in a particular environment (del Rio, Levi, & Duarte, 2010). Livable environments are places that people like, satisfy people’s needs, promote human health, and contribute to a sustainable ecosystem. The livability of an urban environment relates to features that promote residential and neighborhood satisfaction, a sense of community, and environmental sustainability.

The characteristics of sustainable cities have a variety of positive psychological and social effects. Increased density helps to promote neighboring and a sense of community. Mixed land use has been linked to increases in neighborhood social interactions and a sense of community. Sustainable transportation promotes walking and human health. Natural environments in urban areas reduce stress and promote health. However, there are characteristics of sustainable cities that people may not prefer. Higher residential density means more crowded and stressful environments. Mixed land uses can lead to conflicts between commercial and residential users. Reliance on public transportation reduces flexibility and independence.

The goals of this research project were to examine students’ views of the human impacts of sustainable cities. Are sustainable cities livable places? What are the perceived human benefits and problems of sustainable cities? In addition, we wanted to see if the designers of sustainable cities (planning and architecture students) had different views about sustainability due to their education.
Methods & Results

In order to examine the perceived livability of sustainable cities, we developed a survey that had students evaluate eight sustainability design concepts identified by Jabareen (2006). Table 1 presents the description of the sustainability design concepts used in the survey. The students were asked to rate each of these design concepts on a scale from 1 – mostly a problem – to 5 – mostly a benefit for people. In addition, they were asked to describe the main benefits and problems with each design concept.

One hundred and eighty-three Cal Poly students participated in the survey. The students were from upper-level undergraduate and graduate classes in CRP (27%), Architecture (27%), and General Education (46%). The sample was about equally divided by gender.

Figure 1 presents the results of the ratings in order of the amount of perceived benefit to people. Three of the design concepts (greening, passive solar design, and sustainable transport) were viewed as a benefit by over 80% of the students, and there were no differences among the students’ majors. Mixed land use, housing diversity, and social diversity were viewed a benefit by over 50% of the students. The CRP students were more supportive of these sustainability design concepts than the Architecture and General Education students. Compactness and density were viewed as a benefit by less than 50% of the students. The CRP and Architecture students were more supportive of these planning concepts than the General Education students.

The benefits and problems with sustainable cities identified by the students are summarized in Table 2. While there was a broad range of problems and benefits listed by the students for the eight sustainability design concepts, there were some frequently occurring issues that arose throughout the survey. The most prominent human benefits of the sustainable cities were less pollution (or a cleaner environment), healthier environments (which related to walking, recreation and stress), convenience (including improved access to services), and cultural diversity. The most common human problems associated with sustainable cities identified on the survey included crowding, less privacy or personal space (such as backyards), crime and related issues (such as fear and lack of safety), and social conflict.

Conclusions

Creating sustainable cities is important for environmental reasons, but in order to encourage the development of sustainable cities people must want to live in them. How do we design and market sustainable cities to make them more acceptable to people? How do we deal with the legitimate concerns people have about sustainability?

The results of this survey of Cal Poly students show some of the perceived benefits and problems with sustainable cities. Some sustainability design concepts (such as greening, passive solar design, and sustainable transport) are widely perceived as benefits to people. Other sustainability design concepts received a mixed response from the students. It is important to acknowledge these concerns about sustainable cities, and to design appropriate solutions to address them.

Table 1
Design Concepts of Sustainable Cities

<table>
<thead>
<tr>
<th>Concept</th>
<th>CRP</th>
<th>Architecture</th>
<th>General Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compactness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sustainable Transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Density</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Mixed Land Use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Housing Diversity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Social Diversity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Passive Solar Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Greening</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Data used for Table 1 / Attitudes toward Sustainable Cities (Percent who viewed the design concepts as a benefit for people)

<table>
<thead>
<tr>
<th>Design Concept</th>
<th>CRP</th>
<th>Architecture</th>
<th>General Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greening</td>
<td>96%</td>
<td>91%</td>
<td>94%</td>
</tr>
<tr>
<td>Passive Solar Design</td>
<td>83%</td>
<td>84%</td>
<td>86%</td>
</tr>
<tr>
<td>Sustainable Transport</td>
<td>85%</td>
<td>92%</td>
<td>80%</td>
</tr>
<tr>
<td>Mixed Land Use</td>
<td>79%</td>
<td>63%</td>
<td>38%</td>
</tr>
<tr>
<td>Housing Diversity</td>
<td>75%</td>
<td>49%</td>
<td>41%</td>
</tr>
<tr>
<td>Social Diversity</td>
<td>67%</td>
<td>43%</td>
<td>35%</td>
</tr>
<tr>
<td>Compactness</td>
<td>69%</td>
<td>46%</td>
<td>26%</td>
</tr>
<tr>
<td>Density</td>
<td>38%</td>
<td>41%</td>
<td>8%</td>
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</tbody>
</table>
Compactness and increased density were viewed as creating problems related to crowding, privacy, and a lack of personal space. Providing more green spaces and better sustainable transportation to recreation areas can help to mitigate these concerns. Mixed land uses, housing diversity, and social diversity were related to concerns about social conflicts, crime, and safety issues. One approach for dealing with these concerns is the development of an increased sense of community. Sense of community relates to nearby access to public and social spaces, but it also includes social factors that are not directly related to design (Talen, 1999).

The CRP students had more positive attitudes toward sustainable cities than the other students, but they still had reservations. Students should not be asked to design places where they would not want to live. It is important to teach design students how to make sustainable cities attractive and livable places. If these students have design concerns with sustainability, then they should learn how to design solutions for these concerns.

The social psychologist Kurt Lewin (1951) developed a theory of social change that examined the balance between the benefits (drivers) and problems (restrainers) of change. Although change agents often focus on the drivers of the change because that is what they want, it is the unmitigated restrainers that usually prevent the change from occurring. Sustainable cities have many environmental benefits in terms of land use, resources, and energy consumption. People are generally supportive of these environmental goals. But are they willing to support these environmental changes if they have negative impacts on people and their lifestyles? Promoters of sustainable cities must think about how to make their designs become perceived as a benefit to the people living in them.

**References**


PLANNING FOR DISASTER RESILIENT ENVIRONMENTS: CALIFORNIA AND THE WORLD

WILLIAM SIEMBIE DA AND RHIANNA ORTIZ

Nations and communities around the world are learning how to plan cities to avoid or lessen natural hazard disasters. In this article, the authors summarize professor Siembieda’s lecture presented during an international workshop on planning of disaster-resistant communities when he shared his views on US and California experiences and policies.

In late 2009 people from 14 nations gathered in Taipei, Chinese Taiwan, to discuss “disaster risk deduction” in the workshop the Framework of Long-Term Recovery Capacity Building in the APEC - Asia Pacific Economic Cooperation. The APEC is the premier forum for facilitating economic growth, cooperation, trade and investment in the Asia-Pacific region. Participants where planners, city officials, and researchers from countries that had experienced large natural hazard disasters in the last decade and that they want to plan their cities and towns in ways that will lessen the impact of the next natural hazard disaster. For example, the 2008 Wenchuan earthquake in China killed over 69,000 people and forced 11 million into some kind of transitional housing, and in Taiwan more than 400 people died as a result of the 2009 Typhoon Morakot that dropped nearly 3,000 mm. of rain on villages in just three days.

Since natural hazard disasters have become a threat to the well being of urban areas on all of these countries participants of the workshop wanted to share experiences and learn from each other. They especially wanted to know how to mitigate the impacts of natural hazard disasters and to speed the recovery process once an event has occurred. Professor William Siembieda was invited to attend and share with this international audience how California works to mitigate disaster impacts and helps to built resilient cities. In his lecture he shared the United States federal policy that influences the way states conduct their work. It is important to remember that under our federal form of government, it is the states that have land use authority, building authority and are charged with civil protection of their citizens. The following is a summary of the talk by professor Siembieda in Taipei.

California

California has a long history of being confronted with natural hazards. From wildfres and earthquakes to flooding and landslides, the state has spent billions of dollars and countless hours attempting to both prevent the occurrence of hazards as well as decrease the impact of them. A decade ago the focus was solely on providing post-disaster relief to impacted areas. Recently there has been a dramatic shift towards pre-disaster hazard mitigation.

Pre-disaster mitigation takes a multi-faceted approach. First, it attempts to reduce the likelihood of an occurrence of a disaster. This can entail anything from brush management (to reduce the likelihood of wildfires) to forbidding the building of structures on steep slopes (thereby diminishing the chance of landslides). Second, pre-disaster mitigation attempts to decrease the impact of natural hazards when they do occur. Examples of this include seismic retrofitting of buildings and river levee maintenance (such as in the Sacramento Delta area) . The recent 7.0 earthquake in Haiti, as well as the destruction inflicted upon New Orleans by Hurricane Katrina, emphasizes the need for such pre-disaster mitigation efforts.

This shift from post-disaster recovery to pre-disaster mitigation can be seen in federal policy. Under the 1998 Federal Relief and Emergency Assistance Act (Stafford Act), the emphasis was on post-disaster mitigation.
But, just two years later, the Disaster Mitigation Act (DMA) shifted the emphasis for mitigation to pre-disaster mitigation. The reasoning behind the DMA is twofold. First, it acknowledges the nature of the collective costs of disaster losses and the unfairness of citizens in a non-impacted area being forced to pay for bad land-use decisions that have created disaster losses elsewhere. Second, it recognizes the ineffectiveness of trying to enforce nationwide mitigation measures in an area as large as the United States. It is obvious that the hazards faced by a state such as California are very different that the hazards faced by a state like New York or Florida.

Different tools and strategies are needed in different areas in order to successfully plan for disasters. Therefore, under the DMA, the federal government provides the money and guidelines to states and localities to allow them to reduce risk through mitigation and build resilience through local and state pre-event planning. The theory behind this emphasis on local initiative is that state governments are best-suited to help build local capacity in mitigating hazards and that multi-hazard mitigation works better than single-hazard approaches.

The DMA places emphasis on identifying and assessing the risks, implementing measures for loss-reduction, and ensuring the continuance of critical services and facilities. In order to accomplish this, the DMA envisions a collaborative and adaptive bottom-up effort that involves multiple partners. It is a part of the emerging United States approach to hazard mitigation that places an emphasis on utilizing community and private partnerships that can be effective in implementing mitigation measures that benefit local stakeholders. Such local benefits include ensuring the continued functioning of community services (such as roads and electric power) throughout the duration of a hazard event. By involving more local stakeholders, the DMA takes a more holistic approach which encompasses physical, economic, and social (community building) elements.

In order to make these local mitigation initiatives feasible, the federal government has provided various financial incentives. Ideally, these incentives are paired with local funding measures. The Pre-Disaster Mitigation (PDM) Grant Program (which is funded through the DMA), which supports mitigation planning and projects before disasters happen, is an example of federal funding that is available for local use. This grant program is based on the underlying concept that making mitigation investments now helps to contribute to the reduction in post-disaster losses later. In fact, research has proven that one dollar of mitigation investment returns four dollars of reduced disaster losses. Another example is Community Development Block Grants (partially funded through the Disaster Resilience Initiative). CBDG provide money for measures that focus on the need for disaster resiliency (the ability to absorb the impact of an event) as well as recovery.

Because this new approach to hazard mitigation places its emphasis on local level enterprise, California has structured its mitigation efforts to facilitate the flow of money and initiatives to the state and local levels. The California State Hazard Mitigation Plan (SHMP) establishes major goals, identifies and provides strategies for addressing the major hazards, and promotes the integration of efforts between state agencies and the private sector. Its four major goals are to: lower the loss of life, lower the loss of property, protect the environment, and promote
integration of state agency efforts. From here, cities take these guidelines provided in the SHMP and make them applicable to their particular locality. In addition to assessing and strategizing about the local hazards, local hazard mitigation plans (LHMPs) attempt to involve local stakeholders in the hazard mitigation and funding efforts. These stakeholders can include non-profit groups or faith-based groups. Additionally, the LHMPs are closely integrated into the local land use policies and the General Plan Safety Element, thereby making them highly applicable documents. As of July 2009, California had 500 FEMA-approved local hazard mitigation plans (in the United States, there are over 19000 such plans).

There are many examples of the goals and objectives of both the SHMP and LHMPs being implemented into hazard mitigation projects. Billions of dollars in state funds have been spent on retrofitting highway bridges. At this point, over 75% of Cal Trans’ 1,200 bridges have been retrofitted. A new state fire plan now addresses land use as well as fire protection and preparedness. Also, the state is in the process of extensively mapping the 200-year floodplain, which will facilitate more careful local flood planning. These new maps will replace the 100-year flood plain maps provided by FEMA.

Local-led initiatives include Berkeley, CA’s investment of almost $400 million in retrofitting school and municipal buildings. Santa Barbara, CA, meanwhile, has adopted the practice of investing money to buy out houses in areas with a high fire danger. This practice has already proven its worth in the recent Santa Barbara Tea Fire, which raced through a canyon filled with homes that the city had bought and vacated. Roseville, CA, through careful management of its floodplain, has changed from a city that flooded regularly to one that is nationally recognized for its floodplain management.

California is involving hundreds of thousands of its citizens in disaster preparation exercises such as the “Great Shakeout,” which started in Los Angeles and has since spread to other areas of the state.

Final Remarks

The California model has been called “holistic” as it involves not one state agency, but many (Cal FIRE, Cal EMA, Department of Water Resources, Cal TRANS, Housing and Community Development, California Geologic Survey, the Coastal Commission, and the Department of State Lands, to name a few). There is a real desire to use land use planning, through the General-Plan process, as a key method of having cities and counties assess their hazard risks and to make the investment necessary to keep the citizens of California safe. It is the continued effort at improvement in the design, regulations (i.e. the 2010 Green Building Code), and participation of a broad group of stakeholders that make California a national model for disaster mitigation planning and for disaster risk reduction.
The future of planning is here and it is largely dependent on personal digital applications. In this provocative essay, Jason Kambitsis argues that our profession must move fast to incorporate the potential of the expanding GPS technology and of portable mobile digital devices such as smart phones. Planning should become smarter and integrated to wide networks of information flows to reach a growing number of community members in their daily endeavors.

Digital applications have not always been synonymous with the planning and implementation of communities. For years planners have used stationary technologies such as maps and drawings in order to convey both on-the-ground realities and scenes from the future.

This lack of digital applications does not fully fall into the responsibility of planners underutilizing the technological advances of the past few decades. Rather, planners have been constrained by digital-divide questions that segregate community members from the planning process based upon, among others, their education and financial background. Since planning is based around the interaction between community members and professionals in a public forum, the process for gaining and displaying feedback has been constrained.

Stationary technologies that have been historically available and understood by the masses have kept planners from utilizing new technologies as they unfold. This is now starting to change. With the advent of affordable high-speed third-generation (3G) mobile devices and user-friendly software such as Google maps, community members of all backgrounds are beginning to get plugged into the future of planning.

Nowhere is this future more evident in smart phones applications (apps) than on CycleTracks, available on the iPhone and the Google Android operating system. This program developed by the San Francisco County Transportation Authority is designed to get real-life data from users based upon where and how they ride their bikes. It works like this. A cyclist will plug in what type of ride they are going on. They can pick from a series of options including work, pleasure, or getting groceries. From there the smart phone uses its Global Positioning System (GPS) to track the route that was taken. If the cyclist likes, he/she can send the information back to the Authority anonymously. At this point the Authority can put it into their database to get a clear understanding of the route people are taking and why. By doing this planners have the ability to quickly design new infrastructure or rethink how to reuse old routes for cycling.

