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FOCUS 12
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CAL POLY
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FOCUS Volume 12 comes to press in my 7th year as Department Head of City and Regional Planning (CRP). It seems only yesterday that I arrived on campus to assume this responsibility. In preparation for taking on this role, whilst still in Tempe at Arizona State University and organizing my move to San Luis Obispo, I read the then six volumes of Focus, front cover to back. They provided a unique window on the inner world of the CRP family and began to answer my questions about what was driving the intellectual curiosity and the professional practice and priorities of CRP family faculty, students, alumni and friends.

FOCUS volumes revealed that CRP faculty were engaged broadly in areas of scholarship that prioritized practice; that CRP students were involved at various scales in cities through their studio practice corroborating what is widely recognized nationally —that studio-based pedagogy is a distinguishing hallmark of Cal Poly's planning programs; that the topics the MCRP students addressed in their thesis and professional projects were eminently practical and grounded; and, that alumni were successful and entrepreneurial in their engagement in professional practice. FOCUS provided, and continues to provide under the able editorship of Professor Vicente del Rio, a rich mosaic reflecting the intellectual core of the CRP family's deep involvement in the planning profession.

I note with great pleasure the evolution of FOCUS in these past seven years. We have moved to full color hard copy format, all digital versions are readily down loadable, we offer an overview article that records and celebrates the "Learning from California" that students attain within all levels of our studios, and, in this volume, we introduce a peer-reviewed component that has great potential to grow in significance in the future.

The CRP Advisory Council (CiRPAC) was formed last year in May of 2015 and is composed of an energetic and committed group of Board Members who represent many different generations of CRP alumni. They exemplify the various venues in which CRP alumni make contributions to planning practice throughout the state and nationally. Their depth of commitment to CRP is revealing and attests to the intellectual and professional adventure their time in the department enabled. Providing long-term support for FOCUS is on their list of goals and priorities.

I will step down from the Department Head position at the end of August 2016 and will assume full time teaching in the department. I look forward to engaging with a remarkable and enthusiastic group of CRP undergraduate and graduate students who populate our two degree programs and to the opportunity to reinvigorate my own research and scholarship. It has been a privilege to serve as Department Head. The responsibilities have entailed getting to know the CRP family. I have an enhanced respect for their legacy of excellence, entrepreneurship and commitment to the practice of planning. Learning about and from California, building the department and its capacities in a variety of ways, setting directions, and extending the network of planners and well wishers who comprise the CRP family has been an enriching adventure.

During the last year we took a hard look at our department and at our program goals and objectives. We elicited input from alumni including in the form of a survey that revealed our alumni successes, their satisfaction with their training and experience in CRP, and, their nostalgia for their time in the department. Our community-based projects, a signature element of CRP studies, have flourished and received increasing levels of sponsorship from communities to the point that almost all our upper division and graduate studios receive support. Our programs continue to be highly ranked nationally and our service and research has impact statewide and beyond. It is a legacy we can be proud of.

FOCUS flourishes and is made possible by volunteer efforts. We hope you enjoy reading this issue of FOCUS. It enables us to welcome you to our world and what inspires us.

Hemalata C. Dandekar

Professor and Department Head
City and Regional Planning Department

FOCUS 12! Should we celebrate the dozen? As the managing editor, I sincerely think so! Keeping a publication such as FOCUS alive and growing for twelve years is no small endeavor. A dozen is a magic number: it means endurance, insistence, persistence, resilience... But then, I feel like having arrived to a beautiful mountain top only to find out that there is another, even more attractive peak, beyond and waiting in the distance.

That's how I felt when my department colleague William Riggs proposed that FOCUS should have a new section with peer-reviewed essays; an idea enthusiastically supported by all CRP faculty. As there are numerous excellent academic-oriented peer-reviewed publications in the planning field, we felt that there was a need for a section that reflected FOCUS's original mission and showcased professionally-oriented and pragmatic contributions in planning and urban design. The current issue includes the first articles submitted through our on-line process, each approved by two blind reviewers and the editors. We are very thankful to these authors, to others who submitted and, needless to say, to the reviewers who donated their time and intelectual capacity to help us.

As customary, FOCUS starts with an opinion piece, The Professional Planner, where CRP faculty Chris Clark and William Riggs discuss whether digital tools can better planning practice. The Special Events Section opens with the keynote presentation from the 2015 California Climate Action Planning Conference by Santa Barbara County Supervisor Salud Carbajal. Held at Cal Poly, this was the second such conference organized by CRP faculty and co-sponsored by the Governor's Office of Planning & Research. More than 300 participants from all over the state discussed the 2030 emissions targets, advances in climate planning, updated protocols and guidance, and much more. Also in this section, Jana Schwartz reports on a presentation by John Gilderbloom, professor at the University of Louisville. Sponsored by the Resilient Communities Research Institute, he spoke at Cal Poly about his visions for livable communities and the intricacies and impact of planning jargon.

The new Peer-Reviewed follows with three three contributions. Chilean professor Laura Rodriquez discusses the relationship between urban design, identity and meaning in the case of the university campus in Concepcion—one of the oldest and most important cities in Chile. Next, Stephen Takyi presents an analysis of the evolution of park planning in Vancouver and shows how the increase of recreational facilities in parks may be at odds with the ecological function of open spaces. In the last article of this section, CRP professor William Siembieda discusses the Buddhist street sanctuaries of Japan and their role in place making and social identity.

The Essays section starts with an article by Judith Urbano, from the International University of Catalunya in Spain on the famous plan for the expansion of Barcelona by Idelfons Cerdà, one of the pioneers of modern planning. Next, MCRP graduate Forrest Chamberlain and CRP faculty William Riggs discuss current transit-oriented development and complete streets strategies in Los Angeles. Cal Poly professors Daniel Levi and Vicente del Rio discuss the importance of understanding walls as expressions of a society's culture and the relationship between the public and private realms in order to inform any attempt to design and regulate place. Last, in this section, Vicente del Rio discusses the relationship between urbanity, walking, and the visual qualities of urban design in Lisbon's historic core with a methodology based on Walter Benjamin's ideal *flâneur* and with place sketches as analytical tools.

Darya Oreizi opens the Faculty and Student Work section with an article abstracted from his BCRP senior project on the benefits of California's mandatory solar ordinances, based on existing literature, interviews with experts, and analysis of current data and literature. Next, CRP professor Vicente del Rio and MCRP students Paul Donegan, Curran Lord-Farmer, Jana Schwatz, and Sara Steinberger describe the process and proposals of the Urban Design Concept Plan for the South El Camino Real Corridor in San Clemente, California developed by an MCRP studio for the City of San Clemente. Closing this section, MCRP student Amanda Ross discusses the rebuilding process and the design of the small coastal town of Avila Beach in San Luis Obispo County after a major cleanup of a decades-long oil spill.

In Spotlight, FOCUS 12's last section, CRP Department Head Hemalata Dandekar makes a brief account of this past academic year's studios from both undergraduate and graduate programs. The wide array of plans and projects developed in our studios are good indicators of CRP's commitment to service-learning and to Cal Poly's hands-on learning by doing approach. MCRP student Jennifer Hooper reports on CRP alumnus Greg Errett's talk at Cal Poly when he reflected on the challenges and achievements of his professional career. MCRP student Paul Donegan writes about CRP alumnus Michael Heater's inspirational work as a Peace Corps volunteer, teaching English and helping a small village in Rwanda. Lastly the section spotlights CRP alumni Dave Javid and Brianna Holan who are interviewed about their careers, their views on their Cal Poly education, and their thoughts on the future of planning. As always, the Spotlight section closes with abstracts of the theses and professional projects that were defended in the MCRP program during the 2014-15 AY.

I hope this issue of FOCUS fulfills its mission engaging readers through material that is not only interesting, but also useful for professional and pedagogical practices. I would also like to encourage you to consider submitting an article to our new Peer-Review Section, which can be done through our on-line process at <http://digitalcommons.calpoly.edu/focus/>. Enjoy.

Vicente del Rio
PhD; Professor, CRP Department
FOCUS Managing Editor

Can Digital Tools Foster Better Practice?

William Riggs
PhD; assistant professor, CRP Department.

Chris Clark
JD; lecturer, CRP Department.

In this commentary, CRP professors William (Billy) Riggs and Chris Clark discuss different approaches to technology in public agency management, and how it may be changing planning practice. In the structure of a traditional debate, Professor Riggs first provides his perspective, which is then followed by a counterpoint by Professor Clark. Professor Riggs then provides a rebuttal and conclusion on the topic.

Riggs Argument:
Technology Can Reshape and Improve Planning Practice.

In 2012 the White House launched its Digital Government Strategy focused on increasing and improving technology in government. The strategy included key goals of such as: enabling access to high-quality digital government information and services anywhere, anytime, on any device; ensuring that the government adjust to technology with regard to devices, applications, and data; and encouraging innovation and high quality services. Since that time many communities have begun to respond but much of that response has been limited in scope to "citizen participation in policy making" (Davies & Bawa, 2012).

In this context, I believe that advances in technology, particularly mobile, offer key opportunities to advance communication and public participation, as well as opportunities to better manage planning departments. This relates to the massive wave of technology adoption in recent years. As of 2015, 64% of Americans have access to a smartphone and 84% have access to and use the internet (Perrin & Duggan, 2015; Smith, 2015). Furthermore social media site usage has grown dramatically over the last decade and now over 65% of Americans use such sites (Perrin, 2015).

This new connected capacity allows for new ways of connecting with citizens. Citizens can access documents, processes, and events via the internet potentially, more actively participating, with greater satisfaction, and with increased regularity in engagement. This improved communication can help in giving decisions more credibility and authenticity (Picazo-Vela, Gutierrez-Martinez & Luna-Reyes, 2012).

This capacity can also reframe the practice of planners. A survey conducted in 2014 by Kayla Gordon and I revealed that 87% of planning professionals either are very dependent on Internet technology, but only 60% were dependent on mobile technology-or could not operate without it (Riggs & Gordon,

2015). This indicates potential efficiencies that could be gained in the workplace, by better using, understanding and applying mobile tools. These did not only include social media tools, shown in Table 1, but workplace tools to: increase productivity (office tools like Word/Excel and project management tools Basecamp); provide better reporting (SeeClickFix and EnergGov); enable better data collection (GIS Data Colelctor, Traffic Duco, and Tableau).

Clark Response:
The Importance of Language

Language has been with us for some considerable time. Full behavioral modernity is believed to have commenced 150,000 to 50,000 years ago (Tomasello, 1996). Suffice it to say we have considerable practice talking to one another, and arguing. Of course, we are less practiced with technology.

Planning is dependent upon people changing their perception of the future. They must understand the proposals and consider the consequences. That is a big deal, given that we are manipulating property values and social services. Modern tools have dramatically increased access to information and provided a platform for advancing a conversation about these important matters. I could not practice planning anymore without social media, analytical tools and the depth of knowledge found in cyberspace.

In our planning practice, my firm operated on a fairly stable methodology for information acquisition and dissemination. First, we would meet in person, whether this was the client or the public. Admittedly the public interaction was often confined to traditional forums; public meetings and other outreach events. Later it became apparent that these were not sufficient, we needed to reach further to be more inclusive. This is often a criticism of technology—it is great for communicating with the technologically literate—not so much for those with little access or ability with the internet.

Table 1:
The Top 20 Mobile Apps
for Planning in 2014.

Informational			Transactional/Interactive			Utility/Productivity		Virtual Reality & Gaming	Wayfinding	
Static	Dynamic	Alert	Crowd-sourcing	Reporting	Data Collection	Project Management	Presentation/ Annotation		Asynchronous	Synchronous

App	Name	App	Name	App	Name	App	Name	App	Name	App	Name
APA	American Planning Association	MetroQuest	MetroQuest	SeeClickFix	SeeClickFix	iG	EnerGov iG Workgorce	Tableau	Tableau	Environmental Impact Calculator	Environmental Impact Calculator	iLegislate
Sitegeist	Sitegeist	SeeClickFix	SeeClickFix	U.S. Green Infrastructure Reporting	U.S. Green Infrastructure Reporting	Traffic Duco	Traffic Duco	Collector for ArcGIS	Collector for ArcGIS	Basecamp	Basecamp	Cycle Tracks
ESRI BAO	ESRI BAO	Crowdbrite	Crowdbrite	Accela Code Officer	Accela Code Officer	LocalData	LocalData	Zoner	Zoner	MasterPlanIT	MasterPlanIT	

More importantly, that first set of meetings afforded everyone the opportunity to avail themselves of thousands of years of experience with human interaction. Most everyone can look into another's eyes and acquire those limitless cues that provide meaning inside and beyond the words. Each face is an infinity of emoticons.

But once trust and understanding are established, we can proceed to our computers to spread the information and acquire the thoughts of a great many—always remembering that it won't be everyone, every time. As Professor Riggs notes, the planner is responsible for staying up with the technology. As people progress to newer platforms and media, so too must we. We must cast a very wide net, staying back with those who communicate in traditional ways and venues, and keeping up with the vanguard.

Riggs Rebuttal:
More Work is Needed to Address These Issues.