Mass transit systems have been going through resurgence due to higher energy prices and traffic congestion attracting, among others, young tech-savvy users. These connected riders have the ability to tap into mobile messaging and GPS systems. Although the riders are quickly adopting new technologies, the transit operators have been lagging behind.

Recently, this lack of technological foresight has started to change. The biggest leap for transit connectivity comes by way of Radio Frequency Identification (RFID) systems, which have become the technology of choice. An RFID is a generic term that is used to describe a system that transmits the identity (in the form of a unique serial number of an object or person wirelessly) using radio waves.” (Association for Automatic Identification and Mobility) This technology is currently being used in the Speedpass system and also ID tags for pets.
By placing RFID chips on buses and subways the ramifications of this technology become immense. Imagine having the ability to know when your bus or subway is coming in real time. Connecting RFID to mass transit can create notification systems that send text messages to users alerting them of how quickly their ride will arrive. This will not only give transit riders the ability to plan trips more effectively, but also aid operators in designing systems more efficiently.

Mobile GPS has been used in cars for years but has only become available to the public over the last five years, destined to become as ubiquitous as the FM radio. In current form these systems give the location of the vehicle’s position along with reference to where the nearest cup of coffee is or how to get to the closest hotel. Some of these systems also integrate “real time” traffic, which warns drivers of congestion and accidents.

Although these systems are becoming fully integrated between the car and driver they are not connected among all vehicles. This will soon change. Future navigation systems will not only be predicting the shift patterns of your car based on terrain but they will also have the ability to redirect your car based upon surrounding vehicle movement, and to connect with a larger transportation grid. A central transportation network will be able to instantly redirect vehicles connected to it, and also change the timing of traffic signals. By having a fully-integrated network, the efficiency for transportation will escalate dramatically by utilizing roadways to their fullest potential, not to mention the savings in fuel that will be realized by helping to avoid traffic congestion.

These technologies are becoming the rule rather than the exception for planning. As we continue to integrate portable mobile devices such as iPhones, RFID chips, and car navigation, the field of planning has the ability to become perpetually smarter. The question is: Will planners start to capitalize on these technologies or continue down a pathway of relying solely on static maps and regimented public forums? Only time will tell, but if we do not utilize emerging technologies to their fullest potential the future may pass us by.
CLIMATE ACTION PLANNING: A NEW AREA FOR CAL POLY’S CRP DEPARTMENT

ADRIENNE GREVE AND ZELJKA HOWARD

A senior community planning studio, under the guidance of Adrienne Greve and Zeljka Howard, collaborated with the City of Benicia, Calif. to develop their Climate Action Plan. The plan resulted from a six-month period of intense work, several community outreach initiatives, field surveys, a web site, and workshops. The class project received an award from the California Chapter of the America Planning Association and, adapted by city staff, it was adopted by the Benicia City Council in September 2009.

In 2006, the California legislature passed Assembly Bill 32 (AB 32), The California Global Warming Solutions Act, which set a state-wide greenhouse gas emissions reduction goal of 1990 levels by 2020. The interpretation and subsequent implementation of this bill has resulted in the preparation of climate action plans by cities and counties throughout California. The development of climate action plans poses a unique set of challenges for practicing planners and planning students.

Over the 2008-2009 academic year, a group of 25 fourth year undergraduate students and two graduate students had the opportunity to develop a climate action plan in collaboration with the City of Benicia. The plan development took place over six months in two, one quarter long community planning studios. These capstone studios are structured to simulate the work of professional planners and expose students to innovative methods and techniques used in “real-world” planning situations. By developing a climate action plan, students were provided the opportunity to gain expertise in an emerging area of planning policy. The plan development process was conducted as a collaborative planning effort between Cal Poly and the appropriate City of Benicia Departments as well as community members and key regional stakeholders.

The City of Benicia, population 27,916, is located in southern Solano County, California, approximately 35 miles northeast of San Francisco, and 57 miles southwest of Sacramento. Approximately 12.9 square miles in size, Benicia lies on the north shore of the Carquinez Strait, which connects San Francisco Bay to the west, with the Sacramento and San Joaquin River Delta to the east.

In 2007, the City of Benicia joined an increasing number of California communities in developing plans to address climate change on a local level by adopting a resolution to act on climate protection and officially joined the Local Governments for Sustainability (ICLEI) Cities for Climate Protection Campaign. Benicia's Mayor, Elizabeth Patterson, signed the U.S. Mayor’s Climate Protection Agreement in 2008. Benicia conducted a greenhouse gas emissions inventory and set emissions reduction targets that were adopted by the City Council in September 2008. The City selected the community planning studio to develop a Draft Climate Action Plan that identified strategies to reach the emissions reduction targets.

Planning Process

The six month climate action plan development process was broken into two phases. Phase One entailed: extensive background research that included an inventory of relevant legislation and guidance; an audit of existing City policies and programs that support or potentially conflict with the City’s emissions reduction
goals; a review of existing climate change policy plans to assess strategies used by other jurisdictions to lower greenhouse gas emissions; and holding community outreach events to gather community input on the Plan. In addition to hosting community events, digital outreach was utilized through development of a website and an online survey. Phase Two involved drafting a Climate Action Plan to identify specific emissions reduction objectives and strategies, develop indicators to track progress, and provide policy recommendations for implementation. To successfully complete Phase Two, additional outreach was conducted focusing on key stakeholders, community organizations, and City departments.

The students conducted five community outreach events during the planning process. The initial effort involved conversing with citizens at the Farmers’ Market to increase community awareness, answer questions, and extend an invitation to attend the October kick-off Planning Commission meeting and the November community workshop. The second and third outreach efforts were workshops—a visioning workshop with the Benicia High School students and a public workshop targeting all community stakeholders. An interactive web site was created to provide another vehicle for residents to participate in the Plan preparation process. The website enabled the community stakeholders to participate in a survey, offer suggestions, and learn about climate change issues and efforts conducted by other communities. Near the end of the six-month process to create the Draft Climate Action Plan, meetings were held with local stakeholders to obtain information about operations and current actions undertaken by various public and private entities. The draft Plan with proposed strategies to achieve the emissions reduction targets was presented to the community at the Planning Commission Meeting in March, 2009.

Participation in development of a Climate Action Plan provided the students with the opportunity to gain experience in a new area of focus for the planning profession. Climate action planning poses a set of distinct challenges to planning students. One aspect of plan development unique to climate action planning is the need to specifically quantify the estimated emissions reduction resulting from the implementation of objectives and strategies. This required a level of technical expertise that is not traditionally included in planning education. For example, to estimate the effectiveness of solar power installations, students had to make defensible assumptions about the likely solar input, photovoltaic efficiency, and power output.

Every aspect of the plan required a set of assumptions to be made and supported through research from anticipated vehicle emissions improvements to the effectiveness of the recommended education programs. These technical challenges were overcome by drawing on outside experts as needs were identified, and through student enthusiasm for exploring a topic that required innovation and creativity. The added informational and organizational burden energized students as it also marked added freedom and provided them an opportunity to develop expertise in an increasingly important area of planning.

**Outcomes and Implementation**

The Draft Benicia Climate Action Plan identified emissions reduction objectives and supporting strategies in eight focus areas: energy production, transportation and land use, buildings, commercial and industrial, water
and wastewater, solid waste, parks and open space, and public education and outreach. For each reduction measure, indicators to track progress are identified and a suggested implementation sequence is defined. Taken together, the measures detailed in the Plan provide the City of Benicia with a roadmap to meeting the adopted emissions reduction targets.

The draft plan was submitted to the City in May 2009, and following refinement by staff, the Plan was adopted by the Benicia City Council in September 2009. Benicia was the first city in Solano County to prepare and adopt a Climate Action Plan. In addition, implementation of several of the strategies identified in the Plan has already begun including the pursuit of local renewable energy generation. The City continues to utilize the website developed by the students with regular updates at <BeniciaClimateActionPlan.com>.

The student project received an academic award of merit from the California Chapter, America Planning Association at the annual conference in September, 2009.

**Conclusion**

The need to address climate change is increasingly an area of emphasis internationally, nationally, and, particularly, on the state level in California. The ability for the State to reach the emissions reduction target identified in AB 32, The California Global Warming Solutions Act, relies, in part, on actions taken at the local level (California Attorney General). In addition, greenhouse gases and the resulting changes in climate have recently been identified as a potentially significant impact under the California Environmental Quality Act.

The legislative mandate to address climate change has created a need for planning professionals with the skills students gained through this project. As a result, the student project not only benefits Benicia, but also any of the communities with whom these students will work in their professional careers. This project from the 2008-2009 academic year has led to a similar project being pursued during the 2009-2010 academic year, where the studio is developing a draft Climate Action Plan for the City of San Luis Obispo. Also, a new course is being developed for spring 2010 titled Climate Action Planning in an effort to expose a greater number of undergraduate and graduate planning students to the principles of climate planning.
Planning and design has always been about creating and maintaining the quality of the built environment and making it meaningful to its users. Rachelle Lopez discusses the importance of understanding the underlying qualities that convey a sense and a meaning to a place, their relationship to the users’ experiences, and their importance for a successful design process.

Understanding the connections between communities and their places is fundamental for planning and design to be meaningful and reflect the true values of communities we work for. Three concepts help us in this endeavor: sense of place, experience of place, and design as place making. Studying these concepts can help us figure out which elements need to be considered when designing in order to maintain or enhance the community feelings for a place or to increase the users’ desire to inhabit or experience that place.

Findings of such studies will help us understand the underlying reasons why different places are highly utilized while other places are used at a lower frequency or not at all. It will also guide visioning and design development in a direction that maintains the sense of place of an area, enhances users’ experiences and connections, and utilizes design to improve the users’ assessments of the place. Overall, this understanding of place will help prevent cookie-cutter designs from being implemented while facilitating planners and designers in creating and maintaining unique environments.

**Sense of Place**

According to Lynch (1981: 131), “Sense is the interaction between person and place...[and]...depends on spatial form and quality, culture, temperament, status, experience and current purpose of the observer”. A sense of place can be “created by the pattern of reactions that a setting stimulates for a person” (Steele, 1981: 12). These reactions are a product of both the setting’s attributes and personal aspects that are brought in by users. The specific experience a person has in a particular setting, and how that setting causes him or her to feel, is what directs and molds an individual’s sense of place. Identity is the simplest form of sense and is the extent to which a person can recognize or recall a place as being distinct from other places; in other words, the place is unique and maintains a character of its own that makes it stand apart from other areas.

According to Norberg-Shulz (1979: 5) “spaces where life occurs are places” and are the result of relationships between actions, conceptions, and physical attributes. While an animal’s awareness of space is related to survival in terms of food and shelter, a person’s awareness of space includes where he or she has grown and spent their time (Trowbridge, 1913: 889). Creating a sense of place can give people the feeling of being at home or having a home that they can go back to while also providing a sense of control over their own fate.

In some instances, people merely see themselves as observers of their environment. At the same time, people also look for and “perceive themselves as being connected to or being a part of their surroundings” (Hiss, 1990: 22). Place then becomes a materialization of peoples’ dwellings, where they can identify themselves with the environment and where the environment has meaning to them. People have and continue to identify themselves with places, such as calling them home, and use them to provide a kind of symbolic identity that distinguishes them from others.
Canter suggests that “what a place ‘is’ cannot be fully recognized until we know what behavior is associated with it, what the physical parameters of the setting is, and what the description, or conception, which people have of that physical environment is” (Canter, 1977: 159-160). Observing the differences between people’s behavior and their conceptualizations of place make it possible to understand the multiple ‘sub-places’ that co-exist in any given place. Recognizing that places contain more than one use and accommodate many behaviors allows us to understand and provide for the diversity of people that can be accommodated in any given place.

We can begin to see place as “both an object of people’s interest, concern, influence, attention, alteration, and enjoyment and the cause of people’s feelings, moods, responses, constraints, achievements, survival, and pleasure” (Steele, 1981: 9). Whether seen as object or cause, people will create their own sense of place through different aspects they bring to the setting and how they use the space. Place can also be broken down in terms of space and character. “Space denotes the three-dimensional organization of the elements which make up a place, and character denotes the general atmosphere which is the most comprehensive property of any place” (Norberg-Shulz, 1979: 11). Space is experienced as the three-dimensional extension of the world around us. It changes according to the relationships that are formed between people and their surroundings. In this sense, it can be argued that the formation of this relationship is more dependent on the spatial organization of the designed environment than the use of materials in the area that provide for the place’s character.

The various aspects of physical attributes and other elements that create a space also assist in the recognition of places. Based on which attributes are present in a given area, certain groups of people will be able to identify themselves with the space. In order for a place to be successful it “needs to be accessible to all of the senses, engaging the perceptions of its occupants because it is this perception that allows for a direct sense of continuing membership in communities and regions” (Hiss, 1990: xiii). Another factor that aids in a sense of belonging is if the area is in some way either “appropriate to the person and their culture, makes them aware of their community, its past, the web of life, as well as of time and space in which those are contained” (Lynch, 1981: 142). Given the opportunity, it is argued that people and animals will strive to select the habitat that best matches their needs, preferences and lifestyle (Rapoport, 1977: 81). This selectivity is due to motivation, experience and adaptation levels, as well as cognitive needs, such as connectedness, identity, scale, and orientation. It is therefore important for people to understand that they are “an integral part of the environment, and if they forget that, it can only lead to human alienation and environmental disruption” (Norberg-Shulz, 1979: 23). For not only do we observe our environment and have individual and unique perceptions of that environment, but we ourselves are a part of it, participating with other people in creating a sense of place.

**Experience of Place**

A person’s experience of a place is not believed to revolve only around the function of the area’s physical attributes. What could also be taken into account is what
characteristics are picked up by people’s five senses, their history, and their moods while they are experiencing it. Greenbie (1981: ix) suggests that “what each of us actually experiences is selected, shaped and colored by what we know, that is, by what we have already experienced”. People’s reactions, identifications or perceptions of a place will depend on the type of exposure they had to various kinds of settings throughout their lives. Personal differences that may be displayed by different individuals stem from these differences that exist between people, their concept of place, and the interactions they have had and continue to have with their surroundings.

People’s perception of a place also varies depending on their purpose or goal for being there as well as their expectations. Their goal or purpose is what links them to the place, helping form a bond between them and the area. Their expectations link them to a place because of what they intend to find there, for instance, people with similar interests or certain accommodations. As a person continues to experience a place over time, this bond becomes stronger. Canter looks at this relationship between person and place as the person’s ‘environmental role’ suggesting that a person’s role is what determines the frequency at which that person relates various places to themselves (Canter, 1977: 178).

People, according to Steele (1981: 4), “experience a sense of place, given the right conditions”. This means that a space needs to accommodate for a wide range of individuals in order to ensure their ability to experience a connection with the space. Spaces need to provide for both the ‘doers’ who actively use the space and the ‘watchers’ who use the space passively. The fact that people act and behave differently in different settings suggests that people make their behavior fit with and be appropriate to the setting. This implies that the “environment provides cues for behavior through a form of non-verbal communication” (Rapoport, 1977: 3). The area should therefore contain both physical and social attributes to guide behavior and emotional responses of the various users. If these attributes are made visible, the likelihood of stimulating the interest and use of users will increase.

Visual quality can affect a person’s experience greatly because people respond to what appears before them, visual cues in the area, and what they recall of places. Tuan (1974: 6). believes that “of the traditional five senses man is more consciously dependent on sight to make his way in the world than on the other senses”. This allows us to understand and see the space in terms of meaning, appearance, and function. Nasar (1998: 3) furthers this idea stating, “Appearance and meaning are not separate from function but central to it”. The disagreements people have about the appearance of a place go beyond what they see to include the experience and the level of satisfaction they get out of a place. For instance, when a place is compatible, say it has a wide sidewalk, people may feel comfortable in it and able to perform tasks, such as walking down the street. When a place feels disorderly, containing graffiti, litter, or is under maintained, it can cause them to feel a sense of anxiety or fear. Therefore, the way in which people may perceive the environment can impact their enjoyment, behavior, and feelings towards a place, which in turn, can contribute to their sense of place.