As alluded to by professor Clark, technology is not the only answer to planning problems. There are other valuable ways of connecting to stakeholder in planning processes, and there are still steps that need to be made to address issues with technology adoption. For example here is still substantial 'e-lag' or uneven adoption of technology for public agencies and planning departments (Riggs, Steins & Chavan, 2015), and there are inconsistencies in approaches to things like accessibility and responsive (mobile) design, privacy and how planners manage their work. In light of this I would offer three topics of reflection as planners integrate greater levels of technology in their workplaces.

1. Accessibility / Responsive Design: Deployment of a website and/or social media presence should consider all users, and provide alternatives to user-unfriendly interfaces. For instance, a site coded completely with flash may be inaccessible to someone with a cognitive impairment, or a website without proper markup may be inaccessible to a person with a visual impairment that relies on screen reader technology (Lazar & Jaeger, 2011). Having an appropriately designed and accessibility web platform is an important part of this process in ensuring that a mobile equipped society can access government documents. Additionally, since just one in three Latinos who speak only Spanish go online (Fox & Livingston, 2007), simply having a multi-lingual web presence cannot be a substitute for good community outreach—a factor that Professor Clark reinforced.

2. Security / Privacy: While having the technical wherewithal to collect and collate data from existing social media sources related to the agency is potentially invaluable it also presents risk. Such tools present security issues, sticky political situations, and may constitute generation of official public agency records that have to be archived and managed (Bryer & Zavattaro, 2011). Therefore, prior to deployment, it is important to think about questions like: What is the effect on the budget and scope in light of public records requests? What kind of employee training is needed? How do citizens need to be informed that the information they submit to web and social platforms even becomes a public record? Who owns the public record data at the end of the day, cities or vendors?

3. Workplace / Workflow Management: As referenced in my principal argument, digital technology offers new ways of knowing and responding to information. It also promises new ways to manage the workplace. In my 2015 Web Technology Benchmarking Survey we found that very few planning offices offer online, e-permitting (Riggs et al., 2015). This will likely change in the future as more simple approvals are granted via e-permits. I have speculated that it may be that we see an airline-kiosk or concierge-oriented approach to the permit desk in the future were there can be more self-service options for permit applicants and citizens looking for over the counter products.

Likewise planning managers need to be receptive to changing workplace dynamics and the ability to work in less traditional environments. For example, the federal government has made aggressive steps to increase telework, by providing off-site work tools and flexible schedule arrangements (Shanks, 2007). Data indicates this has resulted in greater levels of workplace satisfaction and commitment, especially for those looking for family-friendly work environments (Caillier, 2013). While there may be some components of planning practice that require an onsite presence, there is also a large component of the workday local planning departments would do well to embrace and implement such thinking.

In conclusion, reviewing these aspects of an agency's technology portfolio may provide a starting point for thinking about how to approach wider adoption alongside existing strategies. Clearly there may be other issues that emerge with each local application of technology, but moreover, such tools have the capacity to both empower and enliven. They can help us continue to articulate and evolve the way we have communicated for years upon years.

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Special Events

2015 California Climate Action Planning Conference Keynote Address

Salud Carbajal
Santa Barbara County Supervisor

In August 2015, Cal Poly's CRP Department hosted the second Climate Action Planning Conference to discuss local, state, national and international climate issues. The keynote address was provided by then Santa Barbara County Supervisor Salud Carbajal. His words framed the action-oriented vision for the conference, and define much of what the CRP family continues to focus on as a part of their teaching and scholarship.

Thank you for inviting me to say a few words today about my experiences. I want to start by thanking everybody who's had a role in putting together this planning conference. Let me start by saying that elected officials are jacks-of-all-trades. So it kind of concerns me a little bit when I was invited to say to say a few works to you today because all of you are planners and experts in various subjects, including climate change.

So I was a little bit intimidated planning my remarks to come here today to address you. But various experiences have afforded me interesting observations and perspectives. These include: having served as a county staff to a previously elected county supervisor, an elected official going on eleven years, as a member of the President's Local, State and Tribal Leaders Task Force on Climate Preparedness and Resiliency, and having worked with the US EPA.

We are lucky to live in a State and region where both Republican and Democrat governors have signed landmark legislation to address the problem of climate change. You have no idea how this makes us standout throughout the country. Having served on a number of national committees and organizations in various capacities, I understand that California is like a different nation.

Gubernatorial leadership has resulted in significant action to reduce greenhouse gas emissions in California. This has made California an unequivocal leader in our nation and a beacon of hope on this important issue. You know what they say, "As California goes, so does the nation, or so goes the nation." Assembly Bill (AB) 32 signed by Governor Schwarzenegger in 2006, is considered the first comprehensive public policy effort in the United States to address climate change and greenhouse gas emissions. It set us on a course to reduce emissions to 1990 levels by 2020.

AB 32 required the air emissions board to develop a scoping plan to meet emissions reductions from virtually all sectors of the economy, including energy production, fuels, cars and trucks. Senate Bill (SB) 375, adopted in 2008, coordinates housing and transportation planning efforts, , to reduce greenhouse gas emissions from motor vehicles by integrating land use and transportation planning policies at the local level. Moreover Governor Brown's recent executive order to establish reductions in greenhouse gas emissions to 40% of 1990 levels by 2030, and 80% below 1990 levels by 2050 has once again set the example.

This state framework has created the incentive, momentum and mandate to encourage local governments to follow suit and develop our local innovative energy savings programs -- greenhouse gas emissions reductions targets, strategies and local climate action plans. More importantly, these efforts have culminated in growing the mass dialogue and movement in communities throughout the state. Governor Brown has also provided a policy directive to all state government departments and agencies, requiring them to address climate change within their scope of responsibility and operations.

Salud Carbajal presenting at Cal Poly.

While some states and local governments are taking significant steps to address this important issue, the federal government traditionally has lagged on making strides in policy and progress on this subject with the exception of the US EPA. I am happy that this attitude and historic federal posture came to a dramatic change with the Obama Administration, which has made addressing climate change a cornerstone of their policy agenda. In June 2013, President Obama released his climate action plan, which sought to develop strategies, goals and directives to cut carbon pollution, to prepare the US for the impacts of climate change on our infrastructure, economy and natural resources, and to engage the international community to take action.

Furthermore, President Obama issued an Executive Order in November 2013 that took a multifaceted approach to modernize federal programs to support resilient investments, manage lands and water for preparedness and resilience, provide information, data and tools to plan for resilience, and plan and assess future risks from climate change. To implement this action the executive order established an interagency council on climate preparedness comprised of 25 federal agencies. The executive order also established the State, Local and Tribal Leaders Climate Task Force, which met for one year and was comprised of 26 members, consisting of 8 governors, 13 mayors, 3 supervisors and 2 tribal members. It was a bipartisan task force. The charge of the Task Force was to provide recommendations on how the federal government can better respond to the needs of communities nationwide dealing with the impacts of climate change.

On November 2014, the Task Force Final Report was submitted to the President and included over 500 recommendations, which were distilled into 50 priority actions. The recommendations were developed from the following over-arching guiding principles: (1) Federal regulations and funding programs must include more consideration of climate risk and vulnerabilities; (2) Maximize projects that both mitigate greenhouse gas emissions and build resilience; (3) Enhance interagency coordination and cooperation; (4) Consult and cooperate with tribes in indigenous communities; (5) Break down silos and improve coordination among federal agencies. The Task Force's progress to date includes development of enhanced data and tools as sought initially, sharing of best practices and ongoing funding, and funding of new programs and initiatives.

When considering the challenges and scope of climate change, President Obama said it best: "2014 was the planet's warmest year on record. Fourteen of the fifteen hottest years on record have all fallen in the first fifteen years of this century. The past winter in aggregate was the warmest winter ever recorded. This is not a problem for another generation; not anymore. This is a problem now. It has serious implications for the way we live right now – stronger storms, deeper droughts, longer wildfire seasons. The world's top climate scientists are

warning that a changing climate already affects the air that our children are breathing."

He goes on to say, "the Surgeon General and I recently met with doctors, nurses and parents who see patients and kids grappling with health impacts. The Pentagon says that climate change poses an increasing set of risk to our national security, so climate change can no longer be denied. It can't be edited out. It can't be omitted from the conversion, and action can no longer be delayed." President Obama, April 15, 2015.

Here on the Central Coast, at the local level, we also have been able to make significant progress on addressing the issue of climate change. Starting with expanding the conversation through local forums and symposiums such as this one today. Your participation continues efforts to work together to explore what we can do better in terms of planning and adopting resilience strategies in the future.

In 2013, while working with the Community Environmental Council (CEC) and the International Coalition of Local Environmental Initiatives (ICLEI), we organized a tri-county climate change symposium consisting of elected officials, appointed public interest groups and non-profit, environmental and business stakeholders. This led to growing interest in developing networks amongst public, non-governmental and private sector, reaffirmed the need to share data across jurisdictional boundaries, and reached a consensus to engage in a regional municipal collaborative effort.

Subsequently, supervisors from Ventura County, San Luis Obispo, and I met with our respective staffs to discuss expansion of the Santa Barbara County Empower Program, and the possibility of developing a regional Community Choice Energy program like those that exist in Lancaster, Sonoma, and Marin.

I report to you today that we have a tri-county Empower Program, and Santa Barbara County has initiated a feasibility study for a regional Community Choice Energy project with support from the Community Environmental Council, County of Ventura and the City of Santa Barbara. In addition, other tri-county municipalities have been invited, including the Cities and County of San Luis Obispo. For those of you that live in San Luis Obispo, now is a time to approach decision makers to encourage them to collaborate with us, and at the very least to support this feasibility study, which will be very instructive and informative as to the opportunities that CCA or CCE will provide to our region.

Moreover, Santa Barbara County has adopted an Energy and Climate Action Plan on a bipartisan vote and set high greenhouse gas emissions standards that hold one thousand metrics tons per year for new industrial projects to mitigate their emissions, which would capture 99% of their greenhouse gas emissions.

I have found that there are good people from all perspectives who are working together take initiative and action to both adapt and mitigate. But, in my opinion, there is one specific area where many of our efforts oftentimes fall short. This is engaging the private sector. To our detriment the lack of collaboration with the private sector in a substantive way, has enabled the false narrative that environmental sustainability and economic prosperity are opposing ideals. Nothing could be further form the truth. Creating sustainable communities is both good for business and our environment, and of course the economy overall. To really get to where we need to be in terms of enacting more resilient and adaptive climate policy the private sector must be included in a more substantive way.

As climate policy is constantly evolving, I have also observed that the discussion and focus has shifted more from mitigation to adaptation. I believe that we must do both, which means to continue to incorporate mitigation strategies as we adopt stringent adaptation policies. To do both is a daunting challenge but the predicted outcome of a business-as-usual alternative, which means continuing the use of extensive fossil fuels and increasing greenhouse gas emissions, should serve as our motivation to reaffirm the purpose and importance of our collective work.

Business-as-usual means more oil spills like the recent Refugio spill on the treasured Gaviota Coast in Santa Barbara. It means debating whether to approve the Phillips 66 rail spur project that would support oil trains carrying tar sands oil from Canada to the Central Coast. Approval would mean significant risk to the health and public safety of our residents, threats to our economy, and major jeopardy to the natural environment and coastline of the Central Coast. It means more fracking that threatens to contaminate our water basins, intensified use of water supply, and increased greenhouse gas emissions. It means recognizing extended droughts, year round fire seasons, floods, and rising sea levels. I could go on and on and on – they continue.

When I compare these few examples of the business-as-usual paradigm with an alternative of a sustainable and a resilient future, the choice is clear. In closing I want to reiterate how fortunate we are to live in a region and in a state that are international leaders on climate policy. I appreciate the opportunity you have given me to share with you just a few thoughts about some the efforts I've been involved with. I want to conclude by quoting Pope Francis, "We are not faced with two separate crises one environmental and the other social, but rather one complex crisis which is both social and environmental." Thank you very much.

John Gilderbloom's Thought-Provoking Strategies About Regeneration and the Language of Planning

Jana Schwartz
MCRP student, Cal Poly San Luis Obispo.

Planning is a 'jargon-y' field with terminology that oftens distract from the purpose of a project or idea. During a luncheon seminar at Cal Poly, Dr. John I. Gilderbloom, a professor at the University of Louisville, Kentucky, addressed this challenge through his own work, case studies and personal antidotes. He discussed the intricacies of planning and the role played by language in the implementation of projects and community understanding.

In February 2015, Dr. John I. Gilderbloom presented the talk "The 10 Commandments of Urban Regeneration" at Cal Poly sponsored by the Resilient Communities Research Institute. During his visit, he also presented his ideas to CRP's students and faculty during a brown-bag session. A professor in the Department of Urban and Public Affairs at the University of Louisville and director at the Center for Sustainable Urban Neighborhoods, Dr. Gilderbloom is a notable planning professional and academic considered one of the "top 100 urban thinkers in the world." He is an international consultant on creating livable cities and neighborhoods, and owns a real estate company that renovates historic housing. A Marxist-like scholar who uses divergent thinking to expand the way planners and students envision the future of our communities, he has published widely on rental housing, poverty, health, community development, and urban policy. Dr. Gilderbloom explores thought-provoking planning question from sometimes unusual or even revolutionary perspectives.

One of Dr. Gilderbloom's connections to Cal Poly comes through City and Regional Planning professor, Dr. William Riggs who worked with him during his Master' s at the University of Louisville. The two teamed us again more recently to produce a highly successful article on the conversion of one-way streets to two-way streets (Riggs & Gilderbloom, 2015). This work was featured in Dr. Gilderbloom's talk, along with other provocative topics such as the benefits of gentrifying neighborhoods with the goal of creating healthy, safe, prosperous, sustainable, and just neighborhoods.

The resonance of this topic of the pros and cons of gentrification and it' s relationship to urban planning is an important one and was the key concept that many in attendance took away. There was a key unspoken question throughout the entire talk. It screamed: How do we balance regeneration and economic development with justice? How do we achieve the benefits of neighborhood improvement without gentrification and displacement? While Dr. Gilderbloom talked about his work on the benefits of walkable communities or creating job growth,

Dr. Gilderbloom with BSCRP student Rob Etters, after his presentation. (Photo: William Siembieda)

the facts and interlaced ideas between gentrification and regeneration resulted in further significant group dialogue long after the talk.

Dr. Gilderbloom provided factoids about all types of benefits provided by gentrification. These included affordable housing, displacement, diversity of amenities, and project appropriateness—based on environmental and demographic make-up. He offered suggestions on how to supply these opportunities to all communities, primarily through urban regeneration and infill. Dr. Gilderbloom provided several case studies that illustrated the impact his dialogue was describing. Dr. Gilderbloom comes from a diverse and arguably depressed area of Louisville that presents ample regeneration, or gentrifying, opportunities. In one case, a development project near the University of Louisville, which houses 500 people, has introduced 12 new stores and businesses and approximately 75 jobs. Of these jobs, 82% of these jobs are going to people without high

school diplomas, and half of these jobs are going to minorities, which is important since the highest unemployment rate is for people without high school diplomas.

Of these newly introduced opportunities, Dr. Gilderbloom explained how this type of neighborhood investment "allows for 17 jobs to be created for every $1 million in investment in urban regeneration, often through historic preservation." Using freeway construction as a comparison, Gilderbloom stated that "only 5 jobs are created" per $1 million, with large machines overtaking many of these jobs. In his mind the difference between the two relies heavily on community investment and local spending, a cycle of economic support that generates jobs and sustainable growth patterns. Not only are workers being paid to reconstruct these new, usable neighborhoods, but these workers go to the local businesses to get materials, providing additional jobs for the community. Similarly, due to the growing success of the local economy because of these investments, stores will move to that area helping create other employment offerings. In turn, housing development, renovation, and renewal projects regenerate structural, economic, and equitable growth opportunities.

Based on this pattern of regeneration described in his talk, Dr. Gilderbloom posed gentrification as an economic driver versus a community and societal villain – a perspective rarely seen in the media these days. Gentrification often gets this evil name because of its synonymous use with "displacement." However, in 2010, University of Colorado–Boulder economist Terra McKinnish, along with Randall Walsh and Kirk White, examined gentrification across the nation as a whole over the course of the 1990s. McKinnish and her colleagues found that gentrification created neighborhoods that were attractive to minority households, particularly households with children or elderly homeowners. They found no evidence of displacement or harm. While most of the income gains in these neighborhoods went to white college graduates under the age of 40 (the archetypical gentrifiers), black high school graduates also saw their incomes rise. They also were more likely to stay put. In short, black households with high school degrees seemed to benefit from gentrification.

This relates to Gilderbloom' s talk in that his experience is largely comprised of work done in poor, black neighborhoods. One thing he talked about was frequently encountering people people complaining about gentrification but at the same time want to go in and "fix a black neighborhood." He went on to explain that he was once involved with a book project:

> "...but they didn't like the chapter on improving black neighborhoods. They said that if you improve black neighborhoods with bike lanes and mixed use, it will force blacks out. And I said, I think that's racist? We should have the same sort of amenities and equity in all neighborhoods, like in Portland. There are programs like co-op housing and rent control that are supportive of these neighborhoods and preserving the integrity of the community."

In this proactive thought Gilderbloom illustrated a key issue planners face and what I believed was the key take away from the talk – terminology. In city planning (and perhaps government in general) there tends to be a common tongue; something that I have heard Dr. Riggs call ' planner-speak.' We tend to use certain phrases or acronyms that carry a certain connotation, however what Dr. Gilderbloom illustrated was that they do not have to carry this meaning. There is no reason why gentrification cannot mean a phenomenon with both the potential for positive and negative outcomes. And perhaps this should be our goal as planners. Perhaps we should try to reduce the negative and increase the positive. This thought was at the core of what Gilderbloom was talking about, and is an important take-away for practice.

Put succinctly, Dr. Gilderbloom may have a contrarian perspective, but his research and ideas require further discussion. In my case, his lecture left me feeling inquisitive and interested in his refreshing lack of political correctness. His perspective is optimistic and wide, and provides an opportunity to think critically and take part in discussions that evaluate the less-explored perspectives of planning – with a key lesson to ' de-jargonize' the planning field. So when you begin to reevaluate how traditional planning ideas might be interpreted differently or find yourself using common planning terms without considering the implications or alternative meanings, think again. There are other perspectives out there and they may have merit –Gilderbloom or not.

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Identity and Urban Design:
The Path to Meaningfulness in Concepción, Chile

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In her research leading to this article, Laura Rodriguez studied the urban design and place making qualities of the University of Concepción campus in Chile. Based on interviews with a select group of experts and field observations, the results indicate that the campus' strong meaning within the city image is partly due to its original conception as an overall consistent project and as part of the city grid and life.

Every city possesses places that evoke the urban imaginary imagination, have strong meanings for the citizens, and capture the image of the city as a whole. Among the several factors contributing to this process, identity and urban design are fundamental. This article discusses a research project on place identity and urban design in Concepción, the largest urban agglomeration in Chile after the capital, Santiago. While the City of Concepción has an estimated population of 300,000 residents, its metropolitan region has 945,650 inhabitants (2012). A number of factors come into play in this investigation and our findings demonstrate that Concepcion has a powerful image built upon its infrastructure and historical process, both of which have generated a strong identity and sense of belonging among its inhabitants.

Introduction

To write about the contemporary Chilean city is to write about the dissatisfaction shared by the majority of urban residents about their everyday experiences.[1] In addition to the usual frustrations associated with problems stemming from poorly functional urban systems, people share a significant loss of sense of belonging to their places (Márquez, 2006: 80). People inhabit meaningless cities, or cities where the built form does not reflect place history, context or identity. Dealing with this issue requires examining the convergence between urban functionality and the subjectivity of human experience (Munizaga, 1997: 56). It means trying to recover the sense of living in a community, to strengthen the sense of belonging to a place, and to account for place identity, an identity that

needs to be understood not only as collection of memories but also as a common future project.

Better cities are those that host multiple meaningful places, meanings that are persistent over time, but also senses that are renewed, strengthening the sense of belonging of its inhabitants who perceive a profound articulation with their own collective cultural identity in the urban form (Rodríguez, 2012: 185). In this sense, we understand place as a source of identity, and identity as "how we make sense of ourselves" (Rose, 1995: 88). Places can give meaning to urban life and become iconic for the community. It is desirable for a city to be a source of iconic meaning since, as noted by Holzapfel (2005: 55), "iconic sources are the signifiers and symbols of meaning, and the interesting thing about them is how they reveal the corporal quality of the sense." The link between iconic places and a city´s identity can be positive and act as the re-affirmation of life. But iconic places can also be negative, acting as source of conflict (Picon, 2008).

Without pretending to develop a philosophy of space or a new theory of meaning, there are areas where an urban geographic theoretical approach is helpful to understand the relationship between meaning and place— a subject of great interest to contemporary geography. "Place is a central concept in Human Geography in general and in Cultural Geography in particular" (Gregory et al, 2009: 539). According to Rose (1995: 88), geographers use the term place in reference to the specific meanings it has for people. Feelings for a "place" are not seen as trivial and the sense of place develops from every aspect of an individual's life experience; these senses invade life and everyday experience.

Considered by most geographers as a "perpetual state of becoming", place is distinguished by its subjective meaning and the way by which it is constructed and differentiated. However, as noted by Cuthbert (2006: 65), there is no general agreement

[1] According to census data, Chile's total population was 16,634,603 in 2012 with an estimated 89% living in urban areas.

on how the meaning of the built environment is "produced, consumed, circulated, and exchanged, as is distorted, disguised, changed or deleted." We also agree with Cuthbert (2006) and Castells (2003) on the dominance of historical time in determining this process. "The historical process of defining the urban meaning determines the characteristics of urban functions. For example, if cities are defined as colonial centers, the use of military force and territorial control will be their basic function" (Castell, 2003: 24). Such places become iconic locations in the city. The research discussed in the present paper is a contribution to this discussion.

Concepción's Insubordinate Identity

Concepción, located 512 kilometers south of Santiago, is the capital city of the Bio-Bio region. It was one of the first cities founded by the Spanish Empire in 1550 and the major military stronghold with a size and importance only comparable to Santiago. A tumultuous period followed Chile's independence when Concepcion rejected Santiago's aristocratic attempt to monopolize power as the new capital. Order would only return when a native of Concepcion was conducted to the presidency (Contreras, 2002: 221). The city's rebellious identity would mesh with the emerging story of progress.

> "Between 1835 and 1839, people in Concepción lived a rare phenomenon characterized by a strong attachment to the city. A keen pride in having been the military capital of the country for centuries; an undeniable resentment towards Santiago and the central power for its defeat in Loncomilla, and the legitimate desire of its inhabitants to establish transcendental institutions to head progress and advancement." (Pacian, 2010: 20)

The ideas of modernity and progress resonated strongly in the discourse of scholars from Concepción who perceived them as the most enlightened of local aspects (Aliste & Almendras, 2010). Pacheco (1997) notes how Concepcion's freethinkers were influenced by the discourse of reason, European enlightenment, Auguste Comte's positivism, and the theory of evolution, against the Church's ideology that dominated until then. The arrival of numerous professionals in the early twentieth century, the influence of the Masons, and liberal and radical doctrines gave rise to thoughts of progress, reason and science. This new value system would be reflected, for instance, in 1970 when Concepción's Mayor declared in the local newspaper that the change of streetlights would "not only provide greater safety to pedestrians but also change the face of the city" (apud Pacheco, 1997: 13).

The value of education in development and the need to constitute a modern Concepción lead the city leaders, with the support of all other communities in the south of Chile, to create the University of Concepción in 1919 (Cartes & Mihovilovich, 2011). The university's forum rapidly became not only the daily meeting point for students to discuss political and social but an important place for student life as well as for the lives of all city residents (Contreras, 2002: 223) (Figure 1). Students played a unique role in Concepción's history, a city founded in a struggle for progress, hand-in-hand with the labor party during Chile's industrialization.

The desire to transform Concepción into modern city made education and culture decisively central among social considerations. But the stubborn rivalry with Santiago reflected in local discourses and projects. Destroyed by the 1960 earthquake, the University Theatre was one of them, a building whose scale, design, and details were meant to rival Santiago's Municipal Theatre (Pacian, 2010) (Figure 2).

Figure 1: View towards the university Forum. (drawing: Pablo Soto)

Figure 2: University of Concepción Old Theatre. (drawing: Pablo Soto)

When discussing Concepción's qualities Contreras (2002: 226) concludes that they led to the "perception of being in an area with a better quality of life if compared to Santiago, the main and only competitor to this center of development on the banks of the Bio-bio River". Playing an important role in the city's aspirations of progress, the middle class was born early in Concepción, formed and consolidated during the Republic and in the city, not in the agricultural land. The process started with the old colonial families--impoverished, disintegrated, and uprooted from their land--but also emerged from the working-class who, thanks to the industrial boom, suddenly got rich out of luck or because of some creative drive (Campos Harriet, 1979: 267). Between 1940 and 1950 the industry became the most dynamic sector of Concepción with an annual employment growth rate of 4.3%, the fastest and most consistent in the city's industrial development (Fernández, 2006:143).

Campos Harriet noted that, during the second half of the 19th century, the working class had a leading role in defending their rights by engaging in nascent political parties. Between 1920 and 1970, the city boasted the creation of a large number of social organizations as "the population, as an expression of the proletariat, takes social identity, recognizes it for what it is, and begins to participate as a body in urban life" (Pacheco, 1997: 27). Upon displacing tradition, people moved to be ruled by rationality. They pressed for freedom, autonomy, and rejection of the past.

The University of Concepción was then created as a transcendental institution in the image of the city. The diagonal Pedro Aguirre Cerda was designed to give continuity to university life and link it to the city center (Figure 3).