“The appearance of cities, towns, neighborhoods…affect daily activities by influencing our emotional reactions or affective responses. The aesthetics of an environment can evoke feelings such as pleasure, relaxation, excitement and fear” (Antaov, 1998: 239). These emotional responses in turn can affect behavioral responses, with people taking favorable or unfavorable actions in accordance to how they feel. People tend to respond to
what they see in relation to a physical form. With a range of visual qualities, attributes, and architecture, users can be attracted to and interested in a designed space for different reasons. Building density, scale, and type are key factors to the design of a space because people are able to create a relationship between their evaluative responses and the building’s visual attributes. There has been research done on aesthetic controls showing that the environment plays a significant role in the well-being of people. On the negative side, these controls can create a “recipe for homogeneity, sensory deprivation, and lack of environmental or social identity” (George, 2000: 166). On the positive side, these controls can help coordinate the overall spatial design, evoking a sense of identity and belonging.

Using “a pattern or repetition of specific experiences facilitates a person’s ability to increase their sense of place more than if only a single experience was presented in the area” Steele, 1981: 141). Time patterns also influence the experience of a place through time-related elements such as when places are open, how long and when they can be used, which services are available at different times, the hours established for work, etc. This and “personal combinations of perceptions, expectations, assumptions, habits, social concerns, and personal fears can prevent people from using everything a setting provides” (Steele, 1981: 173). By having choice and variety in an area, accessibility can be increased and an assortment of needs can be met.

Tuan believes that “open space signifies freedom and the public realm while an enclosed space signifies a cozy, secure and private place” (Tuan, 1974: 27-28). When it comes to open space, there are two suggested requirements that can be met in order to enhance the experience of a person in such a space. First, a person’s sense of security in a public space needs to be “spatially anchored” (Hiss, 1990: 87-88). Each user has to be able to find some space within that place, like a niche, where he or she can be without being bothered by other people and without getting in anyone’s way. This makes it important for a space to have places of enclosure, such as benches surrounded by vegetation placed to the side of a pathway. This also makes it important for a space to have designated edges. Providing known edges lets people know where one space ends and another begins, such as through pavement patterns to designate walkways from seating areas. Second, people need reasons for going to a place, and the more reasons they have, the more time they’ll spend there, the more frequently they will visit and the longer they will stay.

Places, both built and natural, have an effect on how we feel and act, impacting our sense of self, sense of safety and the ways we interact with other people. This means that the “places where we spend our time affect the people we are and can become” (Hiss, 1990: xi). If we are unaware and unable to check on the experiences around us, we will be incapable of recognizing their deterioration or their need for renewal. By paying attention to our experiences, we can strive to maintain places that provide for people’s needs, stimulate their senses, and sustain rich experiences.

**Design as Place Making**

Design is “to devise for a specific function or end” (Merriam-Webster Dictionary, 1997). Community design is the “art of making sustainable living places that both thrive and adapt to people’s needs for shelter, livelihood,
commerce, recreation, and social order... and can be interpreted as a sense of belonging and way of life” (Hall & Porterfield, 2001: 3). One of the goals of community design has been for designers to consider that all places are a composition of social, biological, and physical aspects. In addition, design decisions that are made should be looked at in the future tense. Some questions that should be addressed include “What will happen? What is better? Better for whom? And how can better design be achieved and improved?” (Rapoport, 1990: 81). In order to answer these questions, design must be based on knowledge and that knowledge should be concerned with environment-behavior interaction. Design means to “visualize the genius loci, and the task of the designer is to create meaningful places, whereby he helps man to dwell” (Norberg-Shulz, 1979: 5). The design should then make human needs and expectations and environmental features congruent with one another.

“Urban design... is commonly understood with respect to context; it has to do with configuring and constructing a homogenous, coordinated environment that presents itself with the coherence of a landscape” (Rossi, 1982: 116). Within this cohesive landscape are a series of places different groups of people can relate to. This series of places include things such as districts, edges, corridors, and nodes, common elements studied by Kevin Lynch that help with an area’s legibility. Legibility, also referred to as coherence, is important and attributes to the creation of a walkable environment that is enjoyable to pedestrians (Lynch, 1960; Cullen, 1968; Bentley, 1985; Kopec, 2006). It relates to “the way objects in a scene come together to form some sort of context” (Kopec, 2006: 31). This means that an area needs to be recognizable to increase its use.

Besides legibility, according to Lynch (1960), there are two other qualities to be considered in the successful design of a place. These include complexity and mystery. Complexity addresses the number and variety of elements that can be found within a space. By having a variety of elements, the area is able to relate to a wider variety of people and maintain their interest. Finally, mystery is “the degree to which a scene contains hidden information” (Kopec, 2006: 31). This stimulates users to continue moving through the space and explore the area.

There is a fifth component that also needs to be addressed which is time (Lynch, 1976). For a place to maintain user interest it needs to be able to be related to over time. Through the use of these elements and by changing, upgrading, and maintaining the area, user interest is more likely to remain by continuing to arouse users with new elements each time they visit.

In today’s society, the prominent pattern in development is the monotonous building replacing the rich diversity of places, leaving no variety, surprise, or traces of the area’s own history and development (Steele, 1981: 8). In order to ensure the desired and sought after experiences in an area are still available, we need to make sure that primary components remain in their original positions, preventing the place from becoming unrecognizable. People tend to create and relate strong mental images to sense of place. If a physical form already exists, for instance a historic building, the new design should utilize and reuse it, incorporating these new features with the existing and historic ones, maintaining the visual integrity of the space in regards to a user’s mental image. However, flexibility can also be built into an area to allow for any modifications that may be needed in the future. This will increase the durability and duration of a design while preventing the need for reconstruction because user needs could not be met.

What is found is that people act according to their reading of the environmental cues that surround them. The design of the environment might be understood as “a process of encoding information, then the users can be seen as decoding it” and “if the code is not shared, understood or inappropriate, the environment does not communicate” (Rapoport, 1977: 3). Spaces that are long, narrow, and have high complexity levels tend to encourage more dynamic activities, including walking, shopping, and recreation, because there is a built-in sense of enticement
created by aspects such as hidden views and the lack of accommodation to rest. Rest spaces tend to be more static and wider, frequently containing vegetation and providing sitting accommodations. These areas provide users with places to eat, sit, and watch others. Other things that can affect walking include safety, the ambient environment, distances to amenities, topography, culture, interest, complexity, and physical support structures (such as sidewalks).

According to Mehta (2007: 165), “streets are an important part of public open space... [and]... people depend on streets for functional, social and leisure activities”. Streets need to be incorporated into the designed space to further support public life. Areas that have been designed with the street have been seen as economically successful, physically healthy, and having a greater sense of community. By providing a variety of services on the site, a range of people’s needs are met and the space is continuously used throughout the day.

People can create what is known as an evaluative image, which “arises from the person and the environment and the ongoing interaction between the two... and may also arise from the content meaning of the form” (Nasar, 1998: 4). Though people have their own unique experiences with their environment, and outsiders tend to evaluate places differently than insiders who are familiar with the area, it has been found that people with similar cultures or socioeconomic backgrounds share common meanings in their evaluative images.

Lund suggests that the social aspect of the environment influences people’s perception of their sense of community. This sense of community promotes “social cohesion by aiding the movement of information and ideas within the community and increasing access to resources and opportunities” (Lund, 2002: 302). A variety of spaces, including intimate, personal, social, and public, are needed within the overall designed space in order to accommodate and provide areas for the different levels of interaction that people need sociologically. This includes vegetation, seating, sidewalk and street width, goods and services, personalized storefronts, and permeability between the storefronts and the street.

One can conclude that providing some key features along with a meaningful combination of design elements, a designer can help both visitors and community members to interact more or less intensely with the built environment. Creating these different levels of interaction enhances the users’ connection to a specific area, thus recognizing it as a specific ‘place’ with a specific character, which, in their minds, is distinct from other places.

**Conclusion**

All three concepts that were explored, sense of place, experience of place and design influence, can play an important role in guiding design and development goals for the enhancement of an area. In order to maintain an area’s sense of place, it needs to remain a place that people recognize as being unique and distinct from other places. The area needs to be legible and be comprised of components that will enable users to make a connection to the environment. Designers and planners can help ensure the success of a place by taking these concepts into consideration; by learning about and understanding a place, they can create better designs that are fitting for that place. Doing so will help each place provide users with the opportunity to connect with their surroundings, accommodate a variety of user needs, stimulate their senses, sustain and enrich user experiences, and provide features that allow for different levels of interaction between all user groups.

Without taking these issues into consideration, places risk losing the ability for users to connect with and create meaningful experiences. This is not to say that nothing new should be added to a place. Rather, it implies finding a balance between the new and the old. This enables the place to maintain its character while still providing it with the ability to progress. Taking these findings into consideration will enable an area to maintain
a distinct sense of place and enhance the connection it has with its users by guiding design and development in a more suitable direction.

It is important to encourage research into what connects people to places, and to use their findings on a project-by-project basis. For planners and designers, it is fundamental to learn about and understand the place for guidance towards what the community needs and not just what they want to design. This will deter places from being completely redeveloped in a cookie-cutter manner and will generate plans and design solutions that are meaningful to the community and fitting for the area.

References
This provocative essay discusses slum cities around the world through three case studies: Dharavi in Mumbai, India; Rocinha in Rio de Janeiro, Brazil; and Sultanbeyli in Istanbul, Turkey. BCRP students Chad, Mark and Marco discuss how each of these settlements is a self-sustaining community and a legitimate form of society in an increasingly urbanizing world. They take some lessons from the Third-World to the present housing situation in the United States.

Slums, squatter settlements, and favelas spread out all over the world and are becoming growing centers of resourcefulness and innovation that are, according to Neuwirth (2005), “the cities of tomorrow, [in] the new urban world.” Somewhere around 200,000 people a day migrate from rural areas into more urban areas. This is almost 1.4 million people per week and 70 million people per year moving into urban areas (Neuwirth, 2005).

Today, there are approximately 1 billion people living in squatter settlements -one in six people living in urban areas; by 2030, almost one in four human beings will be living in a squatter settlement (Neuwirth, 2005).

In Brazil, illegitimate housing, or squatter settlements, is called a favela which is “an unauthorized group of self-built dwellings, often devoid of urban infrastructure and official streets, and basically occupied by low income populations” (Duarte & Magalhães, 2009: 267). The residents living in these dwellings do not have legal property deeds to their homes. Most of these homes are basically shacks and can be improved over time, and some even house businesses with electricity and running water. According to Duarte and Magalhães, squatters are usually among the lowest-income groups and most live in these settlements because they have nowhere else to live. On the other hand, some have chosen to live in squatter cities because of their close proximity to work and can even profit from renting out portions of their land.

There is an infinite number of these settlements around the world and they are continuously growing and multiplying. Many see them as problem areas, and even wish to eradicate squatter settlements as a whole. When looking at this issue from another angle we can see that these places are thriving with culture and activity. Squatter settlements are not places to be discredited or removed, but instead researched and replicated. Whether the world likes it or not, these are the cities of tomorrow, and they provide a valuable insight into how a self-reliant and sustainable community can really be achieved.

For this paper in particular, we have studied various squatter settlements that demonstrate the importance of community and the creativeness in a self-reliant population to build successful economic environments. We focused our attention on Dharavi in Mumbai, India, Rocinha in Rio de Janeiro, Brazil, and Sultanbeyli in Istanbul, Turkey. Each of these squatter settlements helps to prove the importance of their existence and how they cannot just be fixed or demolished by those from a higher power. We have given a brief summary of each of these places and compared them with readings from class lectures. In the end of this paper we conclude with lessons learned and how to apply them to areas in the United States. To begin with we will explore the world in the Dharavi slum in Mumbai, India.

Dharavi

Dharavi has been noted as being one of the largest and oldest slums in Asia. It is located in the heart of India’s financial capital in Mumbai and can be seen as a juxtaposition of neighborhoods, each with their own unique character, which have been shaped by waves of migrants who came from the four rural corners of India.
Many have described Dharavi as being an eyesore, but the residents here call it home. Once one can see beyond the slum stereotype it is apparent that Dharavi is a successful economic and self-sustaining hub of Mumbai.

Dharavi (Figure 1) has an official population of more than 600,000 residents and more accurately around one million who live in 100,000 plus makeshift homes. Prakash M. Apte notes that Dharavi is in fact a self-sufficient, self-sustaining village community that Mahatma Gandhi even wrote about in his books on India’s path to development (Apte, 2008). Dharavi’s core population has achieved a unique “informal and ‘self-help’ urban development without any external aid and has become a thriving and successful economic engine” (Apte, 2008). The slum’s economic base can be described as being decentralized, human-scale, low-tech, and labor intensive.

Apte also notes that the close proximity to jobs and the mixed-use of high density, low-rise streetscapes results in an organically developing urban form that is walkable, community-oriented, and network-based. This slum is the type of model many planners have been trying to create in cities around the world. “A re-zoning and segregating of many of this slum’s activities would hurt the urban form here” (Apte, 2008). Although Dharavi has achieved a thriving and compact community, it still lacks basic sanitation and necessary infrastructure that government entities in India have been trying to address by redeveloping the area for some time (Figure 2).

According to Fernando (2009), since 2004 the Dharavi Redevelopment Project (DRP) designed by Mukesh Mehta and headed by the Slum Rehabilitation Authority (SRA) has been a controversial scheme formed with a goal to rehabilitate the entire slum and to re-house all of the residents (72,000 families) whose names appear on the voters’ list prior to 2000, in Dharavi itself (Figure 3). The SRA had an initial program to redevelop the area and provide each family with a 250 square foot apartment, which, however, would not allow residents to carry out their businesses due to such small of space. This program would also require the resettling of residents on the outskirts of the city. The result would give property landowners the right to build new apartments and commercial developments on this land that has been freed up by the slums and sell them at higher market prices, thus allowing them to reap profitable rewards (Fernando, 2009). Although this plan would help to clean up the area, many residents and professionals have widely criticized this project.

One of the main criticisms noted by Fernando is that there is an “absence of any real consultation between the property developers of the Dharavi redevelopment project and the Dharavi residents” (Fernando, 2009). In her article, Fernando discusses how the DRP is a typical plan that is implemented by a technical professional and imposed with a top-down approach onto a population that is actually for the idea of redevelopment, but not if it disagrees with their needs and values. Dharavi will then become what Mukesh Mehta and the government of Maharashtra likely want: “a neighborhood for the middle class who will benefit from all of the basic and luxury services close to home” (Fernando, 2009). This type of redevelopment would only result in the residents no longer being able to carry out their business activity, and their maintenance costs will be so high that residents would have no other choice but to move to another slum. In order to find a way to address this issue, it is helpful to compare this situation in Dharavi with how favelas are being addressed in Rio de Janeiro, Brazil.

Since the mid 1980s, the removal of favelas in Brazil has not been politically or socially viable, particularly in Rio de Janeiro. There, in the early 1990s, the city government inaugurated a new vision
Duarte and Magalhaes note that this was an innovated program as a public policy for poor populations and its understanding of the social, cultural, and political contexts of favelas.