> "There is no doubt that Concepción has unique urban features that are crucial, as the relationship with the University of Concepción entire campus, Plaza Peru, Diagonal Pedro Aguirre Cerda, and the sequences of plazas in the city center. It is a unique structure that is clearly recognizable and unmistakable. In seeing it one recognizes it. And there are landmark elements that people also consider to have higher singularities. These are symbols that express the city's identity in the most emblematic way, such as the University of Concepción's bell tower, the courthouse, or the Plaza of Concepción, which are the most relevant built elements of the city´s identity." (Sergio Baeriswyl; personal communication)

The Arco de Medicina is a singular entity that, with its high-relief mural, defines a portal facing Plaza Peru and a estate-built residential district (Fuentes & Perez, 2010: 87) (Figure 4). With its bars and restaurants, Plaza Peru is filled with youthful energy that continues down to the Diagonal and its tree-lined avenue. Its authentic beauty embodies an era of freedom and self-confidence that, according to Sepúlveda (2010: 112), inspired Enrique Giordano's poem where the Diagonal is related to the discovery of homosexual love and the ability to dream of another world: "of those screens only we know, those of all the light of dawn on Diagonal Avenue".

The places described in Giordano's poem are key to Concepcion's identity and are legible in the urban design patterns, even the most conventional ones. They promote vitality and are endowed with a good form translated in the visual geometry. They are memorable because they are also designed for stability; sculptures and seats meant for pedestrians and available for social encounters and conversations. Concepción is a city of monumentalities but it is also a city of encounters – hence the impetus for this original investigation, which postulates that place strengthens and solidifies the iconic nature of a city.

Methodology

The principles of urban design for public space considered in this investigation were outlined in Sternberg's "An Integrative Theory of Urban Design" (2007) where he conducts a meta-

Figure 3: Pedro Aguirre Cerda Diagonal. (photo: Benjamin Carrasco)

Figure 4: Plaza Perú. (photo: Benjamín Carrasco)

analysis of different authors in the past eighty years. The investigation included several methodological steps. The first was an interpretation of the city´s identity based on historical-geographical narratives by various authors through secondary sources—historiographies (books and papers). This was conducted through the Critical Discourse Analysis Method used by Bolívar (2004), a qualitative method useful in determining the previous context of the study, gaining knowledge from a re-examination of questions about identity and place (Marshall & Rossman, 2011).

Secondly, in-depth interviews with architects and members of Concepcion's academic community were conducted; a method called by Marshall and Rossman (2011) as elite interviews where the elites are considered the influential, prominent and well-informed members of an organization or community. These interviews provided an insight into the respondents' experiences not only as individuals but as part of a wider community—how personal and collective human agency generates social life and its many ties of belonging and identity, forging the knowledge that sustains them. However, the privileged social status of these interviewees does not mean that respondents were selected randomly; they were part of the sample, which can be academic or personal. The key informant technique becomes effective because of the multiple social worlds they belong--sometimes with distinctive and competing social meanings--enriches the analysis.

This ethnography of members of the architectural community was chosen because of their mastery of the subject. The discipline of architecture is based on spatial cognition and the professionals working within routinely observe the city, a method described by Zeisel (1997). The basic tenant is that when a member of a particular group the individual tends to observe and record behavioral aspects that are unnoticed by individuals from other groups. The interviews included three questions about meaningful places, evolution, and current dynamics, and one question on identity aspects of the local population. Previous research projects carried out by the author indicated that six in-depth interviews are sufficient to provide a fairly clear idea about the meaningful places in a city for that group.

The third method utilized in the investigation was a photographic record of places, dates and times indicated by the interviewees. Following a methodology suggested by Zeisel (1981) and Gehl (2006), each photo included explanatory notes on the people, their activities and behaviors, if they were alone or in groups, and the socio-cultural and physical environments.

These multiple research techniques required different strategies for gathering information, but they also had to include some quantitative data. For example, in order to measure a place's vitality we had to record the number of people in the area every 15-minute interval. This technique allowed us to observe the public in a more intimate, personal manner, allowing the researcher and assistants to gather information and analyze

places through qualitative observations and analytical sketches based on photographs, plans and sections (Jacobs, 1985; Munizaga, 1997). This allows for a keen explanation of the relationship between Concepcion's iconic places, the principles of urban design, and identity.

The ultimate goal was to demonstrate that culture is not only a social construct expressed territorially but that culture is formed spatially. Identities are related to places and belonging to a place is part of the definition of self. "Human identity assumes the identity of a place" (Norberg-Schulz, 2003: 125). This allowed the research to emphasize the subjective dimension of the geographic experience.

Larraín (2001) noted that in every historical stage renowned intellectuals tried to explain identity, calling attention to the construction of discourses about national identity from a cultural-historical perspective (Torres, 2011: 39). But he also presents a structure with different points of views, some clearly contradictory. At this point, we agree with Vergara et al (2012: 23) who noted that all these points of view can be accurate but, at the same time, incomplete.

> "On behalf of modern progress, Liberalism and 19th century Positivism strongly opposed the Indo-Iberian cultural identity that prevailed during colonial time and maintained a strong influence since independence. However, the "hispanicism" of the 1940s attacked the modernizing processes that occurred after independence because they made us forget our true identity based on medieval Spanish values." (Larraín, 2001: 78).

By highlighting the most important ideas at the time, Larraín manages to open a breach between overlapping discourses that indicated "the so-called 'national identity' in Chile is but a project based on temporary discourses which are often enunciated by the local ruling groups or classes" (Torres, 2011: 39).

In this article, elements of identity are distinguished from the multiple discourses that have been elaborated. Sometimes those discourses reveal narratives or visions in tension, indicating representations or identities that continue to be unresolved and challenged. Consequently, it is particularly important to perform a critical analysis of the different discourses that represent the subjective matter of identity – especially in locations like Concepción where identity continues to evolve.

Results

The interviews revealed a total of places that strengthen Concepción's identity and cherish its memory and history (Table 1). Although there was consensus among respondents on which were the city's meaningful places, some were mentioned more often than others. Among the places cited the subsystem of the University of Concepción is especially well represented, and El Campanil (Bell Tower) serves as an underscoring icon on the campus. The university´s public

Table 1: Meanigful places.

Meaningful places cited in the interviews	Times cited
The Bell Tower, Universidad de Concepción	4
Foro, Universidad de Concepción	4
Campus, Universidad Concepción	6
Plaza Perú	3
Murals of the Pinacoteca	1
Diagonal Pedro Aguirre Cerda	2
Building Tribunales and surroundings	6
Paseo Barros Arana	3
Paseo Aníbal Pinto	1
Los Tontos Corner (Aníbal Pinto with Barros Arana)	2
Red Galerías	1
Plaza de Armas	4
Corner of Concepción Theatre	1
Front of the Cathedral	2
Old City Hall	1
Old Train Station	2
Murals of the Former Train Station	1
District of the Train Station	1
Plaza España (facing old train station)	1
Bio-Bio River	2
Ecuador Park	5
Caracol Mount	4
View point Alemán	1

Table 2: Places and applied analytical categories.

Meaningful places	Memorable Aspects	Type of element
Bell Tower, Universidad de Concepción	Meaning	Place
	Legibility	
Foro, Universidad de Concepción	Vitality	Place
	Versatility	
	Legibility	
	Meaning	
	Comfort	
Campus Universidad Concepción	Good form	Place-Path-Portal
	Vitality	
	Comfort	
	Visual Connection	
	Versatility	

space is relevant and this is a direct reflection of the city's historical memory of the last 150 years.

Table 2 lists the meaningful places in the university sub-system and their memorable aspects based on the interviews. Additionally, we can see that this system of places forms a larger meaningful structure that can be represented in a map (Figure 5). One can note that many of these places are linked to the University of Concepción. The university has eight memorable aspects and its campus is the only public space that simultaneously meets the conditions of "place-path-portal" because of its spatial configuration and its degree of wholeness as public space.

In this system of meaningful places --known as the Bicentennial Axis (Ganter & Herrera: 2014)-- one can understand the relevance of the subsystems within the greater system of places, such as the one depicted in Figure 6 (a & b). In the following sections, some of the qualities forming the university subsystem as found in the investigation and its interviews are discussed.

The Spatial Representational Meaning of Education.

The University of Concepción resulted from the aspirations of a group of people to create a regional university. It reflects various social and political practices that, along time, leave memories and marks in the campus although providing education has been a constant concern. In 1925 the university's first rector established the campus and erected the first buildings in a site adjacent to the old colonial grid where the city was founded, in a small basin surrounded by hills of medium height. It was Latin America's first university campus.

The campus had two more master plans: by Austrian architect-urbanist Karl Brunner in 1931, and in 1957 by Emilio Duhart, one of the most important Chilean architects and planners of the 20th century. Since its conception, the university campus has developed progressively and is the result of several stages.

Figure 5: Map of meaningful places.
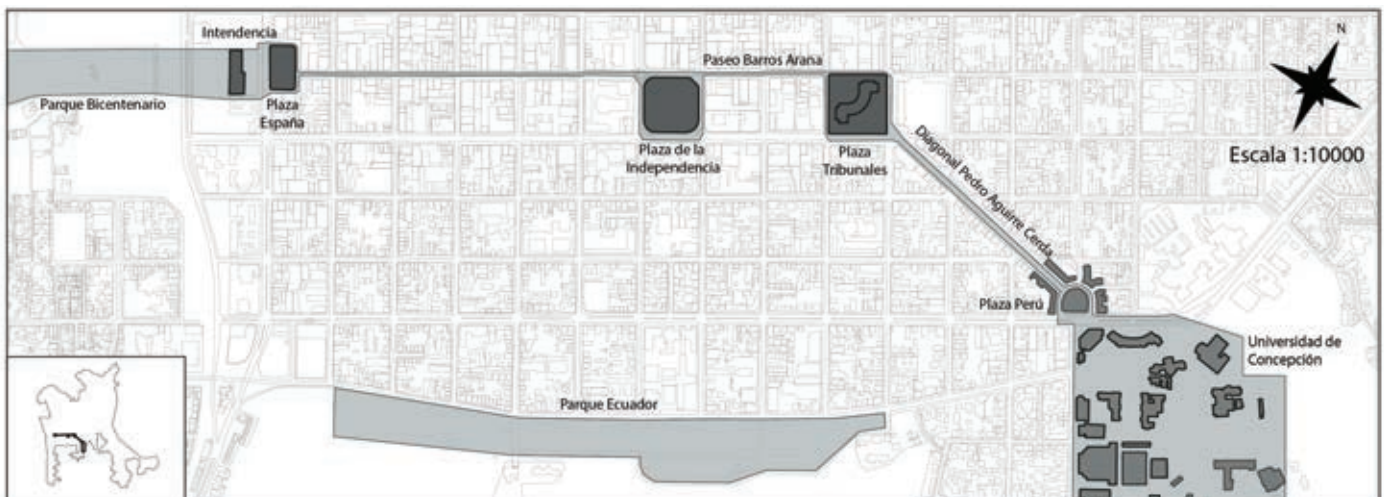
"It has been said that big cities are faithful expressions of the culture that created them. Their people live that culture in the multi-temporal structures in which they inhabit, which not only embrace and protect them, but are like archives of urban history. Similarly, the University of Concepción campus has been materializing the life of the university community." (Garcia, 1994: 5)

Legibility of the Elements and the Assembly

The legibility of the Forum derives from the roofline of the buildings along the main axis, its well-defined edges shaped by the embracing buildings, and the landmark represented by the bell tower (Figures 6 a & b). Furthermore, the regular placing of the trees—all of the same species— at 14 feet intervals in the sidewalks on both sides at the Forum, and only on the south sidewalk beyond it, strengthen the overall legibility.

"The volumes are organized and molded according to their site. Major and minor pedestrian axes are recognized, generating a systematic and coherent urban fabric within the University Campus. The proposed tree planting goes beyond mere decoration; one can see a willingness to have trees configuring the elements of urban space, limiting and stressing the pedestrian experience." (Berrios, 2007: 11)

The Duhart campus plan's unveiled intention was, through the university growth, to provide a consistent and balanced design throughout campus. The great value of the plan was to consider architecture as part of an urban thinking and as a measure of human scale.

Student Vitality

The notion of vitality, as used in our investigation, represents an urban design quality concerned with the number of people currently using a place; it is particularly relevant to make places meaningful. The Forum is always teeming with people, and the pedestrian arcade featuring shops and an ATM contribute to populate the place and provide more activities to vitalize the node (Figures 7 and 8).

As the university's total student population is 23,000 the number of people we observed in the Forum is considerable as illustrated in Table 3 that resulted from just one field count. The Forum also holds different types of activities such as fairs, shows, and music concerts that help give meaning to the place (Figure 9). The Forum's vibrant quality is maintained over time because of its spatial quality and versatility. Nevertheless, vitality is not only determined by students who move daily between classes, but also during weekends when this public space is used as a city park by families (Figure 10).

Comfort

The habitability of the space is granted through comfort, one of the principles of urban design considered in this investigation. Comfort derives a balance between people and their environment, from both physiological and environmental conditions. In the Forum area it is provided by the tree shades and the pedestrian galleries running along the buildings enclosing it, and through the versatility of the architectural and landscape elements that people can use as seats and for other spontaneous activities (Figure 13).

Figure 6a & b: View and section of the Forum. (photo and drawing: Benjamín Carrasco)
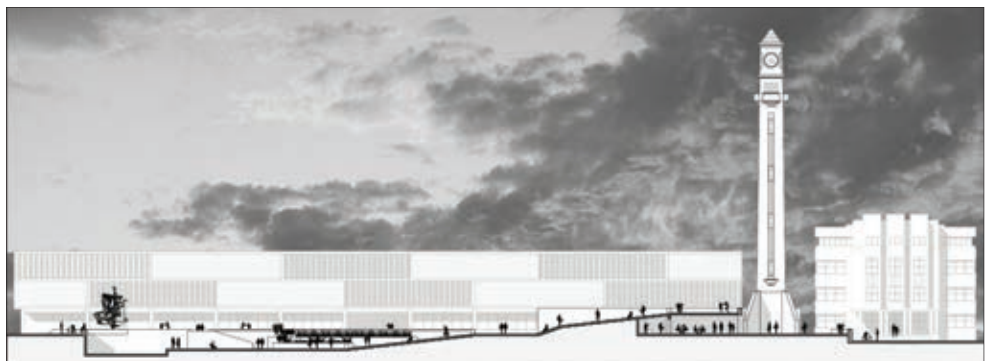
Table 3: Pedestrians in the Forum.

Direction of movement		Time of	Number of People
North Path	People travelling in the direction of Plaza Peru	12:15 to 12:30PM	332
	People travelling towards the Faculty of Architecture		153
South Path	People travelling in the direction of Plaza Peru	12:30 to 12:45PM	116
	People travelling towards the Faculty of Architecture		92

Figure 7: Students in the Forum at noon. (photo: Laura Rodríguez)

Figure 8: Book fair and stage at the Forum. (photo: Laura Rodríguez)

Figure 9: The stage and steps at the Forum. (photo: Laura Rodríguez)

Figure 10: Family enjoying the lawn. (photo: Camilo Arzola)

Connections to the outside

Good urban spaces are well connected to their physical context and the larger community, particularly through visual connections between them and the surroundings—both built and unbuilt. The visual connection between the campus and the surrounding landscape occurs naturally, since it is located on the slopes of Cerro Caracol. From campus one can always have a visual connection with the natural landscape of the hills (Figure 14). The sensation of being part of the city, but at its border and close to the "outside", eases some of the tension of the busy everyday life of a city like Concepción.

Conclusions

Concepción's emblematic places have seduced the urban imagination as they evoke memories and values over generations. Each person re-signifies spaces as places and makes them key elements in their sense of belonging. These places form part of meaningful trajectories and a system of places in an inter-subjective process that allows the creation of a city's identity.

The University of Concepción produces a particularly strong image in the minds of the populace, and its campus' identity and urban design is clearly distinguished. The campus and

Figure 13: Students on the Forum steps. (photo: Laura Rodríguez)

its open spaces are frequently cited in the literature as it was during the interviews in the course of this investigation. Since the campus was planned as a project as a whole, it naturally becomes a place. It's particular design has unique qualities that render it as a path, a portal, and a place, contributing immensely to the City of Concepcion's urban image.

Figure 15: The visual connection between the campus and its surroundings. (photo: Camilo Arzola)

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Evolution of Park Planning in City of Vancouver

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Historically, urban parks have been at the top of the list of communtity demands and, as so, are fundamental in master plans, urban policies, and capital improvement programs. In this article, Stephen Takyi discusses the evolution of park planning in Vancouver, and notes how the implementation of recreational facilities and physical structures in parks may be at odds with their ecological function.

The study of park history serves as an important basis for assessing how rapid growth of cities affects the availability, management, and use of parks over time. The data used for this study was collected from a variety of documentary sources including Parks Board records, old newspapers and archival records. The development of parks in the City of Vancouver has been approached from a multi-stakeholder perspective since the 19th century. There has been an increase in the number of physical structures and area of hard landscaping on the parks. This is as a result of the continuous increase in the provision of more recreational facilities. The presence of more recreational facilities on the parks has helped in promoting social activities but has limited the ecological functions of the parks. This shows a conflict between the achievement of social and environment goals in park planning.

Introduction

Despite the importance of park history in the study, planning and management of urban parks, there is a major research gap within the Canadian context. This study addresses the knowledge gap of park literature from the historical perspective. The overall objective of this study is to analyze the Post-World War II historical patterns and trends in the development of parks in the City of Vancouver. The evolutionary history of urban parks according to Toledo & dos Santos (2012) has helped in the assessment of the roles and purposes of park spaces over time. The study of historical trends of urban parks serves as the basis for assessing how rapid growth of cities affects the availability, management and use of these parks over time. The definition and description of parks changes with time based on the use, characteristics, ownership, management, or purpose of their development.

Williams (2002) argues that urban parks were once defined as pleasure grounds set aside for public recreation and the promotion of health and enjoyment. Williams (2002) further noted that these public green spaces provided cities with tangible benefits that go beyond serving as an outlet for recreation, physical activity, and relaxation. 19th century park visionaries such as Frederick Law Olmsted argued that parks were not amenities but rather necessities providing recreation, inspiration, and essential respite from the city's blare and bustle (Sherer, 2003).

Historically, the urgent need to improve living conditions in cities led to development of urban parks to help preserve the natural environment. According to Hinds (1979), the desire to improve the city's living conditions resulted in the development of the naturalistic park. Therefore, an attempt by city authorities to maintain some characteristics of the country in the city led to the development of parks. The changes in design, funding, ownership, management and use of urban parks over time have implications for their contemporary management. As population shifted to the suburbs after World War II, the vision of parks for all faded because many cities lacked the resources to create new parks (Sherer, 2003). This implies that the availability of land and financial resources has a lot of implications for the development and maintenance of parks.

Cranz (1982) presented the historical overview of urban parks in the United States where the parks were categorized into the pleasure ground (1850-1900), the reform park (1900-1930), the recreational facility (1930-1965), and the open space system (1965+). These categorizations were based on uses, characteristics, design elements, and architecture, which gave historical differences in the description of parks. The need for city parks as pleasure grounds according to Sherer (2003) arose in the second half of the 19th century where American cities built grand city parks to improve their residents' quality of life. According to Cranz (1982), American parks were conceived as pleasure grounds meant to bring the pieces of the country with its fresh air, meadow, lakes and sunshine to the cities.

The reformation of the park system between 1900 and 1930 saw the programming of park activities into physical, social, aesthetic and civic activities. Parks were used for a variety of activities as well as landscape beauty thus moving beyond

pleasure (Cranz, 1982). According to Cranz (1982) park administrators in the 1930s abandoned their idealistic efforts to use parks as a mechanism for social reform. The use of available urban spaces for social activities during the recreation era (1930-1965) limited the availability of open spaces.

Byrne & Sipe (2010), on the other hand classified parks based on size, deemed function, their geographic location and the types of facilities present within the parks and the degree of naturalness of the parks. According to Byrne & Sipe (2010), parks can further be identified by factors such as:

- the activities that occur within the park and the types of people who use the park;
- the agency responsible for managing the park and the land use history of the area;
- the history and condition of the park; and
- the landscaping, embellishments and the philosophy behind the development of the park.

These factors helped in analyzing the historical trends of the park system in the City of Vancouver based on the purpose of establishing the parks, activities undertaken in the parks and agencies responsible for financing and managing these parks.

Research Questions

- What are the Post-World War II historical patterns and trends in park development in the City of Vancouver?
- What are the implications of these patterns and trends for Contemporary Park planning and management?
- How have culture and social diversity influenced the use and management of parks in the City of Vancouver?

The Case Study

Flyvbjerg (2006) describes a case study as a detailed examination of a single example of a class of phenomena. Field studies are so costly and complex that, they can be done only in one or few geographic areas hence the need to select case studies for in-depth studies (Sudman, 1976). The City of Vancouver is currently noted for its ambitious plan to become the world's most sustainable city through the formulation of policies to protect its natural environment including its green spaces.

According to Horak & Young (2012), the City of Vancouver has consistently been ranked among the growth leaders within Canadian urban system since the deep recessions in the 1980s.

The city's urban parks give a broader view on the study of parks due to their social, environmental and economic characteristics and benefits. The City of Vancouver has a population of 603,502 with a population density of 5,249.1 people per square kilometres (Statistics Canada, 2012). The City of Vancouver is one of the most diverse cities in the world thus making it a single case study with diverse socio-economic

background. The diverse population of the city coupled with its continuous population growth makes it an important case study for assessing how the demographic changes in the city affects the availability, management and use of parks over time. A map showing the parks in the City of Vancouver has been presented in Figure 1.

The use of documentary sources of information is likely to be relevant to every case study topic except studies of preliterate societies (Yin, 2010). The analysis of historical trends of parks development in the City of Vancouver relied on secondary sources of data. Hakim (1982) defines secondary data analysis as any further analysis of an existing dataset which presents interpretations, conclusions or knowledge additional to, or different from, those produced in the original report of an inquiry. Table 1 shows a summary of the research method and process used for the study.

The use of secondary sources of data is less costly and less time consuming than the collection of primary data. This is because the secondary sources of data have already been summarized and analyzed mostly from past primary data which are mostly in the form of archival records, journals and government documents. However, collecting secondary data from one source could be highly biased since it may only represent one perspective. The historical data was collected from internet sources, library sources, Vancouver Archival Services, the Vancouver Parks Board, news coverage and other documentary information from the City of Vancouver departments and boards relevant to the study.

Historical Overview: Pre-World War II

The historical background of parks in the City of Vancouver is a major contributory factor to the high value city residents place on the provision and management of parks. The City of Vancouver has a history of a multi-stakeholder approach to the development of parks. Garvin & Berens (1997) grouped the trends in the development of open spaces into two conven-

Figure 1: Map Showing the Parks in the City of Vancouver.

Table 1: Research methods and techniques.

Emerging Issues From Literature Review	• Design, funding, ownership, management and use of parks changes over time. • The definition and description of parks changes with time based on the use, ownership, management or purpose of their development. • Cranz (1982) has presented the historical overview of urban parks in the United States. • Park history can be assessed based on uses, characteristics, design elements and architecture which gave historical differences in the description of parks.
What is Missing	• Literature on how the design, ownership, characteristics and management of parks in Canada has changed overtime.
What is Researchable	• Post-World War II historical patterns and trends in park development in Vancouver.
Research Hypothesis	• Historical patterns and trends of urban park development in the City of Vancouver have informed current urban park development.
Specific Questions	• What were the main purposes of establishing parks in Vancouver? • Who were some of the stakeholders involved in the development and management of the parks? • What were some of the challenges facing the development and management of parks? • What are the historical trends in the ownership and use of parks? • What are the historical trends in the characteristics of parks? • What are some of the historical benefits of parks?
Dependent Variables	• Historical patterns and trends (1945-1965) • Historical patterns and trends (1965+)
Independent Variables	• The purpose of developing the parks • Actors involved in parks development • Park Ownership • Characteristics of Parks
Type of Methods	• Content Analysis of Archival Records • Old Newspapers • Document Analysis of Parks Board Records
Justification of Methods	• Historical data are used in answering explanatory questions of how and why? • Historical analysis can only be done based on already existing data sources. • Vancouver Archival Services has the most comprehensive records of park history. • Vancouver Sun being one of the oldest newspapers in the city has records of past publication accessible to the public and researchers.

Specific Methods	• **City of Vancouver Archival Records**
	  Checked descriptions of records that are part of the Board of Parks and Recreation
	  Checked records pertinent to the themes of the study
	• **Vancouver Parks Board Documents**
	  Identified all parks and group them into year groups
	  Calculated total number and park acreage for each year group
	  Identified historical trends and patterns for each year group

Data Sources	• City of Vancouver Archival Records • Vancouver Parks Board Records
Expected Data to Be Collected (Dependent Variables)	Post-World War II historical trends and patterns: • The purpose of developing the parks • Actors involved in parks development • Park Ownership • Characteristics of Parks
Data Analysis	• Data analyzed using Cranz (1982) year groups as a guide but with emphasis on post-World War II trends (1945-1965 and 1965+. • Developed a spread sheet for each year group helping the calculate the total number of parks and park Acreage • Calculation of the Population Park ration and the population density to access the trends and patterns • Analysis of the historical trends and patterns for each theme under each year group • Use of tables to summarise research findings

tional models and one new model. The conventional models are the public sector approach and a hybrid of both the public sector and private sector approach. The newer model comprises of the market-oriented civic model. This model relies on long term partnership between the public and private sectors for park development through taxes, private donations and revenue producing park functions (Garvin & Berens, 1997).

The historical trends of park development in the City of Vancouver clearly indicate the application of the elements of all these three models in the 19th century. However, there is a major shift to a more governmental and private sector approach in the 21st century, with the City of Vancouver Parks Board and developers being the main actors. The development of urban parks in the City of Vancouver started in 1888 when a 950 acre military reserve was converted into a park (City of Vancouver Archives, 1997). The location of Stanley Park, according to the City of Vancouver Archives (1997) was also originally the home of the Burrard, Musqueam and Squamish First Nations people.

The transformation of human settlement into a park in the City of Vancouver indicated a major shift from man's role as a conqueror of nature as discussed by McHarg (1971). Historically, the survival and wealth of man depended mostly on their ability to clear the natural vegetation for agricultural purposes and other economic activities such as mining and hunting. However, in the case of Stanley Park, human settlement had to make way for the creation of the park for nature conservation. The creation of Stanley Park therefore, contradicted the historical role of man as a conqueror of the environment for

survival. Figure 2 shows a picture of the human settlement on present day Stanley Park in 1860.