The main goal of the Favela-Bairo program was to upgrade the physical infrastructure of certain favelas, but it also responded to the community’s “basic social needs through projects such as health clinics, day-care centers, schools, and clinics for vulnerable groups” (Duarte & Magalhães, 2009: 272) (Figure 4). This program also created many recreational facilities, environmental rehabilitation, and income-generation programs. It is interesting to see how these projects avoided disturbing the existing houses, which are important to the community, and only removed them if absolutely necessary such as when they were located in dangerous areas prone to natural hazards or for a new roaddor. Another important action in Favela-Bairo was the implementation of social activities that helped to develop young leaders, provide tutoring, and the construction of community libraries (Duarte & Magalhães, 2009).

Another useful sub-programs in the Favela-Bairo that could have been applied to Dharavi was POUSO (which in Portuguese stands for Station for Urban and Social Orientation): an on site office staffed by architects, engineers, and social workers whichensured the governmental presence inside the favela during implementation of the projects (Duarte & Magalhães, 2009). The staff was prepared to assist the community, and orient them in any new remodel and construction, making sure that they did not occupy public or high-risk areas. Unfortunately like the DRP in Dharavi, there were also some negative aspects in Favela Bairo.

A major problem in favelas receiving the Favela Bairo has been increased gentrification. Because of the new benefits and the consequent rise in land and rental costs, many residents moved out because they cannot afford to live there or are being pushed out by wealthier citizens. Evidently, one single program will probably not be able to fix all of the housing problems in Rio de Janeiro, but fortunately it resulted in creating a new type of philosophy and governmental policy toward favelas. The Favela-Bairo created concrete social benefits that have made it an international model, repeatedly cited by the Interamerican Development Bank, for public policies developing countries with similar housing problems.
Using programs similar to Favela-Bairro can help to make squatter settlements like Dharavi more livable with new infrastructure and social inclusion programs to address the needs of the slum’s residents while protecting their safety and human rights. Development in Dharavi should benefit the people there and provide them with more business and employment opportunities. The residents of Dharavi have worked extremely hard to turn the Dharavi marshland into livable land and should have a say in what the outcome of redevelopment in their community takes. Providing residents in places like Dharavi with access to politics and guaranteeing property rights will make residents much stronger. Whether we like it or not, squatter settlements are in fact becoming the cities of the future, and we have to address them in a thoughtful, non-biased, and strategic way to provide them with what they need in order to continue their way of life. It needs to be understood that squatter settlements are legitimate forms of urban development and should be treated that way.

Rocinha

As we discussed above, in Brazil a squatter settlement is called a favela. Favelas have become a great social and housing problem in Brazil throughout the past fifty years. As the country’s population has become more and more urbanized, millions find themselves in these slum settlements due to a lack of convenient, affordable housing. Of these favelas, Rocinha in Rio de Janeiro, located between the beaches of Ipanema and Leblon, near Gavea and the luxury residences of Barra da Tijuca, has become one of the most popular (Fabricus, 2008) (Figures 4 & 5).

Originated in the 1920s, Rocinha has been resilient to political opposition, continuing to exist as one of Rio’s largest neighborhoods. Its was originally a trading post for farmers that travelled to and from Rio de Janeiro for business. During the 1930s, infrastructure in surrounding neighborhoods improved, and, as Rocinha became more accessible, the number of dwellings increased immediately. By the 1960s, Rocinha’s population reached 15,000 and continued to grow until the 1980s (Fabricus, 2008). During the 1960s and 1970s the city’s housing programs concentrated in destroying favelas and displacing their residents to affordable housing projects located in the peripheries of the city. However, despite a small drop in numbers during those decades, much of Rocinha’s community remained intact, and the favela grew significantly given its location and easy access to jobs. Today, Rocinha’s population is estimated between 150,000 to 200,000 residents (Mundo Real).

Part of Rocinha’s resilience has been its flexibility in design and construction. A favela, by nature, is organic in design – there are no building codes to stop people from designing and constructing what they want. Change occurs as it is needed with negotiation between neighbors, or with the intervention of the residents association. In Rocinha, as in all squatter settlements, once residents manage to build their homes in brick and mortar, they make it in such a way to leave the concrete structure and the top slab prepared for a new storey.
what they do when the family expands or when they need extra income from a room to rent. If this process does not occur through self-help, the only negotiation there is between owner and contractor is the exchange of money. This has allowed Rocinha’s population to explode during the last couple decades. The need for homes has far exceeded the supply—as Brazil’s population has intensely urbanized the last half century, affordable homes have not been provided for this growing trend. As Duarte and Magalhaes state, “the majority of favela residents are among the lowest-income socio-economic groups, and many live there simply because they do not have other options” (Duarte & Magalhaes, 2009). Yet as Rocinha and other favelas throughout Brazil remain poor, they have been able to adapt the environment for their needs and to a changing culture.

As society and the rest of the world have changed to a technological era, Rocinha has been able to adapt throughout the past couple decades. Defined by a lack of formal infrastructure including electricity, sewage, and water, Rocinha has been able to access these commodities through gatos, the local term for illegal connections to public utilities (Fabricus, 2008). Gatos are used to pirate the infrastructure and connections that the city does not provide for these illegal settlements. These systems bring services to favelas for a far cheaper price than the services provided by electric, cable, and public works. While someone living in a legal neighborhood may pay a large portion of his/her wage on these services, a favelado pays a fraction of the cost for the same provisions. Though illegal and a burden to the rest of Rio de Janeiro, Rocinha could not be ignored any longer and needed to be recognized as a legitimate neighborhood. In 1986, sixty years after being established, Rocinha was finally recognized by Rio as a legitimate neighborhood and later gained nomination as an administrative region in 1993 (Fabricus, 2008). Just like any legitimate district or neighborhood, Rocinha is home to many businesses such as McDonalds, and three of Brazil’s largest banks have locations within the favela. It proves that these neighborhoods can support and have a need for these establishments. They are becoming more and more like any city throughout Brazil. Today, there is a complex system of political, economic, and social zones within Rocinha. Church groups, political parties, and all social networks that exist in formal society have a home in this favela.

However, although Rocinha is well established as a large community, it suffers from drug related gang activity. Armed gang members patrol the streets, often times in places where police will not go, either due to the difficult accessibility or because of the strong power of the gang network that exists in Rocinha (Pearson, 2009). Duarte and Magalhaes state that “in the 1980s the city of Rio de Janeiro was suffering from the deepening national economic crisis and experienced a surge of street and drug-related crimes. Consequently, residents of the formal city continued to associate favelas with crime regarding them as ‘enclaves of criminality’” (Duarte & Magalhaes, 2009). Yet, in spite of all the crime occurring in Rocinha, its residents would not choose to live anywhere else—location, sense of ownership and ease of access to the rest of the city seems to be stronger than any danger.

**Sultanbeyli**

Geçekondu is the name given to a squatter settlement in Turkey, a word that roughly translates to landed or placed at night (Neuwirth, 2005). They are present in many Turkish cities—half the residents of Istanbul dwell in geçekondu homes and they blanket the hills around Ankara, the capital. Although on the surface these settlements may seem similar to other slums, “the Turks do these things differently” (The Economist, 1991). The one feature that truly differentiates geçekondu from other slums around the world are the laws set in place to protect squatters.

Geçekondu developments are still illegal in Turkey but squatters have rights: if one builds overnight without being caught, he/she cannot be evicted without due process. If the land chosen to build on is disused or neglected, there is a good chance nothing will happen to the squatter (Neuwirth, 2005). Also, whenever the population
of a gecekondu reaches 2,000 it can apply for recognition as a mahalle, an Arabic term for a city administrative unit. With this recognition comes the chance for elected representation and municipal services such as police, fire, and public transportation.

The first gecekondu appeared in the 1950s when Turkish metropolitan areas saw a rapid increase in urbanization and population growth. But the government could not respond to this rapid transformations with adequate housing, and was forced to condone illegal housing solutions (Turker-Devecigil, 2005). In Istanbul, gecekondu developments did not truly form until the 1970’s. At this time, an increased number of migrants from the eastern provinces of Turkey began colonizing undeveloped land on the city’s east side. The first few settlers lived in small open huts with pirated electricity and survived without water or sewer. These early primitive huts would be the foundation for Sultanbeyli, a shining example of a thriving squatter settlement (Figure 6).

By 2005, Sultanbeyli had grown to 300,000 people and can now be considered a city with a popularly-elected mayor, planning, public works, and sanitation departments, and a municipal bus service (Neuwirth, 2005). The city also has stores, offices, restaurants, banks, Internet cafés, and a post office located in its downtown alone. The article “Cities of the Night” gives a description of life in Sultanbeyli: “The place is dusty, but not dirty; it has schools and mosques; there is space, sometimes a small garden, around each home; the children’s clothes are clean; people are poor, but not desperately” (The Economist, 2009). A description like this stands in stark contrast to what would be expected from a squatter-slum.

Gecekondu developments such as Sultanbeyli prove that squatter-slums are a true form of urban development. If given the right protection under law, these places can flourish and exist as legitimate cities and homes; squatters are simply people looking for places to live so they can work and provide for their families.

Lessons Learned

Even though the types of settlements discussed in this paper are not similar to the impoverished slum communities in the United States, several main key conclusions can be made on how to address those who are less fortunate in this country. Here, there is a significant population that is looked down upon or whose needs are not addressed solely on the basis of their socio-economic status. What must be understood is that housing must be made affordable and easily accessible to accommodate the poor, and that they cannot just be moved to the unappealing corners of already developed areas.

As the world’s population continues to urbanize, the need for housing in cities and urban environments will continue to increase. Most of this urbanization will occur in underdeveloped countries, but America will, too, face similar conditions. America is facing tough economic times, and the need for affordable housing and the number of homeless are increasing. The Tent city in Sacramento, California is an example of a large squatter settlement in America: in 2008, hundreds of homeless people settled in the American River Parkway until the city government cleared the area, disbanding all squatters from the parkway. This is not the proper way to handle this situation, as these citizens had no other option due to the tough economic conditions.
The most significant lesson gained from programs to end squatter settlements, is the importance of providing those who are under-represented and not well-off with opportunities to be heard, access to politics and leadership, and tools to change the communities that they live in, in a positive way. We agree with O’Meara (2002) who point out that the three most important components to provide this at-risk population in the United Stated and around the world are: home security, employment opportunities, and government representation. The poor deserve a confortable living environment to call their own, and that can provide them easy access to work and all city servives, as well as the same quality of life as those who are wealthy.

References


**Comparative Impacts of Rail Network Configurations on Job Accessibility in the San Francisco Bay Area**

**Kevin Fang and Cornelius Nuworsoo**

The authors present a digest of Kevin Fang’s Master’s thesis, supervised by Dr. Cornelius Nuworsoo, which dealt with the potential locations for transit-accessible development based on accessibility to jobs, in the San Francisco Bay Area. The methodology involved the use of employment as a measure that captures access to work and other trip purposes that typically involve employment at the trip ends.

Transportation is a great consumer of energy, particularly of non-renewable and polluting forms, which leads to an inordinate release of climate-altering carbon dioxide into the atmosphere. This realization has led many groups to seek a paradigm shift away from automobile-accessible transportation and land use to transit-accessible transportation and land uses. In similar vein, this study evaluated the accessibility impacts of four proposed extensions to the intra-regional commuter and heavy rail network in the San Francisco (SF) Bay Area. The extensions include: (a) BART to Silicon Valley; (b) eBART; (c) Caltrain to Downtown San Francisco; and (d) Dumbarton Rail. See Figure 1 for a skeletal network and Figure 2C for mapped extension corridors.

The study purpose was to identify locations with relatively advantageous potential for transit-accessible development using job accessibility as a surrogate for opportunities for transit-accessible development. The assessment identified locations that would be highly accessible without the deliberate creation of additional job centers. Effectively, findings would answer the question: what locations will be immediately most accessible upon completion of the extensions? The study question is consistent with findings in the literature, which show that many more residents prefer pedestrian and transit-accessible neighborhoods than those that actually live in them. For instance, Levine, Inam and Torg (2005) found unmet preference for alternative land use.

**Methodology**

The methodology involved the use of employment as a measure that captures access to possible work trips and other trip purposes (e.g., social/recreational trips) that typically involve employment at the trip ends. The importance of employment is manifest in the fact that work trips are projected to account for 46 percent of regional vehicle miles traveled by 2035 (SF-Metropolitan Transportation Commission).

The method calculates the accessibility index of a station to be proportional to the number of jobs that can be reached (US Census 2006), and inversely proportional to distance, which is expressed as a time-based friction factor in the SF-Metropolitan Transportation Commission’s travel model. The accessibility index quantifies transit-accessible development opportunities. The conceptual function is: Accessibility = f (Employment, Distance⁻¹)

Accessibility indices were calculated under three alternative network configurations that constitute various combinations of the proposed extensions. See Figure 1 for the resulting configurations that are labeled as: A) Existing Trunk and Branch Layout; B) Potential Future Loop and Branch Layout; and C) Potential Future Loop and Branch with Cross-Link.
Figure 1
Skeletal network intra-regional commuter and heavy rail network in the San Francisco Bay Area.

Figures 2A, 2B, and 2C illustrate the accessibility indices by station under the three alternative configurations, respectively. Under configuration A, the highest accessibility stations are generally in San Francisco and Oakland, the second and third largest cities in the region. The next highest accessibility stations are generally in locations close to San Francisco and Oakland, with accessibility tapering down with increasing distance away from these cities. There is some fluctuation in this trend with moderately high accessibility at stations nearby satellite job centers. Stations along the extensions are generally less accessible than existing stations. Almost one third of existing stations experience double-digit increases in accessibility when the network is changed from Alternative A to Alternative B.

Regionwide Accessibility

The four proposed projects would increase regionwide rail job accessibility by 18.5 percent compared to 2009 levels; see Table 1 and Figure 1. The largest impact would come from extending BART to the Silicon Valley; see Table 2.

When results are viewed at the subregional level by area type, growth in accessibility appears focused in central cities and inner-ring suburbs. See Table 3.

The type of land use surrounding station areas can be favorable (through zoning or amenities) or not favorable (through non-compatibility of uses) to transit-accessible development (TAD). In California, Proposition 99 (2008) restricts the taking and conveyance of owner-occupied housing to private entities (as for private redevelopment projects). Once good accessibility is established for a location, this issue must be tackled to pave the way for TAD.
Conclusions

Accessibility is one, very important, factor for transit-accessible development. Using accessibility as a measure, the four proposed extensions may be prioritized as shown in Table 4.

Proposed extensions promote most accessibility growth when they encompass or add connectivity to large activity centers. Although each extension can enhance accessibility, these extensions need to provide clear travel time savings to be noticeably impactful. Large accessibility gains come along with the completed loop in Network B, but minimal gains come with the added cross-link in Network C.

Stations with low accessibility index values can still offer opportunities for transit-accessible development. They can be improved with concerted effort to focus more job growth at specific locations along the rail system as noted for the Walnut Creek and Pleasanton station areas.