Stanley Park was not purposely designed like the famous Central Park in New York which was designed by Frederick Law Olmstead and Calvert Vaux. Stanley Park evolved as the home of First Nation groups to its present status as the largest park in the City of Vancouver. The park like many others in the 19th Century was developed to help connect the city's residents to nature and also promote active recreation. This role does not generally deviate from the traditional reasons for developing parks. McHarg (1971) argued that the problem of man and nature is not one of providing a decorative background for the human play but its necessity for sustaining nature as a source of life. The Pre-World War II development of parks involved a variety of stakeholders such as the Park Wardens, Park Committee Members, Canadian Pacific Railway (CPR), city residents and private individuals. Table 2 provides a summary of the major actors involved in park development during the Pre-World War II era.

Overall, there are 220 parks in the City of Vancouver with 30.91% of these parks created before World War II. A total of 2,528 acres of land were developed into parks before World War II. This constitutes 64.75% of the total park area in the City of Vancouver. The total area of park developed before World War II was greater than the total park area developed after World War II. The number of parks created in the City of Vancouver before World War II was, however, less than the

Figure 2: The area turned into Stanley Park as in 1860.
(source: City of Vancouver)

number of parks created after World War II. This implies that the demographic expansion of the City of Vancouver adversely affected the total area of parks developed but there was no adverse effect on the number of parks.

There is therefore, the need for park researchers and stakeholders to distinguish between the number of parks available in a city and the total park area of a city. The creation of larger parks helps to increase the ecological benefits of parks to the city as it increases the total land area available for green spaces. The debate on size versus number of parks as a measure of park development is yet to dominate in park literature and policy debates. The measure of the availability

Table 2: Actors involved in the development of parks in Vancouver, Pre-World War II.
(Source: Vancouver Park Board, 2014)

Stakeholder	Role	Specific Examples
Park Warden and Park Committee	• Park management • Purchase of land for park development • Naming of parks	• Park Board approved nearby residents to plant market gardens in undeveloped area of Connaught Park in 1921 • Park Board approved plans for community center on Hastings Community Park in 1934 • Renaming of English Bay Park to Alexandra Park in 1911
Private Individuals	• Donation of private properties • Sale of land for park development • Funding	• Land for Garden Park purchased from P.W. Charleson in 1912 • William Harold Malkin gave the land for Malkin Park to Vancouver Park Board. • William Malkin donated money for Malkin Bowl in Stanley Park • Land for Tatlow Park was purchased from T.E Calland in 1907.
Canadian Pacific Railway	Sale and donation of land for park development	• Langara Park was first owned by CPR and developed as a golf course in 1926. • CPR donated Angus Park to the city of Vancouver.
Other Private Entities	Funding	• Pacific Lawn Bowling Club built indoor facility on Grimmett Park in 1937
Communal Support	Funding	• Private Citizens raised money to purchase the beach front land of Kitsilano Beach Park from CPR • Community groups in Hastings Area raised funds for the construction of a Fieldhouse-like structure on Hastings Community Park in 1934
City Council	Administration	• Appointment of Park Wardens and Park Committees
Provincial Government	Funding and donation of land	• Carnarvon Park was secured by tax sales from the BC Government • Provincial Government donated the land for McBride Park to the Park Board in 1911.

of parks in a city could either be based on the total number of available parks or the total park area. It is however more feasible and effective if both indicators are used, especially if the main aim of creating the park is to promote economic, social and ecological benefits.

There is a general theoretical argument about the effect of city expansion on the availability of land for park development. In the case of the City of Vancouver, the demographic and economic expansion of the city has limited the ability for the city to create large parks. This explains why all the large parks in the city such as Stanley Park, Queen Elizabeth Park and Hastings Park were all created before World War II. It also explains why the total area of parks created in the Pre-World War II is greater than the Post-World War II era. Figure 3 shows the pictorial representation of Queen Elizabeth Park which was created in 1902.

Historically, parks were developed to preserve the natural environments of cities by helping to maintain some of the environmental elements of the country in the city. The availability of land also influences the size of the park to be developed. The findings of the study revealed that the creation of all the large parks in the City of Vancouver before World War II was basically a result of the less pressure on land resources compared to the increasing pressure on land in the Post-World War II era.

Park Development from1945 to1965

The economy of the City of Vancouver expanded after World War II due to the development of the war and ship building industry. The selling of large quantities of wheat to China in 1961 contributed immensely to the expansion of commercial activi-

Figure 3: Queen Elizabeth Park, created in 1902.

ties in the city. According to the Canadian Encyclopedia (2014), the easing of immigration restrictions and the attractiveness of a booming economy drew new immigrants after World War II thus making the City of Vancouver more cosmopolitan. The socio-economic expansion of the city had implications for the development of parks. This necessitated the need to study the historical trends of park development and its implications to contemporary park management.

Purpose of Park Development (1945-1965)

The purpose of establishing parks during this era was in response to the increasing and diversifying park needs of the Post World War II emanating from the baby boom and industrial revolution. Parks were created to provide recreational facilities for children and pleasure ground for social activities such as picnics for the working class. The Post-World War II purpose of providing parks shifted from preserving the natural environments of the city to a more social oriented purpose. The social-oriented goals were achieved through the provision of more recreational facilities.

McBride Park which was used for the cultivation of vegetables during World War I was upgraded with various recreational facilities including field houses, playgrounds, soccer fields, tennis courts and washrooms (Vancouver Parks Board, 2014). Most of the newly developed parks were provided with recreational facilities while some of the existing parks were also upgraded with recreational facilities (Figure 4).

Generally, the number of physical structures and area of concrete surfaces on the parks increased due to an increase in the construction of pavements and recreational activities. Parks such as Connaught Park which was established in 1921, got the construction of its community center approved in 1948 (Vancouver Parks Board, 2014). Parks developed during this period also served specific suburban neighborhoods thus leading to the creation of more neighborhood parks. This implies that the Post World War II suburban development due to the over reliance on auto mobiles also affected the nature, type and pur-

Figure 4: McBride Park. (source: Vancouver Parks Board, 2014)

pose of parks developed. The findings of the study therefore show that there is a strong relationship between the settlement structure and the purpose and type of parks developed in a city. The changes in the demographic characteristics therefore have implications on the design and use of parks.

Actors in Park Development (1945-1965)

The vital role played by individual city residents, the private sector, community associations, parks board and the provincial government in the development of parks in the Pre-World War II era did not change much during the Post-World War II era. However, their role shifted from financing park development to a more participatory role due to the massive acquisition of parks and park land by the City of Vancouver Parks Board. Therefore, this made the City of Vancouver Parks Board the main actor in the development and management of parks but they were still supported by the community and the Provincial Government.

Community residents for example voted to pay more taxes to fund the construction of Kerrisdale Community Centre at Kerrisdale Centennial Park in 1952 (Vancouver Parks Board, 2014). Community and individual contributions to the development of parks shifted from mostly donations to focus more on taxes. However, donations by some community residents continued to be an integral part of park development. In 1945, Jonathan Rogers donated $100,000 for the development of Jonathan Rogers Park in the vicinity of Broadway and Cambie Street (Vancouver Parks Board, 2014).

Community associations also played an integral role in the development of parks. In 1955, the South Slope Community Association gave financial support for the construction of the Community Hall on Moberly Park. The Sunset Community Association on the other hand also undertook a fundraising campaign to build a community recreation facility in 1945 (Vancouver Parks Board, 2014). The role of community associations was mostly in the form of fund-raising to support the development of parks. Public corporations such as the Central Housing and Mortgage Corporation also contributed to park development by selling their land to the Parks Board. The land for the development of Fraserview Park for instance, was purchased by the Parks Board from the Central Housing and Mortgage Corporation in 1952 (Vancouver Parks Board, 2014).

Characteristics of Parks (1945-1965)

The Post-World War II period saw an increase in the number of physical structures and area of concrete landscaping on most parks. This was as a result of the creation of recreational facilities in most newly developed parks and the upgrading of existing parks with recreational facilities. Parks developed during this period had both green landscapes and concrete landscapes due to the construction of facilities such as community centers, playgrounds, tennis courts, swimming pools, and basketball courts among other recreational facilities.

The recreational facilities for Memorial Smith Park which was officially opened in 1926 was created after World War II. The recreational facilities that were developed on the park include playgrounds, tennis courts, cricket pitches, field hockey, ball hockey and running tracks after the Second World War (Vancouver Parks Board, 2014). The community center and outdoor pool was also constructed in 1956 (Vancouver Parks Board, 2014).

The results of the study show a relationship between the purpose of establishing parks and the characteristics of the parks. Parks created for recreational purposes will have more physical structures and acreage of concrete surfaces than parks developed for ecological purposes. Some of the existing parks were upgraded to include museums and other memorial installations. The Maritime Museum on Hadden Park according to the Vancouver Parks Board (2014) was opened on June 11, 1959. The parks developed during this period effectively combined green landscaping and recreational facilities. Fraserview Park which was developed in 1952 was designed with playground facilities and its landscaping (Vancouver Parks Board, 2014).

Park Management and Funding (1945-1965)

The City of Vancouver Parks Board has been responsible for the management of parks in the city since the creation of Stanley Park in 1888. The management of parks during the Post-World War II period became more complex and financially demanding due to the physical and demographic expansion of the city. Park development was financed through multiple sources of funds such as taxes, donations, and community association fundraising activities. In 1956, the City of Vancouver Parks Board also developed initiatives such as the Local Improvement Bylaw and the neighbourhood fundraising and capital for the development of parks. The Local Improvement Bylaw helped in the construction of a $100,000 recreational facility at Douglas Park in 1964 (Vancouver Parks Board, 2014).

The level of donations of land for park development by individuals and the private sector was reduced during the Post-World War II era. This was as a result of the physical and demographic expansion of the City of Vancouver thus reducing the availability of land and increasing the economic value of land. This implies that the ability for individuals and the private sector to donate land for park development relies on the availability and economic value of land. The growth of the city increased the pressure on land resource, thus limiting the availability of land for park development.

Summary of Findings and Theoretical Implications (1945-1965)

The recreational nature of parks developed during this period helped to promote social activities and interaction in the City of Vancouver. The parks developed provided more space for picnics, swimming and other social activities. Community centers were also developed to serve as meeting places and indoor recreational activities especially during the winter seasons. The major challenge that faced the development

and management of parks in the City of Vancouver during this period was the growing pressure on land due to the demographic and economic expansion of the city. The conversion of arable land into industrial and residential areas adversely affected the availability of land for park development and also increased the cost of creating new parks due to the increase in the economic value of land.

Overall, the number of the parks developed from 1945 to 1965 was about 31% of the total number of parks in the City of Vancouver. The percentage of park area developed was also about 13% of the total park area in the city. This clearly indicated that the rate of increase in the total number of parks was higher than the rate of increase in the total park area. The creation of smaller neighborhood parks led to more parks being created during this period. However, the total area of parks developed was less than the total area of parks developed during the Pre-World War II era. This was due to the fact that large parks such as Stanley Park and Queen Elizabeth Park were developed before World War II. This implies that, functionally, there is a major difference in increasing the total number of parks in a city and increasing the total park area.

Generally, an increase in the number of parks promotes the accessibility of parks to city residents. On the other hand, increasing the park area helps to increase the total area of green spaces thus promoting sustainable city development. The contribution of parks to sustainability cannot be measured based on the increase in the total number of parks. Goodland & Daly (1996) describes environmental sustainability as a process that allows human society to live within the limitations of the biological and physical environment. There is the need to include important factors such as the total area of green landscaping and the connectivity between the parks, which allows interaction between the natural habitats.

Additionally, there was an upgrade of existing parks with recreational facilities. Also, most of the newly developed parks were designed with various recreational facilities. This contributed to an increase in the number of physical structures and concrete surfaces on the parks compared to the presence of available concrete landscapes on the Pre-World War II parks. In as much as some of the parks developed during the Pre-World War II era had recreational facilities, the emphasis of parks developed from 1945 to 1965 was more on social goals. This helped in promoting social functions such as creating spaces for recreational activities while limiting ecological functions such as preserving nature in cities to depict some character of the country.

Park Development After 1965

The physical expansion of the City of Vancouver through demographic and economic growth has affected the development of parks from 1965 until now. The city has seen tremendous infrastructural and educational transformation during this period. Major educational facilities such as the Simon Fraser University were constructed within this period. The physi-

cal, infrastructural, demographic and economic growth of the city led to an increase in the demand of land and subsequent increase in the pressure on existing park lands from other competing land uses.

Purposed of Park Development (1965+)

The City of Vancouver continued to upgrade existing parks and created new parks to meet the growing and diverse needs of the population. The parks that have been created from 1965 until now are mostly neighborhood parks that helped in promoting social interactions and activities among residents in the various neighborhoods. These parks mostly have play grounds, recreational facilities, walking, cycling and horse riding trails. The continuous increase in the development of playgrounds and recreational facilities in the various parks in the City of Vancouver is not only because of population growth but also because of the increase in apartment buildings in the city.

Apartment buildings do not have backyards to provide space for recreational and other social activities. This implies that whenever there is an increase in apartment buildings in a city, the demand for park space in neighborhoods also goes up which is the case of the City of Vancouver. The development of parks is therefore not only influenced by changes in demographic characteristics, but also changes in dwelling types and housing design.

The parks were also created to meet the needs of the ethnically diverse population of the City of Vancouver. According to Statistics Canada (2008), the percentage of immigrants to the total population in the City of Vancouver increased from 44.4% in 1996 to 45.1% in 2006. The high percentage of immigrants in the city has contributed to its diverse demographic characteristics. The Sun Yat-Sen Classical Chinese Garden in Figure 5 opened in 1997. This garden is a representation of Ming Dynasty-era making it the first of its kind outside China (Vancouver Parks Board, 2014).

Parks are currently being developed to promote recreational activities, educational programs and cultural programs. Parks are also developed as a means of brownfield remediation. The increase in contaminated land due to urban and industrial growth necessitated the use of parks as brown field remediation tools. Everett Crowley Park, which used to be Kerr Road Dump was closed as a landfill site for 25 years before being redeveloped into a park in 1987 (Vancouver Parks Board, 2014). Parks were also developed for neighbourhoods that are park deficient, as determined by the Parks Board and City Council. Ebisu Park, for instance, was created at a cost of $3,363,000 to meet the park needs of the Marpole neighborhoods (Vancouver Parks Board, 2014).

Actors in Park Development (1965+)

The City of Vancouver Parks Board during this period had embarked on the acquisition of all the parks in the city. This made the Parks Board the main actor in the development and

management of parks in the city. The mandate of the City of Vancouver Parks Board is to nurture, maintain and develop Vancouver's urban parks and recreational facilities (Vancouver Parks Board, 2014). The city residents played an important role and continue to contribute towards the creation and management of parks in Vancouver. They participate actively in the elections of competent park authorities to manage existing parks and create new ones.

Community consultation is currently an important aspect of the park development process. Community residents participate in the decision making process regarding the management and use of parks. Nelson Park, which was redeveloped in 2007, went through a three-year community consultation period (Vancouver Parks Board, 2014). Despite the importance of community consultation in ensuring the sustainability of parks developed, it sometimes led to delays in the implementation of the formulated park policies.

The pressure on parklands as a result of the economic and demographic expansion of the city contributed to the formation of park advocacy groups such as the Vancouver Save Our Parkland Association and the VanDusen Botanical Garden Association. These advocacy groups helped in the protection of parklands from competing land uses. There is currently a partnership between developers and the City of Vancouver to create parks in the city. Marathon Development Inc. for instance supported the construction of Coal Harbour Park at a cost of $1.5 million as part of their Community Amenity Contribution (Vancouver Parks Board, 2014). The City of Vancouver currently classifies the development of parks as an amenity, thus making it the role of developers to provide parks for neighborhoods.

Garvin & Berens (1997) support this approach of developing parks in the City of Vancouver by arguing that the least expensive way to provide public spaces in developed areas is to have property owners create, manage, and maintain the park. The problem with this approach however, is that because developers want to maximize profit, the park sizes are mostly limited in order to help them maximize the use of space.

The partnership between developers and the City of Vancouver in the creation of parks also explains the reason why more parks were developed during the Post-World War II. However, parks were smaller in sizes thus reducing the total park area. Generally, developers want to ensure the efficient use of land in order to maximize profit. The Yaletown Park was created through a partnership between the City of Vancouver and developer Bruno Wall of Yaletown Park Condominiums (Vancouver Parks Board, 2014). The role of landscape architects in the design of parks in the city is also very vital. Durante and Kreuk Limited are examples of landscape architects actively involved in the design of the city's current neighborhood parks.

Characteristics of Parks (1965+)

The parks that were developed in the City of Vancouver dur-

Figure 5: Sun Yat-Sen Classical Chinese Garden.
(source: Vancouver Parks Board, 2014)

ing this era combined green spaces with recreational facilities to promote social activities. These parks effectively combined active and passive recreational opportunities. This therefore made their characteristics similar to the characteristics of parks created from 1945 to 1965. The city authorities continued to modernize the parks with the inclusion of monuments, recreational facilities, and providing and maintaining existing trails.

Between the years 2002 and 2004, the Victory Square site, for example was much improved with hard landscaping (Vancouver Parks Board, 2014). In as much as more parks were created during this period, there are still questions about the ability of these parks to contribute to the sustainability targets of the City of Vancouver. This is because the increase in number of parks did not correspond to the increase in total acreage of green spaces created, which is critical towards the achievement of sustainability goals.

Harnik (2000) argued that not every acre classified as parkland is an area with grass and trees but most of these parks have buildings such as museums, planetariums, and aquariums. The increase in the number of physical structures and concrete landscaping on parks adversely affects the ecological functions of the parks. Generally, the development of more concrete landscaping and physical structures on parks reduces the total area of green spaces on these parks thus adversely affecting the environmental functions of the parks. Parks developed in the City of Vancouver from 1965 until now have more physical structures and recreational facilities to help promote social activities and interactions. In 2011, for instance, Grand View Park was upgraded with a playground, pathways, sport court, and field house (Vancouver Parks Board, 2014).

Parks developed featured both green and concrete landscaping consisting of fountains, benches, dog parks, playgrounds, open lawn space, trees and shrubs. The Vancouver Winter

Olympics organized in 2010 also influenced the development of parks. The Hillcrest recreation and community complex currently under construction on Hillcrest Park included the Vancouver Paralympic Centre (Vancouver Parks Board, 2014).

Park Management and Funding (1965+)

The City of Vancouver Parks Board currently manages the parks in consultation with the city residents and other key stakeholders. The management and development of parks in the City of Vancouver is currently funded through a variety of sources including taxes, user fees, donations and community association fund raising activities. This is supported by Harnik (2000) who indicated that, sources of funds for the development of parks include taxes, fees, grants and donations, state and federal support and capital expenditure.

The Harbour Green Park, which was opened in 2002, was funded through the Marathon Development Corporation's recreational contribution showing the important role private developers play in park funding (Vancouver Parks Board, 2014). In 1990, the City of Vancouver approved a park impact fee program to provide funding for the acquisition and development of urban parkland (Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan, 2007). The Vancouver-Clark Comprehensive Parks, Recreation and Open Space Plan (2007) describes the Park Impact Fee Program as the establishment of the level of service standards for urban parks and assesses the park impact fees on new residential development to offset the cost of providing these parks.

Civil society and charitable organizations such as the Devonian Foundation also play a vital role in park development through financial support. The Devonian Foundation contributed over $600,000 to help protect the parkland of Devonian Harbour Park (Vancouver Parks Board, 2014). The support of private individuals through donation also helped in the development of some parks in the City of Vancouver. Jean Beaty, for example, sold her home to the Parks Board below the market value for the development of the Jean Beaty Park in 1990 (Vancouver Parks Board, 2014).

The partnership funding model was also used in funding the development of parks in the City of Vancouver. This model brings financial resources from city authorities, provincial government, private individuals, community organizations and private organizations together to fund the development of parks. The VanDusen Garden which was created in 1975 represents the effective application of the partnership funding model. The park was developed through a collaboration between city authorities, provincial government and private individuals (Vancouver Parks Board, 2014). The development of the park was funded through a $1 million contribution by the City of Vancouver, $1 million contribution by the provincial government and $1 million contribution by W.J VanDusen (Vancouver Parks Board, 2014).

Historical Trends and Patterns (1965+)

The development of parks during this period promoted economic development, environmental conservation, and social interaction and activities. Park ands in the City of Vancouver contributed to economic growth through increases in both internal and external tourism generated through the use of parks, such as Stanley Park and Queen Elizabeth Park. The green landscaping on the parks served both environmental and aesthetic purposes. The increase in recreational facilities on the other hand helped in promoting physical activities, social activities, and interaction among city residents

The City of Vancouver developed a higher number of parks during the period under review than any other period. These parks, which are mostly neighborhood parks with recreational facilities constitute 51.36% of the total number of parks in the city. In terms of the total area of park created, this period experienced the development of a lower park area compared to the Pre-World War II era as shown in Table 3. The acreage of parks created during this period was 22.72% of the total park area. The calculation of the total park area did not separate green landscape from concrete landscape. Table 3 below shows the historical trends in the area and number of parks created.

The historical trends clearly show a major difference between the number and size of parks. The creation of more parks, according to the study, does not necessarily mean an increase in the total area of parks created. Most cities normally measure their achievements in the creation of parks based on the total number of parks created but this measure is only applicable if the city is measuring its performance in ensuring accessibility of parks to city residents. The City of Vancouver has been able to increase the accessibility of parks to its residents as a result of the continuous increase in the total number of parks in the city.

However, cities using the development of parks as the means of achieving their sustainability goals as in the case of the City of Vancouver, must go beyond using only the total number of parks created. They should also include the total area of parkland developed and the area of green landscaping provided. The study showed that the increase in total number of parks does not automatically lead to the increase in the total area of park land, as shown in Figure 6.

Table 3: Percentage Park Area and Percentage Number of Parks.
(Source: Vancouver Park Board, 2014)

Period	Park Area		Number of Parks	
	Area (Acres)	%	Number	%
Pre-World War II Era	2,528	64.75	68	30.91
1945 to 1965	489	12.53	39	17.73
1965+	887	22.72	113	51.36
Total	3,904	100	220	100

The contribution of parks towards the achievement of sustain-ability goals can be measured by calculating the difference between the total area of concrete landscaping and the total area of green landscape before assessing the trends. This data needed for this approach can be collected using Geographic Information Systems and current Geo-rectified aerial photography. Parks have economic, social and environmental values and these values can only be ascertained if the available data on park use and benefits are improved. Figure 6 gives a pictorial representation on trends and patterns of the park area and number of parks. Generally, the City of Vancouver Parks Board and Developers continue to perform their role in creating neighborhood parks with adequate recreational facilities. City authorities should however, be concerned about the effects of increasing these recreational facilities and physical structures on the parks in the attainment of Vancouver's 2020 vision of being the world's greenest city.

In order to achieve the target of being the World's Greenest city by 2020, the City of Vancouver has formulated 10 main goals. These goals include the promotion of green economy, climate leadership, green buildings, green transportation, zero waste, access to nature, lighter footprint, clean water and local food production. It must, however, be noted that the focus of this paper is on improving access to nature through the development of efficient and effective park systems.

Historical Patterns and Trends-Population Park Ratio

The analysis of the trends in green space per capita helps in the assessment of the level of pressure on urban greeneries. Iniewska (2008) describes green space per capita as a useful indicator of green space availability as it measures the level of accessibility by each city resident. The City of Vancouver Parks Board's standard of maintaining the provision of parkland in the city is 2.75 acres per thousand people (Iniewka, 2008). The historical trends and patterns clearly show that the City of Vancouver's parkland per capita is higher than their official standards. At the same time, there are serious concerns in the ability of the city to maintain the current standard as the parkland per 1,000 population has been reducing since 1891.

The parkland per 1,000 population has reduced from 84.0 acres in 1891 to 6.5 acres in 2011. This shows that the available parkland to city residents has been reducing since 1891 due to population growth which has serious implications on the ability of the City of Vancouver to maintain its standards of 2.75 acres per thousand people and achieve its objectives of being among the world's greenest cities. Table 4 shows the trends and patterns of park availability to city resident from 1891 to 2011.

Population Density

Harnik (2000) argues that urban parks must be considered in the context of a city's population density. The World Bank (2014) defines population density as the number of people per
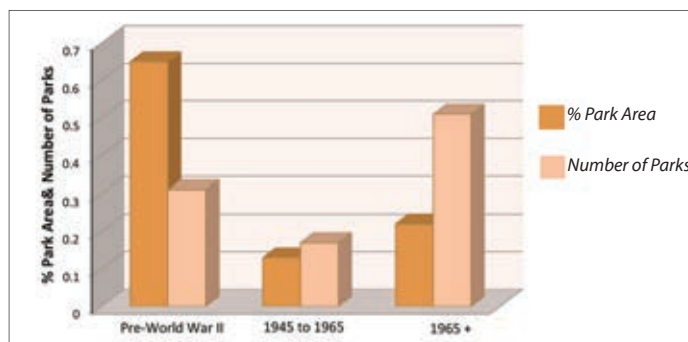

Figure 6: Number of parks and park area.

square kilometer of land area. The population density helps in assessing the pressure on land resources in relation to population growth. The City of Vancouver was amalgamated in 1929. The population density was therefore calculated based on the first population census after the amalgamation.

The study revealed that the higher the population, the higher the number of persons per square acre of land. The increase in the number of persons per square acre of land contributed to the increase in the pressure on land resources in the City of Vancouver. The study showed that the higher the number of persons per square acre, the lower the available park land per 1,000 population. This indicates that the increase in the pressure of land resources due to population growth has adversely affected the availability of land for park development.

The number of people per square acre increased from 10.09 persons in 1941 to 22.11 persons acres in 2011 while the available park land per 1000 population also decreased from 9.2 acres per 1000 population in 1941 to 6.5 acres per 1000 population in 2011 as indicated earlier. This shows that population growth in the City of Vancouver has adversely affected the availability of land and park accessibility to city residents. There is therefore an overall relationship between population growth, availability of land and availability of parkland. The ability of cities to develop and maintain more parks highly depends on the availability and cost of land. Table 4 shows the historical trends and patterns in the population density in the City of Vancouver from 1891 to 2011.