### Table 1: Increase in Regional Accessibility due to Network Configurations

<table>
<thead>
<tr>
<th>Extension</th>
<th>Growth in Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>From configuration A to B</td>
<td>17.8%</td>
</tr>
<tr>
<td>From configuration B to C</td>
<td>6.0%</td>
</tr>
<tr>
<td>From configuration A to C</td>
<td>18.5%</td>
</tr>
</tbody>
</table>

### Table 2: Increase Accessibility by Line

<table>
<thead>
<tr>
<th>From existing Network A to full-build Network C</th>
<th>New stations</th>
<th>Share of growth</th>
<th>Features and Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>BART</td>
<td>---</td>
<td>4.04%</td>
<td>4.20%</td>
</tr>
<tr>
<td>eBART</td>
<td>5</td>
<td>3.44%</td>
<td>3.16%</td>
</tr>
<tr>
<td>BART to Silicon Valley</td>
<td>8</td>
<td>50.73%</td>
<td>59.82%</td>
</tr>
<tr>
<td>Caltrain</td>
<td>---</td>
<td>37.04%</td>
<td>19.36%</td>
</tr>
<tr>
<td>Caltrain to Downtown SF</td>
<td>1</td>
<td>2.49%</td>
<td>12.41%</td>
</tr>
<tr>
<td>Dumbarton Rail</td>
<td>3</td>
<td>2.27%</td>
<td>1.04%</td>
</tr>
</tbody>
</table>

### Table 3: Increase in Accessibility by Subregional Area Type

<table>
<thead>
<tr>
<th>Subregional Area Type</th>
<th>Accessibility Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central City CBD</td>
<td>36.1%</td>
</tr>
<tr>
<td>Central City Non-CBD</td>
<td>31.6%</td>
</tr>
<tr>
<td>Inner-Ring Suburbs</td>
<td>28.4%</td>
</tr>
<tr>
<td>Outer-Ring Suburbs</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

### Table 4: Job Accessibility-based Priority for Proposed Rail Extensions

<table>
<thead>
<tr>
<th>Priority</th>
<th>Proposed Rail Extension</th>
<th>Features and Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BART to Silicon Valley</td>
<td>Has highly accessible stations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes other stations more accessible</td>
</tr>
<tr>
<td>2</td>
<td>Caltrain to Downtown SF</td>
<td>Connects with major activity centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes other stations more accessible</td>
</tr>
<tr>
<td>3</td>
<td>eBART</td>
<td>Low accessibility stations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Promotes little additional accessibility</td>
</tr>
<tr>
<td>4</td>
<td>Dumbarton Rail</td>
<td>Low accessibility stations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Promotes little additional accessibility</td>
</tr>
</tbody>
</table>

References


The authors present some of the results of Rob Hananouchi’s senior project at CRP, supervised by Dr. Cornelius Nuworsoo, which compared parking requirements of traditional zoning regulations to that of smart-codes. Using the new Miami code as a case-study, they conclude that parking requirements in both types of regulations are not that different, but that the smart-code does promote a reduction of parking near transit stations and corridors to encourage the use of public transport.

There is a growing recognition of the negative effects of rapid suburbanization, also known as urban sprawl, that has dominated the development of urban areas for the last several decades. Many suburbs suffer from a lack of nearby services, a characterless urban form, and a dependence on automobiles for travel. To address these issues, urban planners, architects, developers, and policy makers have considered encouraging a new type of urban growth that focuses on including a variety of housing types and services in complete and compact neighborhoods. To create these communities, some urban planners are considering form-based codes to guide and regulate development. Form-based codes are a method of regulating development to achieve a specific urban form. Form-based codes create a predictable public realm by primarily controlling physical form, with a lesser focus on land use. This is in contrast to existing development regulations, known as zoning ordinances, which typically focus on land use with fewer controls on form.

While form-based codes attempt to address urban sprawl and automobile dependency through land use regulations, urban planners also recognize the need to consider transportation policies in tandem with land use. Similar to how land use regulations impact how transportation decisions are made, transportation policies also impact the urban form. Since the 1920s, transportation policies have aimed to create infrastructure to support the automobile, including wide streets and large parking lots.

Issues that are now widely acknowledged about transportation policies include the realization that minimum parking requirements result in an excessive parking supply that frequently is free. The abundance of free parking encourages automobile use and contributes to automobile dependency. Large parking lots deteriorate neighborhood character, increase the distance between origins and destinations, and decrease the viability of alternative transportation. Litman (2008) refers to these issues within the context of an automobile dependency cycle: “a generous parking supply is one component of a cycle that increases automobile dependency to the detriment of alternative modes of transportation” (Figure 1). Form-based codes may provide an opportunity for a more appropriate parking supply by more accurately determining requirements by urban context and use. The “urban transect” (Figure 2) is a gradient of urban form ranging from natural and rural zones to urban core. Form-based codes commonly apply the urban transect to regulate development based on their context (Parolek, Parolek & Crawford, 2008; City of Miami, 2009).
Case Study: Miami 21

This study particularly focuses on the parking policies in the City of Miami’s proposed Miami 21 Zoning Code is a form-based code. The Miami code is chosen as a case study because it is one of the first city-wide in the United States, it will replace a conventional zoning ordinance, and it applies to a major, rapidly growing American metropolis. Guided by tenets of new urbanism and smart growth principles, it is primarily based on Duany Plater-Zyberk and Company’s smart-code model (DPZ, 2009). Therefore, this study evaluates both the Miami 21 code and the SmartCode. We also considered the models presented by Parolek, Parolek, and Crawford (2008). Figure 3 is a sample from the Miami 21 Form-Based Code which regulates building and parking placement in addition to typical development codes that regulate building size and parking supply.

Figures 4A, 4B, 4C and 4D show comparative parking requirements by the various development codes for key land use categories. Additional details are included in Table 1.

Findings

There were four major findings from our study. First, that parking requirements in the Smart Code and the Miami 21 form-based code are relatively consistent with parking requirements in Miami’s Euclidean zoning ordinance. Second, that parking requirements decrease from the Suburban transect to the Urban Core - however, the decrease is marginal and does not greatly change from existing requirements. Third, Miami 21 provides parking requirement reductions near transit stations and corridors, which may reduce vehicle use and encourage transit use in these areas. Fourth, Miami 21 does not address additional parking management strategies, such as parking maximums in the urban core transect.
Recommendations

It is recommended that future studies (a) examine parking policies in other form-based codes, (b) research the use of parking based on the urban context, price, and use to supplement existing parking studies solely aggregated by use, and (c) investigate the potential for integrating parking demand management measures into parking policies and form-based codes.
### Table 1: Parking Requirement Comparisons

<table>
<thead>
<tr>
<th>Zoning/District</th>
<th>Miami 21 (Form-Based Code)</th>
<th>Miami Zoning Ordinance 11000 (Euclidean Zoning)</th>
<th>Smart Code (version 9.2)</th>
<th>Form-Based Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suburban (T3)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>N/A</td>
<td>10 spaces per 1000 SF for restaurants, bars, etc.; 4 spaces per 1000 SF of discount retail, 3.3 spaces per 1000 SF for all other</td>
<td>4 spaces per 1000 SF</td>
<td>No greater than 4 spaces per 1000 SF</td>
</tr>
<tr>
<td>Office</td>
<td>N/A</td>
<td>2.86 spaces per 1000 SF</td>
<td>3 spaces per 1000 SF</td>
<td>No greater than 4 spaces per 1000 SF</td>
</tr>
<tr>
<td>Residential</td>
<td>2 spaces per dwelling unit</td>
<td>2 spaces per dwelling unit</td>
<td>2 spaces per dwelling unit</td>
<td>May be appropriate, but not necessary</td>
</tr>
<tr>
<td><strong>General Urban (T4)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>3 spaces per 1000 SF</td>
<td>See Suburban Commercial</td>
<td>4 spaces per 1000 SF</td>
<td>No greater than 2 spaces per 1000 SF</td>
</tr>
<tr>
<td>Office</td>
<td>3 spaces per 1000 SF</td>
<td>2.86 spaces per 1000 SF</td>
<td>3 spaces per 1000 SF</td>
<td>No greater than 2 spaces per 1000 SF</td>
</tr>
<tr>
<td>Residential</td>
<td>1.5 spaces per dwelling unit</td>
<td>1 space per 1-bed unit; 2 spaces per 2-3-bed unit; 3 spaces per 4-bed unit</td>
<td>1.5 spaces per dwelling unit</td>
<td>No greater than 1 space per unit</td>
</tr>
<tr>
<td><strong>Urban Center (T5)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>3 spaces per 1000 SF</td>
<td>See Suburban Commercial</td>
<td>3 spaces per 1000 SF</td>
<td>No greater than 2 spaces per 1000 SF</td>
</tr>
<tr>
<td>Office</td>
<td>3 spaces per 1000 SF</td>
<td>2.86 spaces per 1000 SF</td>
<td>2 spaces per 1000 SF</td>
<td>No greater than 2 spaces per 1000 SF</td>
</tr>
<tr>
<td>Residential</td>
<td>1.5 spaces per dwelling unit</td>
<td>1 space per 1-bed unit; 2 spaces per 2-3-bed unit; 3 spaces per 4-bed unit</td>
<td>1 space per dwelling unit</td>
<td>No greater than 1 space per unit</td>
</tr>
<tr>
<td><strong>Urban Core (T6)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td>3 spaces per 1000 SF</td>
<td>1 space per 1000 SF</td>
<td>3 spaces per 1000 SF</td>
<td>Max of 1 space per 1000 SF; require shared parking</td>
</tr>
<tr>
<td>Office</td>
<td>T6-24, T6-36: 1 space / 800 SF T6-60, T6-80: 1 space / 1000 SF</td>
<td>1 space per 1000 SF over 10,000 SF</td>
<td>2 spaces per 1000 SF</td>
<td>Max of 1 space per 1000 SF; require shared parking</td>
</tr>
<tr>
<td>Residential</td>
<td>1.5 spaces per dwelling unit</td>
<td>1 space per dwelling unit</td>
<td>1 space per dwelling unit</td>
<td>Max of 1 space per unit; require unbundled cost</td>
</tr>
</tbody>
</table>

**Comments**

All requirements are minimums

From Duany Plater-Zyberk

From Parolek et al. (2008) Form Based Codes, pp. 52-53

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**References**


The most important paradigm shift for planning in this third millennium is towards a sustainable urban development. Lourdes Flores discusses some of the results of her research project in which she has the collaboration of the University of Montreal and Cal Poly’s CRP. Through a comparative and qualitative approach, she investigated how the cities of San Francisco and Montreal are pursuing policies and management frameworks that support sustainability.

Throughout the world, cities are promoting sustainable urban development practices and experimenting with new forms of governance and resources conservation. This paper discusses our research on experiences in Montreal and San Francisco to assess progress in sustainable urban development practices.

There is a new vision of urban planning that advocates for compact and complex cities (CCC). Reviewing several authors, Da Cunha (2005) underlines the environmental, social and economic benefits of urban densification and land use diversification (housing, labor, infrastructure, recreation). According to these authors, CCCs create more coherent spaces that limit traffic and reduce energy consumption and pollution. These authors also agree that such spaces should be equipped to encourage pedestrian mobility (a walkable city) and increase greenways; that they should be enjoyable and accessible, (a livable city); and, last, that they should be distributed equitably throughout the city.

Sustainable urban development supports the CCC approach by discouraging car use (increasing car ownership and parking fees or taxing the access to central areas of the city), calming traffic (reducing the number of lanes for cars, installing speed reducers, etc.) and enhancing the use of public transport and other forms of less-polluting mobility such as cycling, motorcycling, walking, etc (Newman & Kenworthy, 1999).

In order to approach sustainable development, it is essential that all the stakeholders work together to build a city based on the common interests and needs of its inhabitants. As stated by Ascher (2007), the public decision making processes must consider the views of all stakeholders, at all stages, creating new ways of thinking for the implementation of these. Using this perspective, efforts are being made to operationalize the sustainable development through balanced actions agreed with all the stakeholders involved.

To examine aspects of this emerging framework we conducted a qualitative evaluation of progress towards sustainability through a comparative research project Sustainable Urban Management and Planning in North American Cities. San Francisco and Montreal, two similarly populated cities, are pursuing policies through their urban plans to promote sustainable urban development. The objective of this paper is to present the main results of this research project. The principal references for the analysis were, in the case of San Francisco, the General Plan (1999) and the Climate Action Plan (2004) and, in the case of Montreal, the Urban Plan (2004) and the Strategic Plan for Sustainable Development (2005).

The methodology of the research

The study is based on three main elements: analysis of existing governmental documents -mainly the urban and environmental plans; semi-structured interviews with key stakeholders involved in the plan’s elaboration and implementation processes; and direct observation of the characteristics of selected urban projects.
To evaluate the sustainability process we adopted Patricia Lombardi and Peter Brandon’s multimodal evaluation procedures (2007: 47-64) regrouped into four dimensions: social, environment, economic and governance. The social (welfare) dimension refers to the social integration, social cohesion, and social exchanges in aesthetic, harmonic, attractive and safe spaces, offering services and facilities to meet all basic needs. This dimension includes the preservation and development of cultural and historic spaces, and the variety of alternative modes of mobility and accessibility. The environment dimension uses the principle that urban planning must take steps to reduce environmental pollution by means of the rational use of energy sources and renewable and non-renewable resources, and to promote and encourage the conservation, protection and regeneration of the environment. The economic dimension refers to the need for urban planning to evaluate the ways of financing projects and clearly define the distribution of burdens and benefits among the stakeholders, and moreover to optimize the land use and densities, promote proximity between housing, working, trading, leisure and cultural spaces. The governance dimension addresses authorities’ responsibility and leadership to promote more democratic forms of governance. This is accomplished by creating transparent mechanisms supported by policies, laws, institutions, etc. that facilitate dialogue and communication between all the members of society on the actions proposed by the planning function.

Following the example of Lombardi and Brandon, we evaluated all the dimensions with the PICABUE criteria: futurity, equity and environment. However, unlike Lombardi and Brandon, we did not consider public participation for the three dimensions of sustainable development, but integrated it into the dimension of governance. With this adjustment, we avoided redundancy and emphasized the importance of public participation in the governance process.

It is worth noticing that separating the urban sustainability elements in order to evaluate them represented a great challenge, as the interrelationship between them is very close. The issue of mobility, for example, addresses environmental elements (air pollution, noise, use of natural resources, etc.), social elements (accessibility to different means of transport), and economic elements (the reduction of non-renewable resources use has economic benefits).

**Results of the research**

Both cities have achieved a significant breakthrough in sustainable urban city development, especially in environmental matters. Concerns over climate change are present in their urban policies and environmental plans that seek primarily to reduce emissions of greenhouse gases and increase recycling and use of renewable energy.

San Francisco has made outstanding efforts regarding environmental issues. One of the most prominent has been the formalization of the Green Building Ordinance - GBO (2008) whose precedent was the LEED certification, that imposed strict new green building requirements on newly-constructed residential and commercial buildings, and renovations to existing buildings. Before such requirements, one of the biggest challenges remaining is to transform existing buildings into green buildings (Crowfoot: 2008).

Another notable San Francisco effort has been the development of the Electricity Resource Plan (2002) and the Climate Action Plan (2004), whose main goal is to reduce emissions to 7.2 million tons ECO2 by 2012 (20% below 1990 levels) (City of San Francisco 2004, ES-4). This goal has led San Francisco to develop and update policies for sustainable mobility in order to increase pedestrian and bicycle routes, and encourage public transport use, ridesharing, green cars, etc. Despite the steep topography of San Francisco, its bicycle plan of 1997 was updated this year (2009). Moreover, alternative technologies use, among them, photovoltaic

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3 PICABUE is a model of sustainable urban development that includes four analytical dimensions: ecological integrity or quality of the environment, equity of access to resources, public participation or the ability to influence decisions and futurity or the future implications of decisions made in the present. The PICABUE model derives its name from the seven steps that must be followed on the indicators construction (Mitchell et al 1995, apud Bahia, 2009)
panels use, in places such as the Plaza Apartments (Fig. 1), is encouraged through policies that offer rebates for the installation of solar electric systems.

San Francisco currently recycles 70% of what it produces and has set the ambitious goal of zero waste by 2020 (City of San Francisco 2004, 3-35). To achieve this goal, the Environment department has developed and is implementing innovative city-wide recycling and composting programs. In addition, each department of the City of San Francisco has its own energy budget.

Meanwhile, in 2007 Montreal developed the Transport Plan to discourage car use. Among its most notable achievements is the construction of 140 km (87.5 miles) of bicycle routes (City of Montreal, 2009 a & b) and the implementation of the BIXI system that offers 1,815 rental bicycles and 300 bicycle parking spaces, so that within two years the use of bicycles in Montreal will have increased dramatically. Currently, the city of Montreal is elaborating a plan for the management of residual materials 2010-2014, establishing as a key objective the reduction of waste materials (currently, the island recycles only 30% of its solid waste) (City of Montreal 2008: 17).4

Montreal promotes green-city living through various policies among them the Tree Policy and the Protection and Valorisation of Natural Resources Policy. The city also has nine eco-territories on the island intended to generate a regional network of natural parks, and also encourages the development of eco-neighborhoods through a program consisting of financial support to community organizations wishing to realize, at the neighborhood and district level, activities of various kinds: cleaning, environmentally sound management of solid waste, and the embellishment and improvement of biodiversity heritage (City of Montreal: 2002).5

Public awareness on environment care has been a central concern in both cities. San Francisco implemented several educational campaigns focused on raising awareness among vulnerable groups about environment care (Chien, 2008). Meanwhile, Montreal made outstanding efforts on this issue which is the topic of two of the ten guidelines of the Strategic Plan for Sustainable Development. The first relates to mobilizing Montreal organizations and residents to work toward sustainable development of the metropolitan area, and the second to maintaining the action of those involved in education and environmental awareness. Campaigns like a Day without Cars, the Fair of the Bicycle, the Day of the Clean Air, and the guided tours offered by the St. Michel Environmental Complex to disclose, among other things, the solid wastes recycling process, have been well received by Montrealers.

However, while sustainable mobility is one of the most addressed issues in the urban plans of both cities, the increasing car use remains one of its biggest challenges. In San Francisco, according to General Plan 1999, the ratio of car use relative to other means of transport increased from 38.5% to 40% between 1990 and 2000, while in Montreal it increased by 3% during the period 2004-2008 (City of Montreal, 2009a: 85)

Both in Montreal and San Francisco, affordable housing is driven by strategies and policies. Both cities require developers to build 30% of affordable housing within their projects (from 200 homes on, in Montreal) and encourage this housing to be eco-energetic.

4 This plan proposes 49 actions to improve management practices of waste materials with emphasis on reducing the consumption of resources, recycling and composting. It also suggests increasing the number of eco-centers (collective equipment for recycling and composting).

5 There are currently nine eco-neighborhoods in Montreal.
The plans of both cities contain guidelines to encourage mixed-land use, densification, urban recycling, environmental preservation, etc., measures that, in addition to improvement of the quality of life for residents, help optimize economic efficiency. The projects seek to follow the guidelines of the plan: recycling, affordable housing, mixed use of land, public spaces, and public participation in the project design process.

In some projects the three elements of urban sustainability have been integrated as in the case of Benny Farm (Fig. 2) in Montreal and the Plaza Apartments in San Francisco. In Benny Farm, buildings were constructed following the principles of ecological construction, reusing and recycling as much as possible the demolition materials. The buildings are also equipped with a geothermal system and solar panels allowing 75% of energy to be transformed in situ and then redistributed by shared green infrastructure. Besides, the formula of cooperatives ensures the accessibility of housing and allows the residents to participate in the administration and in the management of their cooperative, and the introduction of a second mortgage limits the speculation in case of resale of the affordable housing. (Ayadi, 2008). In San Francisco the old and deteriorating Plaza Hotel was demolished and replaced by a new mixed-use building: Plaza Apartments, aimed at residents with the lowest income. This building contains 106 affordable new mini-studio-apartments, support services, residential amenities, commercial space and a entertainment community theater (Friedman, 2007).

Nevertheless, one major challenge for policymakers is the financing of projects. According to Ducas (2008), in Montreal, an economic strategy is needed to finance projects and set priorities for their implementation. In the case of San Francisco, the Redevelopment Agency (responsible for implementing urban renewal projects) gets most of its funding from the property taxes (using a tax-increment method allowed under state law), but in economic circumstances like the current global economic crisis, the situation gets complicated. Added to this, the increased cost of construction and the long decision-making processes make the projects more expensive and difficult to obtain financing (Evan, 2008).

The opening of communication links to bring the healthy governance and participation of all actors in decision making arises in the plans as a means to achieve a more sustainable city. In this perspective, Montreal has developed various tools to encourage citizen participation and has a Public Consultation Office (OCPM by its French acronym) responsible for carrying out the mandates of public consultation concerning the City of Montreal, in addition to the public consultations undertaken by districts and some promoters. San Francisco, instead, does not have a specific agency for the formalization of public consultation, but public participation, involving the public sector and the private partnerships, is still very important. Although there are no specific instruments, the Government Code 65583 (c) (7) provides that “the local government shall make efforts to achieve public participation of all economic segments of the community in developing the housing element, and [that] the program shall describe this effort” (City of San Francisco, 2009a). However, in both San Francisco and Montreal, several interviewees expressed reservations regarding the fact that encouraging everyone to give their opinion, negotiating until most stakeholders have agreed, tends to foment bureaucratization, but at the same time there is an awareness that this is the best way to work and promote democratic planning.

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5 “In some ways, sometimes, we are overly democratic about things that don’t matter that much […] we actually agree on 98% of a plan but we spent two years arguing about the last 2%” (Evan, 2008)

6 Among which the Charter of the city of Montreal (updated in 2006), the Toolkit for private, public and collective developers, the public participation and consultation policy of the city of Montreal (updated in 2002) and the Declaration of Principles of the Montreal community regarding sustainable development (2003)
Moreover, we noticed a lack of communication between government departments and between the authorities on the different scales of planning. In San Francisco, members of different departments acknowledge that they ignore the work being done by other departments and that it would, in theory, be important to perform teamwork, but that it is, in everyday practice, a major difficulty. To be able to articulate urban projects with regional planning, coordination among relevant authorities is a condition; however in practice it is almost nonexistent. According to Ducas (2008), in Montreal, there is no coordination at the regional level; each municipality conducts its own projects independently. However, respondents from both cities agreed that the Internet is at least a means to learn about the work of other departments and what other cities are doing.

In San Francisco there seems not to be very much interest in the monitoring of plans as in Montreal. Currently the City of Montreal has developed ten indicators for monitoring the plan.7 According to Lessard (2008), in Montreal, the city has already begun monitoring but still needs to go further in following up the projects with more effective measurement tools for understanding “where we were, where we are, and where we go”. In San Francisco, there is no specific monitoring for the actions of the plans. According to Tam (2008), the administration is more concerned about securing what is in progress and making sure that actions are implemented as quickly as possible. However, interviewees in San Francisco agreed that a useful tool would be to evaluate the projects and decisions made.

We can say that progress toward sustainability in both cities has focused its actions on reducing the effects of climate change, with a real care for nature conservation and awareness that nature is the main capital to the healthy development of cities. San Francisco with its bold environmental policies and Montreal with its stealth policies are moving away from conventional planning practices and moving towards the desired sustainable urban development. Table 1 presents the four assessment dimension scores using a weak to strong scale. Eight of the fourteen categories received a strong score for both cities. There were no weak scores given. Overall this is a very good report for the cities and provides a baseline for them which can be used for future assessment of progress.

Although in both cities urban planning does take into account the fragility of the natural environment and can employ highly qualified groups for the preparation of plans and execution of projects, the long-term perspective is often blurred by the unpredictability of contextual situations. Ultimately, implementation of projects depends on momentum, actor’s awareness and influence, and economic and political conditions.

We believe that one of the key challenges for both cities and their progress towards urban sustainability is to strengthen and develop the means to improve communication so as to achieve a more active social participation on the one hand, and a more integrative work within and outside the government administration, on the other. It is clear that we are in a time of change based on promoting a new form of culture that seeks harmony between city and nature in a spirit of equity and democracy. This research reinforces a central idea that sustainability is the balance between societal needs and nature’s capacity to meet these needs.
Table 1: Sustainability assessment of urban planning in San Francisco and Montreal

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Sub dimension</th>
<th>San Francisco</th>
<th>Montreal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td>Biological (biodiversity, biomass, protection to ecosystems)</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Physical (energy, water, soils, land reserves)</td>
<td>+++</td>
<td>++</td>
</tr>
<tr>
<td>Social</td>
<td>Basic needs (home, health, education)</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Socialization</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Environmental perception</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Historical</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Mobility</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Economic</td>
<td>Economy (efficacy and efficiency)</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Spatial (density, land use, proximity, mix use, localization)</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>Governance</td>
<td>Responsibility, leadership, commitment, vision</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Social participation</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Communication (diffusion and accessibility to information, communication between departments and scales of planning)</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>Monitoring</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td></td>
<td>Analysis, development and knowledge (science role)</td>
<td>+++</td>
<td>+++</td>
</tr>
</tbody>
</table>

Scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+++</td>
<td>Strong. There are objectives, actions, policies and planning and management tools for concrete proposals</td>
</tr>
<tr>
<td>++</td>
<td>Medium. There are objectives, actions and/or policies without planning and management tools for concrete proposals</td>
</tr>
<tr>
<td>+</td>
<td>Weak. There are no objectives or actions or policies or planning and management tools.</td>
</tr>
</tbody>
</table>

References


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Interviews

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In Montreal:


Lussier, Danielle. (January 31th 2007). Head, Infrastructure Transportation and Environment Department of Montreal.

Duplantie, Silvya-Anne. (February 1st 2007). Head of planning division; Direction of Urban planning. Borough of Rosemont- La Petite-Patrie.

Membres de l’équipe division des politiques et du plan d’urbanisme (November 16th 2006):


From August 8, 2009 to February 8, 2010, I was a visiting research fellow at the CRP department, as a participant of the exchange program with the School of Architecture, Federal University of Rio de Janeiro. Just before coming, I had started my third year in the PhD program and was working on my field research and case studies on the health care design, specifically on “day hospitals” and infusion centers – units where patients spend some hours or a day on a recurrent basis. My dissertation is focused on understanding patients’ and companions’ perception and behavior in order to identify features of their environment that could contribute to their well being physically and psychologically. My methodology is based on environmental perception and post-occupancy evaluation (POE).

The opportunity to participate in this exchange program and to spend some time at Cal Poly was an amazing experience and I would like to briefly describe it, writing a little about both my research and personal accomplishments. I hope that in doing this I can encourage others to do the same, participating in this or other exchange programs; besides this program the CRP department has links with Switzerland, Mexico, and Honduras, and Cal Poly has so many others. Living and studying abroad is an incredible opportunity that adds immensely to our growth both as a person and a professional.

Academic Experience

My main goal in spending some time at Cal Poly was to deepen the studies that I had already started developing in Brazil. I was finished with all my classes, had done a lot of reading, and had developed several parts of my field research including a case study of a major day hospital’s infusion center. However, in order to have a broader understanding of my theme I wanted to know a little bit more about the North American state-of-the-art design in Day Hospitals and Infusion Centers (for chemotherapy, arthritis, HIV, etc.). I was also planning to try to do the second case study for my dissertation here, although I was not sure if it would be possible given the privacy concerns that usually overwhelm healthcare facilities all over the world. In Cal Poly, my local supervisor was professor Vicente del Rio, coordinator of the Brazil exchange program at CRP, and Daniel Levi, professor at the Psychology and Child Development Department.

As soon as I arrived, I started planning exploratory visits to infusion centers, one of the phases of my methodology. I completed these visits to 17 infusion centers –most of them for chemotherapy– located in San Francisco, Los Angeles, Long Beach, San Diego, and in the San Luis Obispo area. These short visits allowed me to better understand US infusion centers, their users, physical settings and activities, and they also helped me discussing my research with healthcare professionals and hearing their opinions. These visits allowed me to register direct observations of the environments, draw their lay-out and register all objects, take photographs (without featuring patients or personnel), and also to interview one staff member in each.
During my visits to all these infusion centers I discussed the possibility of doing an in-depth case study there. I was authorized to do so by one of these institutions, and went back to spend 7 days there, applying the same research methods that I had used in the case study in Brazil, with no significant adjustments: walkthrough analysis, direct and systematic observations, wish poems, visual mapping, survey and visual cues. At this unit, I was fortunate to count on the collaboration of the staff who not only agreed in participating in the study and respond to my survey questionnaires, but also encouraged the patients and their companions to do the same.

In addition to the exploratory visits and the case study, I interviewed several healthcare architects and health care professionals, including from Kaiser Permanente in San Francisco, who shared with me some of their knowledge on day hospitals and infusion centers. Apart from the travels to other cities, I dedicated most of my time here to my literature review, studying books and on-line journals at Cal Poly’s Kennedy Library. I should add that I also took classes that added a lot to my training: Environmental Psychology with professor Daniel Levy, and Computer Graphic Skills with Vangeli Evangelopoulos from the Landscape Architecture Department.

Without any fear of overstating, visiting all these hospitals and health facilities, talking to all these professionals, and doing a lot of reading widened immensely my understanding of healthcare architecture, enriched a lot my research, and contributed to a significant part of my dissertation which I expect to be able to defend by mid 2010. Needless to say that all this had an incredibly positive impact in my professional practice as an architect.

**Personal Experience**

I would also like to write some lines about my personal experience while here. This was a wonderful time for me that fulfilled my academic needs and overcame all my expectations. I had always wanted to experience living abroad and I certainly intend to do it again in the future.
Living abroad means opening yourself to other cultures, it means trying to understand and experience life and life styles through other perspectives, and this was awesome. So many things are just different –like the meaning of lunch or having dinner so early– while others are just the same, like friendship, studies and leisure. Unfortunately, I am aware that I missed a lot of things, because it takes one time to get used to all the novelties. But I really think the most important and essential things do not vary that much between the Brazilian and the American cultures, we are just the same –perhaps the big difference being we can dance the “samba”…. There are also a lot of things from here that I will miss as soon as I arrive in my hometown.

I will certainly miss a lot the new friends I have made here. Everybody at Cal Poly was so welcoming and nice, and they definitely created a wonderful atmosphere for me and other international students. I would like to take this opportunity and thank all the attention that I received from students, faculty, staff, and friends in general. I would like to thank specially professors Vicente del Rio and Daniel Levi, and Kathy Lehmkuhl at the CRP office, for helping me in the most varied ways and solving all difficulties that showed up during my short stay. Thank you also to professors William Siembieda and Hemalata Dandekar, respectively former and present department heads.

I will miss San Luis Obispo a lot, it’s gorgeous landscape, the hikings, the beaches, the downtown, and the strong sense of community that seems to exist; all these impressed me profoundly and in a very positive way. I will miss travelling to other Californian towns too –although done for my research these travels were no sacrifice at all. Visiting these places was fun and an opportunity to learn architecture and urbanism by experiencing it. And mind you that all my commuting and my travelling to other cities was done in public transportation –bus and train– since I did not have a car while living here!

I did spend a really good time here and I believe I have learned and grown with this experience. I think that being far from home makes you think a lot about your life, your values… It is like a retreat that you do without realizing. You look at a lot of new things outside, and reconstruct a lot of things inside of you. After a while, what was new just becomes familiar, and the new town becomes a new home and a part of your background.
LEARNING FROM CALIFORNIA: HIGHLIGHTS OF CRP STUDIOS IN 2009

HEMALATA C. DANDEKAR

CRP’s department head writes about the wide variety of undergraduate and graduate studios that served California communities in 2009. From Oakland to Los Angeles, the studios covered a lot of ground, proved their pedagogical success in applying Cal Poly learn-by-doing philosophy, and helped shape better places and more sustainable cities.

One of the hallmarks of the City and Regional Planning (CRP) programs at Cal Poly San Luis Obispo has been the focus on studio-based learning in which graphic capabilities are taught as an important part of the planner’s tool kit. It is an approach firmly embedded in the Cal Poly philosophy of “learning-by-doing.” A focus on the physical and tangible has enabled CRP, on occasion, to offer blended studios in which students from other departments in CAED – Architecture, Landscape Architecture -- can participate and work together. Our emphasis on the environment and sustainability has privileged the material and tangible aspects of the impacts of human systems on the natural. Both these foci – physical design and the environmental – are addressed in the studio projects we have undertaken for communities in our region.

Our studio sequence is one of the most extensive ones offered in planning schools in the USA. At the undergraduate level consecutive studios build student’s physical design and graphic capabilities and teach enabling computer tools. Students engage with a progressively increasing scale -- from site-specific plans and designs to strategic plan making at a regional scale; and complexity -- from two dimensional layouts to policy and implementation. The graduate studio offerings are more compressed, moving students rapidly through parallel components covering graphic tools but emphasizing policy and the theoretical and conceptual.

Studios at the upper level by and large have community clients. Our clients sponsor many of our studios. In addition to helping cash-starved students in studio-related costs of travel, data collection, and document production, the support has the effect of student work receiving serious consideration and expectations of accountability by the client. Rather than languish on the shelves of the planning department, which is too often the fate of student-driven work, many of our studios have filled a community need and informed and shaped policy or enabled cities to obtain professional planning expertise to address components of a general, longer-term strategy and vision. Some of the projects that were undertaken in...
CRP studios in 2009 are described here (see location of cities that were served in Fig. x). They underscore our mission to be of service to community and to teach students how cities work and how to make them better places for people in ways that sustain and conserve the environment. These projects and plans are available from our web site at <http://planning.calpoly.edu/>

**Delano Strategic Plan**

Delano is a rural, agricultural community (some 46,000 residents, 70% Hispanic, with a substantial low-income population) located in the San Joaquin Valley. In Spring 2008 professor Umut Toker led BSCP BSCP 203 studio in designing an award winning (APA California Chapter Merit Award for 2009) Downtown Delano’s Urban Design Plan (See Focus VI, 2009; pp. 48). Following this effort, in the Fall quarter professor Kelly Main -with help from professor Toker- continued CRP’s connection with Delano, and her Community Planning Laboratory (CRP 410 and 411) prepared the Delano Strategic Plan to inform the update of Delano’s 2005 General Plan. This was accomplished in a fast paced 26-week schedule which concluded in March 2009.

To develop the Strategic Plan the students reached out to an underserved minority population and also connected with the business community and city government. In addition to workshops, official meetings, presentations and flyer distribution at grocery stores, the class came up with innovative tools to elicit participation from an expanded community involving church groups, the local chapter of the United Farm Workers (UFW), and organizations that promote economic justice. The set of issues addressed was broadened to include those that often fall outside of traditional planning efforts – such as programs that would serve and, more important, be welcomed by, community youth. This broad based community participation elicited ideas to reduce costs and stimulated volunteer contributions of time and effort. Implementation-oriented and budgeted to be relevant to Delano, the practical plan elaborated ways to get change to happen, answering a community plea heard by students: “tell us how to get this done.” Students identified and showed to the community examples from similar, rural, small-town, agricultural communities of what might be possible.

Extensive engagement from a variety of stakeholders resulted in the plan being embraced whole-heartedly by the city. The Delano Strategic Plan, building on the Cal Poly student report, was presented to the City Council in March 2009. The city is moving towards adoption and implementation of sub-plans that are founded on this work. Broad-based participation in plan making promises to engender long-term social sustainability. The approach used has promise for transferability to other communities with similar characteristics of economic need, a minority-majority population, and a rural economy with its concomitant conditions. The Delano Strategic Plan won the American Planning Association 2010 National Small Town and Rural Planning Award for a student project.

**Benecia Climate Action Plan**

Elsewhere in this issue of Focus, professors Adrienne Greve and Zeljka Howard relate their BSCP CRP 411- 412 studios (Fall 2008 and Winter 2009) leading to the Draft Benecia Climate Action Plan and to a student award from the California Chapter of the American Planning Association in 2009. The student work has informed Benecia’s Climate Action Plan, unanimously adopted by Benecia’s City Council in September 2009.
Path breaking in addressing a planning issue that has become of foreground concern in the State of California – reducing the negative environmental impacts of urban growth – the plan articulates policy to enhance community sustainability through user-friendly, practical actions to lower greenhouse gas emissions in eight focus areas. Charts, time lines, guidance tools, and objective targets provide a model tool for similar-sized communities who wish to achieve success in greenhouse gas emission control. Significantly, professor Greve is building on this work in this year’s CRP 410-411 studio sequence in executing a contract with the City of San Luis Obispo to develop their climate action plan.

Salinas Chinatown Urban Design Plan

In Spring 2009, professor Umut Toker’s CRP 203 Urban Design Studio worked with the Salinas Redevelopment Agency and the Local Government Commission to develop urban design plans for Chinatown. Salinas’s Chinatown is a northern extension of the city’s downtown but physically separated from it by the railroad. It shows the impact of lack of investment over the past decades and has a large homeless population that is provided services by a number of local non-profit organizations. In working closely with their two governmental clients and members of the Chinatown community, CRP students first developed a detailed site inventory. This informed the work underway by Salinas Redevelopment Agency’s financial consultants and helped identify key catalyst sites in the area. The students then led a two-hour workshop with community members to identify alternatives for the future of the area, and followed up with five student teams developing alternative plans. Student proposals addressed land use, circulation, public space structure, form-based codes and the connections of the area to Downtown Salinas. These were informed by interactions with representatives of the Salinas Redevelopment Agency who frequently visited the studio. The plan alternatives were presented to the agency representatives on the Cal Poly campus and video-recorded for sharing with community members in Salinas.

The Salinas Redevelopment Agency and Local Government Commission used the student work to help pick the best alternatives for catalyst sites identified by their financial consultant. This was done with a follow-up community workshop, where the agency displayed the student work and community members identified proposals they preferred for the catalyst sites. This studio both provided our students with a real-world planning experience but also helped an underserved community to develop future plans for their part of the city thus strengthening their capacity to move forward to a better future. Key components of this successful outcome were the innovative tools used to involve the community and elicit their participation in design.

Oakland Broadway Auto Row Specific Plan

In Spring 2009 professors Umut Toker and Chris Clark’s graduate project planning studio, CRP 553, collaborated with the East Bay Housing Organization (EBHO), a housing advocacy group, to develop three alternative specific plans for the Broadway Auto Row district of Oakland. The City of Oakland was considering the relocation of auto dealerships, which had come to dominate the area in the past few decades, in an effort
to expand to the north the revitalization of Downtown Oakland.

Organized into three teams, the students visited the project area and were briefed by EBHO representatives. Students attended stakeholder meetings and community workshops organized by the City of Oakland, got to know community members, and familiarized themselves with current issues. Their proposed plans addressed land use, circulation, and the structure of public spaces, as well as affordable housing and implementation. The teams developed affordable housing strategies for the area and identified affordable housing types and sites for potential development. Pedestrian friendly and sustainable practices were common elements of the three student proposals that were presented to EBHO representatives on campus.

Received very positively by the client, student work provided the foundation for the Summer 2009 Oakland studio, organized by the CAED and Pyatok Architects & Planners. Some planning students from the Spring Studio joined Cal Poly architecture and landscape architecture students to form interdisciplinary groups to further develop detailed, site-specific solutions for the same project area, Broadway Auto Row. Currently, the plan proposals developed in CRP’s Spring studio are informing Cal Poly’s student team competing in the Bank of America Affordable Housing Challenge which is addressing a project site within the same area.

**Downtown Fresno Specific Plans for the Lowell and Cultural Arts districts**

In the summer of 2009, twenty CRP students and five Landscape Architecture students enrolled in CRP 341, a studio led by Professor Umut Toker. Five inter-disciplinary student teams were organized to develop specific plans for the city of Fresno, in the Central Valley. The client was the City of Fresno Downtown and Community Development Department. The Lowell district plan involved a focus on housing rehabilitation, affordable housing, infill and historic preservation in the northern section of downtown Fresno, an area that has been negatively impacted by disinvestment and high crime rates. The Cultural Arts District plan involved the strengthening and development of the Fresno city core and introduced sites for key civic institutions to make it a destination for recreation and cultural activities. The focus was on revitalization and integration of the city core with surrounding urban fabric and making it a destination point for the city.

Both specific plans addressed land use, circulation, public space structure, form-based codes, sustainability, and implementation. The proposals emphasized the application of low-impact development principles and
identified best practices. To address the area’s scarce water resources the student teams developed plant palettes for landscaping with drought-tolerant native species. The implementation and phasing strategies addressed a systematic introduction of these innovative practices. A large contingent of City of Fresno planners and community representatives attended the final presentations at Cal Poly. The work was warmly received and subsequently students from CRP have been involved in follow up work with the city through their senior projects and master’s theses.

The Guadalupe Community Plan

Guadalupe is a small, agricultural community (some 6,550 residents, 80% Hispanic, with half the per capita income of the State) located four miles inland from the Pacific Ocean in the heart of the fertile Santa Maria Valley, an agricultural region of statewide and national importance. Over Fall 2008 and Winter 2009, MCRP graduate students in professors Cornelius Nuworsoo and Jeff Hook’s CRP 552-554 studios developed a Community Plan for the City of Guadalupe. In collaboration with residents and City leaders, the class formulated a development scenario for Guadalupe in 2030 to accommodate projected population and housing needs.

The plan, a hybrid of moderate and comprehensive growth alternatives, outlines development as focused on the main arterial/thoroughfare (Highway 1) that bisects Guadalupe. The emphasis is on stimulating and concentrating economic growth downtown and discouraging urban sprawl. The planned scenario would increase sales tax and property tax revenues, provide jobs for residents, and create a more vibrant downtown.

To accommodate a 2030-projected population of 7,880, an additional 450 housing units were planned, and an increase from 260 jobs in 2009 to a targeted total of 690 is anticipated. Land use categories in the student plan include: a Downtown Mixed Use Designation to focus on commercial, ground floor retail and accommodating office and residential uses on upper floors; a Downtown Residential Designation to focus on residential but accommodate commercial uses on ground floor; a Corridor Mixed Use Designation – a mix of light industrial and commercial to be achieved with industrial live-work units; and, Intensified Industrial involving an increase of the allowed floor-area ratio (FAR) on industrial-zoned land and a focus of industrial uses to the east of the train tracks and west of Obispo Street.

The community appreciated the student developed Guadalupe Plan so much that the Mayor enquired about the possibility of bypassing the environmental review process and adopting it immediately! It provides a comprehensive analysis of existing realities and projected futures that will help guide city development for a community that has few resources to invest in a planning endeavor.

San Luis Obispo City and County

At the request of San Luis Obispo’s Congregation Beth David, BSCRP students in professor Vicente del Rio’s CRP 341 Community Design Lab studied an area of approximately 1,386 acres located in the city’s sphere of
influence. The student teams developed alternative specific plans for a new neighborhood including the concept design for a village core, following New Urbanist principles and LEED-ND criteria.

MCRP graduate students in professors del Rio and Scott Bruce's CRP 553 Project Planning studio, in response to a request from the County of San Luis Obispo, have tested the countywide “smart-growth” vision by developing a specific plan for the community of San Miguel. The class projected the infill development and revitalization of their main street, and developed a design scenario and guidelines for growth to the east toward the Salinas River.

**Los Angeles**

Professor Vicente del Rio initiated an interdisciplinary effort in urban design for the revitalization of the Boyle Heights area in Los Angeles by organizing a joint studio with Landscape Architecture, with the support of the Urban Design Studio at the City of Los Angeles Planning Department. This effort to work in Los Angeles across disciplines continues this year under professor Kelly Main in her CRP 410-411 studios.

**Final remarks**

CRP welcomes opportunities from cities and communities to work on projects and plans that can make a difference. In their commitment to learn from the realities and needs in California, our faculty and students are eager to participate and hone their skills and insights toward developing successful plans that can help create good places, a sustainable environment, and a better future.

Over the years, the CRP department has built a very solid reputation for the quality of the products that are developed at all levels of our studios. Student work has been recognized with numerous awards and resulted in several plans and projects, which have contributed to implementation efforts, by our clients. In our several levels of studios, in their senior projects, and in their master’s
When I graduated, diploma in hand, from Cal Poly’s City and Regional Planning (CRP) department in the spring of 2005, I had a job ready and waiting for me at a well-respected residential architecture and urban-design firm in Orange County. I had committed the last five years of my life to the major, especially in the area of design planning, and the thought of entering the workforce with an opportunity to utilize all that I had learnt was wonderfully exciting (not to mention the draw of a steady paycheck).

When I first toyed with the idea of applying to Cal Poly, I expected my focus to be in the field of architecture; however, once I began to examine the courses offered within the CRP department, my choice of major was immediately evident. The department presented a broad-spectrum look at land planning, with the ability to focus more clearly on the areas of both policy and design as one saw fit. While courses in policy balanced out my education, I chose to dive headfirst into the design aspect of the major.

Introductory design courses lay a basic foundation, while ensuing classes expounded on that foundation, teaching the skills that would later become vital in the workforce. Going far beyond freehand drafting and computer expertise, these subsequent urban design courses offered insight into the end-user, an understanding of site analysis, and both project and team management skills that would not only enable me to obtain employment in the industry, but, as I would later find out, to excel.

In starting work the summer after graduation, the housing market was red-hot and I found myself immediately thrown into the fire. A significant project would be completed only to have three altogether more significant projects find their way to my desk. Regardless, the hours may have been long, but the frenetic pace of work and the brothers-in-arms nature of our team easily made it worthwhile. Within the first month I found myself managing several projects of my own and conferencing with clients, many with whom I would continue to work throughout my tenure at the firm. The next several months would result in the most prodigious amount of work I had ever seen and yield a great deal of truly exceptional product, from small-scale infill neighborhoods to broad-brush regional master plans.

Unfortunately, such a pace wouldn’t last, and by the next year it was easily apparent that the market was already in the midst of a maelstrom. We continued to persevere, however, and the developers were not willing to
fold—instead pushing back against the oncoming storm as if to force its change through sheer will. Still being fed with new projects, we continued to design for the neighborhoods and new towns of tomorrow, though we knew it was unlikely that they would ever be constructed. By the end of that year it was clear the axe was being sharpened. Early in 2007 the firm began shedding jobs, slowly at first, but with an increasingly rapid pace as the weeks progressed, and in November of the following year I found my own head on the chopping block.

Suddenly faced with an excess of time on my hands, I needed to find a way to spend it; more important, I needed to find a way to spend it wisely. I decided to write up a series of rules that I would use as a guide through the tumultuous times. The basis was simple: wait out the crash by bettering myself so as to be in a position to lead the pack when the tide of the economy shifted in our favor. Easier said than done? Not necessarily.

**Rule #1. Don’t Waste Your Time and Don’t Settle**

When you are unemployed, there is a lot of time to waste. However, as we all know, time is money, so I would have been a fool to waste it. Time is also precious, so it demands to be spent sensibly. Why then, would I waste it searching for jobs in an economic climate that was practically devoid of them? Or—provided I did find one—why would I settle for employment that would likely fail to benefit me in virtually any sense other than the collection of a paycheck? I figured that there had to be better ways to spend one’s time than a potentially fruitless rummage through the ashes or performing unfulfilling work, and as such I decided upon the next rule.

**Rule #2. Stay Current**

When you’re not in the trenches on a day-to-day basis it’s amazing how much you truly miss; statistics, articles, facts, and market trends are always buzzing around, and if you can’t keep up then you’ll quickly fall behind. I had always prided myself on staying current, but with more time on my hands I was able to delve deeper. With the widespread advent of online news sources, it has become easier than ever to accumulate more than just a

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**Figure 2**

Active Adult Community, Marin County. An active adult community nestled in the foothills of Marin County, Calif. that provides a wide variety of on-site amenities and health services for residents and a variety of housing types - from detached villas to multi-story condominium buildings. Noah Christman at KTGY, 2007.
basic understanding of any number of subjects, and when combined with print sources such as daily newspapers and monthly journals it becomes incredibly simple to dissect any facet of any industry, while staying up-to-the-minute on trends, ideas, and technological advances. Subscribing to a multitude of newspapers, magazines, and online journals gave me an opportunity to fluently converse on a breadth of topics, but I needed to find a body of individuals with whom I could run a discourse, and one professional organization, in particular, fit the bill perfectly.

Rule #3. Connect, Connect, Connect

Throughout my tenure at my previous firm I had been marginally involved in the Orange County/Inland Empire District Council of the Urban Land Institute (ULI). Participation in the organization was a great way to learn about continuing trends, gather inside information, and fraternize with high-level company executives, but I never truly took advantage of even a fraction of its potential.

With an international scope, and a roster gathered from nearly every conceivable aspect of our industry, I chose to focus a great deal of energy on making connections within the organization, assuming that, sooner than later, these connections would be a benefit. Ultimately, my association within ULI allowed me to attain my final rule.

Rule #4. Stay Active Within the Industry

The connections I made within ULI served me more than I could have ever imagined. Soon I was producing reports covering topics such as high-speed rail, designing advertisements for upcoming programs, managing a team looking at edge development solutions, crafting a guidebook to help newly unemployed professionals survive the downturn, and serving on a panel to construct a development plan for a local, sustainability-oriented, charter school.

All the while I was offering planning and design services as a consultant to startup firms throughout the region. Sooner than later, work began to roll in, and what was just a trickle at first has, over the past few months, amounted to a torrent, including international projects in both Tanzania and China.

As of writing this, I’ll have been officially unemployed for an entire year—mainly due to market conditions, but also partially as a result of my own rules (remember: never settle!) —but by personally sticking to these rules I have been able to quickly gain ground in a decimated industry.

Will I still be unemployed by the time you’re reading this? Probably not. The pieces are starting to fall back into place: the stock market rebounded several months back, job loss has slowed to a rivulet when
compared to previous reports, and home sales have been slowly gaining momentum. As a result of this, I’ll be back at a firm—at a job I truly desire—in no time. However, even if the gears crank a little more slowly than we’d all like, I know I’ll still be in a fine position due to the fact that I’ve positioned myself at the head of the pack in an industry whose rise from the ashes is inevitable.

Figure 4
Living School Project, Tanzania. Designed in an effort to curb poaching and teach the sustainable use of land, in addition to an elementary school curriculum, for children in Tanzania’s Pwami Region. Noah Christman in cooperation with FUZE | Community Design, 2009.
CAREER PATHS: LESSONS LEARNED
Lisa Wise

Life Before Planning

Before going into planning, I worked in banking and financial services. My undergraduate degree is in finance and marketing from the University of Cincinnati. I graduated in a recession, similar to now. After graduation, my first job was in Chicago with the National Bank of Detroit, as a teller and personal banker. It wasn’t my dream job, but it was a start in an industry that interested me.

In 1988, I won a scholarship to DePaul University in Chicago for a Master of Science in Accountancy. I saw this as an opportunity to earn a higher-level degree and work my way into a better job. After graduating from DePaul, I became a CPA and started as an Associate with Coopers & Lybrand (C&L) at their Chicago Board of Trade office. The job gave me a chance to learn the securities and commodities industries.

I worked to make myself valuable to the firm. After a couple of years with C&L, I was encouraged by a managing partner in the New York City office to apply for a management training position there. The partner learned that I was a hard worker with good people skills and aptitude for numbers. And, although it didn’t come naturally, I also learned to promote myself.

In New York, I was lucky to have good mentors. The firm also offered training in staff management and operations. My clients were mostly large investment banks, such as Goldman Sachs, Morgan Stanley, and Smith Barney. The business, management and client service skills learned in New York have been invaluable throughout my career.

Lightbulb Moment

Even though I liked my job in New York, I came to the realization that financial services and investment banking were not my long-term calling. While mergers, acquisitions, and high-stakes financial dealings were exciting in many ways, there was often a negative social impact from some of the transactions. I finally decided that I needed work that was more personally rewarding. Although I was interested in how City’s functioned at that time, I didn’t really consider it as a career until later.

Taking a Break:

After eight years, I quit my job in New York in 1998. My husband and I decided to spend a year traveling in South America. Most of our time was spent in the Andes mountaineering and in the jungles of Brazil canoeing. Extended time off was a rare opportunity and a great change of pace. But after a year, I was ready to get back to work.

Change of Careers

After our trip to South America, I decided to go back to school for a degree in urban planning. In 2001, I graduated from the MCRP program at Cal Poly in SLO. The MCRP brought new opportunities that would not have been open to me otherwise. In addition to professional experience, I also teach at Cal Poly and sit on the Board of Trustees for the Land Conservancy.
Current Job

I started Lisa Wise Consulting, Inc. (LWC) in 2006. Shortly after launching the business, I won the first “big” contract, a working waterfront study for the City of Morro Bay. The California Coastal Conservancy funded the contract. Due to this project and a couple of others, my husband joined the firm in early 2007. Over the last three years, LWC has brought in work related to planning, economics, and natural resources. And, we have grown from a small team working out of a home office to ten people, a nice office in San Luis Obispo, and clients including the Port of San Diego and the City of Cincinnati, Ohio. I think the keys to our achievements include hard work, people skills, and constant networking.

Our connection to Cal Poly has been integral to our success. Since the beginning, we have hired Cal Poly graduates and interns. Currently, three of our full-time staff and all four of our interns are Cal Poly graduates and students. Internships have been a great way for us to cultivate new team members, and we plan to bring a couple of our current interns on full time. The Cal Poly students bring energy, enthusiasm, and a fresh perspective to the office. We find the planning students to be intelligent, versatile, and technically competent.

Prior to founding LWC, I worked as a Senior Associate with Crawford, Multari, & Clark Associates (CMCA), a planning firm in San Luis Obispo, for about 5 years. The experience and contacts gained at CMCA were instrumental to helping me build my own firm.

Looking Forward

There’s a lot to look forward to in urban planning. A formal education provides a framework for critical thinking and strengthens problem-solving skills. However, for me, a rewarding planning career has come from lifelong learning, being engaged in innovative planning approaches, and working with great people.
As the concluding phase for the Master of City and Regional Planning degree, Cal Poly’s CRP department offers the student a choice between a final comprehensive planning studio, a thesis, or a project with a real client. The following abstracts are from master’s theses and projects defended in 2009, and are available as PDF files from Cal Poly’s Kennedy Library website.

North Ventura Avenue Area Plan
Rick Caswell
This professional project provides a much needed draft update to the existing Area Plan for North Ventura Avenue (last amended in 1990), an unincorporated area of the County that falls under the City of Ventura’s sphere of influence. New goals, policies and programs have been provided to supplement the goals, policies and programs of the current countywide General Plan for Ventura County (adopted in 2005). The supplemental goals, policies and programs proposed in this draft update apply specifically to North Ventura Avenue, and account for a pending annexation of the area by the City of Ventura. The overall aim of this project was to provide the Ventura County Planning Division with a draft update to the existing North Ventura Avenue Area Plan that reflects modern planning practice and theory. Sustainable growth and development for the area are the underlying goals of this proposed draft update. Reducing auto-dependency through the proposed adoption of a ‘mixed-use specific plan’ land use category represents the most pertinent recommendation of this draft update in aiming to achieve sustainable growth and development of the area in the future.

Available at: http://digitalcommons.calpoly.edu/theses/105/

City of Patterson Sustainability Plan
Colin Brian Clarke
This Master’s Thesis / Professional Project is a Sustainability Plan developed for the City of Patterson, California. The Patterson Sustainability Plan (PSP) was developed concurrently with the General Plan Update, and will be presented to the City for adoption within a year. The Sustainability Plan will help inform decision-making by way of its Goals and Actions for implementation to improve community sustainability. Before the plan was developed, background research was conducted that included a Best Practices Review to assess what other cities are doing to address sustainability, a Needs Assessment to evaluate existing conditions in Patterson and determine its unique strengths and challenges to improving sustainability, and a Policy Audit which includes an inventory and analysis of existing General Plan goals, objectives, policies, and programs supporting sustainability.

Available at: http://digitalcommons.calpoly.edu/theses/99

Accessibility of Bay Area Rail Transit Stations: An Evaluation of Opportunities for Transit Oriented Development
Kevin Fang
There has been a valid push for a shift from automotive-oriented to transit-oriented transportation and land use. However, we need to verify how transit performs at meeting certain goals. This thesis examines the important characteristic of accessibility afforded to travelers using four rail extensions in the San Francisco Bay Area,
quantified through the calculation of job accessibility indices for stations. The four extensions investigated increase region wide rail accessibility by 18.5 percent. However, the new stations are on average less job-accessible than their existing counterparts. Two of the four extensions perform well on accessibility measures, either their stations have high accessibility, or jobs around them contribute to high accessibility for nearby stations. The other two extensions perform poorly on accessibility measures. The accessibility results indicate how the four extensions should be prioritized. The more successful extensions have good access to activity centers. Extensions having good connectivity offer opportunities for transit-oriented development at rail stations in the Bay Area.

Available at: http://digitalcommons.calpoly.edu/theses/221/

**Santa Barbara Tea Fire Multi-Hazard Mitigation Benefit Cost Analysis**

David S. Flamm

Multi-hazard mitigation is an action taken to reduce or eliminate long-term risks from natural or human-caused hazards. This study examines the benefits and costs associated with the outright purchase of properties for hazard mitigation (“property acquisition mitigation”) in Santa Barbara, California which reduced the exposure of four properties to multiple hazards. The study area for the Tea Fire BCA (Benefit Cost Analysis) is subject to multiple hazards, primarily landslides, wildfires, and earthquakes. The project, originally intended to mitigate landslide risk, mitigated risk exposure to multiple hazards. The mitigation was put to the test during the Santa Barbara Tea Fire, a wildfire which burned approximately 2,000 acres of Santa Barbara County land in November, 2008. The results indicate that the estimated overall benefit-cost ratio for property acquisition mitigation projects is 1.75:1 when the exposed properties meet a threshold of eminent threat for total loss. This study further suggests that when property acquisitions are performed in an area threatened by multiple hazards the mitigation becomes two to three times more beneficial than in an area threatened by a single hazard. Possible implications and future benefits associated with this mitigation and mitigations like this are also explored.

Available at: http://digitalcommons.calpoly.edu/theses/124

**Specific Plans: An Implementation Tool for Downtown Revitalization - A Specific Plan Proposal for Downtown Delano, Calif.**

Emily Suzanne Henderson

This study builds off the assumption that downtowns are socially and economically important to cities and the people who live, work, and visit them; that’s why many suffering downtowns are pursuing revitalization strategies. The strategies summarized in this work represent mainstream techniques currently practiced by cities, planners, and developers, and are supported by two case studies. This thesis demonstrates the potential for specific plans as an implementation tool for downtown revitalization. These comprehensive documents are combine multiple regulatory processes to achieve the overarching goals of a city’s general plan and the community goals generated through public outreach and participation. In 2008 the City of Delano underwent a community participation planning process to improve the downtown resulting in the Downtown Delano Concept Plan. This thesis builds on this plan, and proposes the Downtown Delano Specific Plan, including a vision, a set of goals, proposed land uses, a circulation concept, and a Form-Based Code with design guidelines for new development and redevelopment. The proposal includes cost estimates and suggested financing mechanisms.

Available at: http://digitalcommons.calpoly.edu/theses/107
Enhancement Plan for Downtown Cayucos, Calif.  
Rachelle Sarai Sneh Lopez

An area can be torn by the competition between preserving its character and the desire for new development. Cayucos’ downtown area is recognized by both residents and visitors as a special place with a strong, small, coastal town feel. However, issues such as accessibility, public amenities, parking, maintenance, and general development needs have to be dealt with. This thesis deals with the issue of how to plan for change while maintaining the character of Cayucos, and presents an enhancement plan proposal for its downtown. The development of this plan was based on a research-based design methodology, which included a literature review on sense of place, a review of five case studies, and fieldwork with surveys, interviews, and on-site observations and analysis. The research included the understanding of the needs, interests, and expectations of the stakeholders, including local business owners, residents, and visitors, in order to help define core issues and to inform the vision and a series of responsive goals for the area’s enhancement. The final enhancement plan proposal followed a design approach that was responsive to site, context, and stakeholders, and will contribute to Cayucos’ quest for the increase of the quality of its downtown while responding to market and development needs.

Available at: http://digitalcommons.calpoly.edu/theses/171/

Agricultural Buffer Criteria for the City of Arroyo Grande, Calif.  
Laura A. Pennebaker

The conservation of agricultural land is an important and challenging part of local and regional planning. The conversion of land from farming to non-agricultural use significantly increases the potential for conflict between adjoining land uses and intensifies the pressure to develop adjacent farmland. Agricultural buffers serve as a tool to mitigate potential conflict between adjacent non-compatible land uses and protect both farming operations and residents from nuisance complaints. The City of Arroyo Grande has agricultural buffer policies which apply to development taking place adjacent to agricultural land. The City’s general plan requires a minimum 100 foot buffer between all parcels proposed for non-agricultural development adjacent to agricultural land, and that it contains a minimum 20 foot wide landscaped area. City policy however, does not provide any specific direction or criteria regarding the actual construction of an agricultural buffer. The purpose of this project is to evaluate agricultural buffer policies in other jurisdictions and determine appropriate criteria for the construction and maintenance of an agricultural buffer in the City of Arroyo Grande. The project concludes with a draft document which includes agricultural buffer specifications such as plant palette and planting density which will be incorporated by reference into the City of Arroyo Grande Municipal Code.

Available at: http://digitalcommons.calpoly.edu/theses/77

The Influence of Incentives Offered by Local Governments to Private Developers or Land Owners on the Rate of Brownfield Redevelopment  
Erik Benjamin Simon

Redevelopment of brownfield sites has become increasingly popular since the inception of voluntary cleanup programs in the early to mid 1990’s. Local governments have begun to offer incentives to private developers or land owners to offset costs associated with contamination and encourage the redevelopment of properties that are typically underutilized. Incentives may take several forms including, but not limited to, fast-tracked project approval, risk based cleanup standards, liability relief, tax breaks, and direct funding assistance. This study investigates how incentives that are offered by local governments to private developers or land owners
influence the rate of redevelopment in their sphere of influence. A survey was administered to local governments throughout the State of California to determine how incentives are used for the redevelopment of brownfields. Results from this study show a preference by participating local governments to offer direct funding assistance, which may be directly linked to a relative level of inexperience.

Available at: http://digitalcommons.calpoly.edu/theses/123
focus

This journal highlights the work produced in the City and Regional Planning Department, Cal Poly, San Luis Obispo.

Special Essays
Faculty and Student Work
International Spotlight