Table 4: Population / Park Ratio (1891 to 2011).

Year	Population	Total Park Area (Acres)	Park Acreage Per 1,000 Population
1891	13,709	1,151	84.0
1941	275,353	2,540	9.2
1966	410,375	3,030	7.3
2011	603,502	3,904	6.5

Conclusion

The demographic and physical expansion of cities has implications on the availability, management, and the use of parks. Garvin & Berens (1997) recommend that each generation through its public and private sectors must keep investing and reinvesting in its urban parks in order to ensure that the next generation has an environment worth preserving. The history of urban parks helps academics, professional planners, and policymakers to understand the nature, characteristics and the purpose of creating parks. Historical analysis mostly relies on already existing information either in the form of oral communication or documentary data.

The development of parks in the City of Vancouver since the 19th century has been approached from a multi-stakeholder perspective. The historical trends of the park development revealed that there has been an increase in the number of physical structures on the various parks. The increase in recreational facilities on the parks has also contributed to the increase in the area of hard landscaping thus restricting the ecological functions of the parks. The size and number of parks developed depends on the availability and cost of land.

The total park area developed during the Pre-World War II period was more than the total park area developed during the Post-World War II period. There was however an increase in the number of parks from the Pre-World War II to the Post-World War II era. The larger the area of parkland, the more efficient its ecological function, while an increase in the number of parks increases park accessibility. The historical trends of the development of parks in the City of Vancouver have implications for park value, funding, maintenance, and management.

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Making Public Space in Japan:
Jizo Sanctuaries in Neighborhoods

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The street is a key part of the public realm and fundamental in place-making. In this article, William Siembieda discusses how the Japanese tradition of placing small Buddhist sanctuaries with statues in public and shared spaces plays a fundamental role in cultural, religious, and social practices while contributing to safety and place identity.

The process of creating, maintaining, and understanding the public realm is of interest to a wide range of city design professionals and social analysts. A good starting point for any discussion about the public realm is sociologist/urbanist Richard Sennet's position that the public realm is a place where strangers meet (2015). Sennet's interest is in what happens in the place where the people meet, more specifically the street.

This essay is about both the street and the sidewalk as key parts of the public realm. Jane Jacobs, the renowned urbanist, also addressed the public realm through the street's function. She argued that streets and sidewalks are "the main public places of a city... its most vital organs" (1993: 37). Indeed, for Jacobs a fundamental task of city streets and sidewalks is to keep a city safe. That is, the more people on the street (a combination of local people and visitors) the safer it becomes. Premises such as this have spawned sub-specialties within the design field such as the Crime Prevention Through Environmental Design (CPTED) method that combines physical and behavioral factors to achieve safety (Jeffrey, 1971; Newman, 1996). CPTED utilizes formal institutional systems as primary means to achieve their goals and relies on a regulated system of design and administration in the building process.

Little has been put forth, however, that examines culturally based systems to achieve similar aims as those connected to the CPTED method. This essay explores how the street and the sidewalk contribute to the quality of life in a neighborhood, and how they support not just its urban form, but its cultural and social coherence as well. Specifically, the interest here is the Japanese practice of placing small statues and the sanctuaries that generally house them on streets, sidewalks, and open spaces. The statues function as public spaces and contribute to safety while serving as a mechanism for transmission of cultural beliefs, perceptions, and practices. In the cities of Kyoto and Tokyo, for instance, there are many neighborhoods, new and old, where these types of sanctuaries can be found. In Kyoto alone more than 5,000 sanctuaries are on display throughout the metropolitan area.

These small sanctuaries, usually placed where neighborhood people walk, contain a stone statue called Jizo Bosatsu (Figure 1). In Buddhism the Jizo is generally enclosed in a small sanctuary, or sacred site. In various ways, each Jizo statue becomes differentiated from others through distinctly local rituals and practices. Note that the swastika as seen in carved in the base of the sanctuary in Figure 1 is found on many instances in Japan. It is an ancient Asian symbol of eternity, dating back at least fifteen centuries. It is a counter clockwise figure, not associated with the Nazi use of the swastika, which is clockwise and tilted to the right. In Kyoto the swastika-like symbol denotes the location of Buddhist temples on city maps.

Jizo (also known as Ojizō-san) is the protector of children, expectant mothers, and travellers (Chozen Bays, 2002). In India, the divinity is known as Ksitigarbha, in China as Dizang,

Figure 1: Small Jizo in a street. Note the Asian ancient symbol for eternity carved on the base; the swastika as used by the Nazis is a clockwise figure tilted to the right.

and in Korea as Jijang Bosa. The modern addition of children to the Jizo deity actually is an extension of the earlier, 18th century Jizo role as patron of expectant mothers. Jizo have been in Japan for many centuries, prior the Edo period (1603-1868). In Japanese folklore, Jizo hides deceased children in his robes to protect them from demons and guide them to salvation. Presently, Jizo bosatsu is the protector of deceased children, including miscarried, aborted, and stillborn infants. It is believed that such children cannot cross the famous Sanzu River in the afterlife journey because they did not have enough time to accumulate good deeds on earth (Figures 2 and 3).

Jizo are especially important to pregnant women and to those whose children have died. The Jizo sanctuary is thought of as a means for parents and other family members both to assist with a child's journey between life and death and to ease the family's grief. Inside the sanctuary, generally protected by a wooden lattice frame, is the statue(s)—a sanctuary can house one or more statues. In fact, statues of Jizo can, at times, be seen wearing tiny children's clothing or bibs to honor the deceased child (see Images 3 and 4). Grieving parents may also place toys and other offerings beside the Jizo statue to invoke his protection of their deceased or unborn child (Smith, 2013). At times offerings may be made by parents to thank Jizo for saving their children from a serious illness (Chozen Bays, 2002). Parents may even place small pebbles by the statue to help the soul of a lost child.

As Jizo is a protector of travelers too, roadside locations allow for the passerby to stop and maybe ask for some wish to be granted. Roadside Jizo images are often found alone or in groupings of six. The number six represents the six realms of reincarnation that encompass all beings trapped within the wheel of life (Japan Jizo Blog, 2012). Graveyard locations are places where souls suffer, and Jizo is there to help relieve the suffering and associated grief. Roadside and graveyard sanctuaries usually contain groups, or clusters, of statues and are used for more complex rituals that are beyond the scope of this essay. While Jizo can also be found in formal Buddhist temple complexes, the focus here is on the Jizo temples and statues located in urban neighborhood locations.

Design and Installation

The design and installation of a Jizo statue and sanctuary in a particular neighborhood is an organic expression of culture, space availability, and, of course, remembrance. A person or a family in a particular neighborhood decides to install the sanctuary. It is neither something that government does, nor is it part of a fixed "urban design plan" created by professionals for the neighborhood. Reasons for installing a Jizo vary but most are linked to either a pregnant woman whose child has died, or parents thanking Jizo for saving a child from a serious illness. On the roadside, Jizo is constructed by families praying for the souls of traffic accident victims and to maintain safety on trips.

Figure 2: Jizo located on a individual house lot .

Figure 3: Jizo clothed statues.

Figure 4: Open Jizon in a street.

Traditionally, stone masons, including those who make tomb-stones, design and carve a Jizo statue at the request of a client. The client selects one of the basic designs offered by the mason. Or, sometimes a client designs, carves and paints the statue him/herself. Jizo statues always take the form of a shaved headed monk. Sometimes the deity holds a staff that warns insects and small creatures that he is coming. Recently, art sculptors have begun to carve Jizo in a more contemporary expression (Figure 5). The small sanctuaries that encase the statue(s) are made of wood to resemble those of larger Buddhist structures (Figures 6 & 7). When the sanctuaries get old, they are replaced with the same design.

A location on private property is selected for a Jizo and a sanctuary, and the owner gives permission for its installation. In most urban neighborhoods, Jizo are located as close to the sidewalk or street as possible, thus allowing maximum access for the pedestrian (see Figures 1 and 2). Generally, because they are small in scale, Jizo temples can be situated almost anywhere in the neighborhood where people will pass by and stop for a moment to pay their respects. The locations are most often adjacent to the street or the sidewalk. This placement establishes a transition place between the public and the private realm. This transition is illustrated by a Jizo located next to a cold drink vending machine outside of a small store on a secondary street in northeast Kyoto (Figure 8). Residents and visitors can stand on a public street, buy a cold drink, and share the Jizo spirit all at once. There is no need to cross a barrier, as the temple itself is a signal that it is okay to engage in devotional ritual in that particular place.

Jizo promote quiet interactions with the pedestrian and connections with the subject matter. Pedestrians slow down and look at the clothing on the statues as well the offerings of the day, which can include a cup of tea and flowers (see Figures 3 & 9). Such an engagement with the sanctuaries and statues forms a relationship of sharing and caring among the local residents and pedestrians passing through the area.

Most Japanese neighborhoods have very little "extra" space available, so Jizo sanctuaries tend to be of modest size. Exceptions can be found along special walking places such as the "Philosopher's Path" in the Kyoto eastern foothills where one will encounter a grouping of Jizo (Figure 10). There also can be a number of Jizo in a single neighborhood, each serving a different purpose. In this way, sanctuaries are accessible to many people in the neighborhood. There are, as well, many emulations of Jizo, each with its own name and salvation function (Figure 11). Thus, in a single neighborhood a variety of Jizo can exist on different streets, or even on the same street. Whatever the differences among the sanctuary designs, placement of Jizo most often can be found on neighborhood streets with high pedestrian traffic counts.

It is customary to place Jizo sanctuaries at the intersections of roads and streets or entranceways to the neighborhood interior paths. They appear in both newer neighborhoods as

Figure 5: Jizo niche in a modern office building.

Figure 6: Jizo in a street corner.

Figure 7: Open Jizo in a new residencial lot.

Figure 8: Jizo and a vending machine.

Figure 9: Jizo with two images at a store front.

Figure 10: Jizo in an open group on the street.

well established areas, and at times are located in a niche of an office building on a commercial street. In areas rebuilt in Kobe, Japan, after the earthquake, for example, Jizo can be found close to newer shopping malls, and this indicates a continuance of traditional practice in modern times. It's important to note that private funds build these sanctuaries.

What's more, people in the neighborhood, sometimes the property owners themselves, maintain Jizo. Just as it is customary to make sure the sidewalk in front of one's house is clean, the adjacent Jizo receives similar care. the sanctuaries are well cared for, usually by older women of the neighborhood. When maintenance cannot be done be local people, Jizo sanctuaries may be donated to a local Buddhist monastery where they are cared for and returned to the neighborhood during annual festival days.

There appears to be no pattern of locating Jizo on the street, except that a sanctuary does face the sidewalk and therefore establishes a direct relationship with pedestrians. Coming in contact with Jizo enhances the experiential space. Nitschke (1993) writing about space in Japan notes that space is most appreciated by people living in a small country with a relatively large population. Therefore, he states, "the size of the experiential space is not so much determined by its physical dimensions, but our concrete experience with the quantity and quality of the events contained in it" (1993: 35). As people slow down at the Jizo, they are creating space through obstruction of the sidewalk, and this causes others to adjust their pedestrian gait and focus on the devotional artifact. Also, as one gathers around a small Jizo it is easy to become very close to the others sharing the space. Personal space limits, then, seem to give way to sharing a collective view and moment with the Jizo.

Figure 11: Jizo outdoor garden.

Despite their modest sizes, the sanctuaries create a blurred demarcation between what is public and what is private space, and time is slowed as one engages with the Jizo. The sanctuaries' placement allows people to look at the statues, think about the offerings and their meaning, and then share in their meaning and intent. While Jizo is situated on private property, it shares space with those on the street or sidewalk; the sanctuaries, then, become communal, especially when a person engages with them through simple observation, curiosity, or ritual. This sharing of space is linked to the social relations of society, a collective linkage. Jizo sanctuaries remind the onlooker that they are part of broader society, always connected together with other humans and their experiences (Nitschke: 58).

Unless a Jizo sanctuary is donated to a Buddhist monastery, its placement on the street or sidewalk is permanent. Yet, while the sanctuary itself is permanent, the contents of the sanctuary may change throughout time, which influences the fluid experiential dynamics of onlookers. For example, a Jizo's clothing changes from time to time, as do the offerings within it. A red bib or cap, for instance, is common on Jizo statues (Glassman, 2012), because red is associated with Jizo, and its hue thanks the Jizo for taking care of the child. During the week there might be a few flowers placed in the sanctuary, a cup of sake, and the statue(s) may be clothed differently at times. Small stones appear at times, as well, and these are both for the building of stupas for Jizo and to assist the deceased in the crossing of the river. On the 24th of the month, something special is offered up to Jizo, as this is one of the deity's sacred days. The fact that the offerings change on a regular basis demonstrates that the temple is an active, vibrant part of local life.

Interestingly, while Jizo sanctuaries are active parts of local life, they are not subject to graffiti or abuse. Instead, they are respected by Japanese people as a positive part of daily life and are therefore not subject to random damage. The group of Jizo depicted in Figure 10, for example, has no protection at all, yet is devoid of vandalism and disarray. This is a sign of respect and of safety. Jacobs (1993) might argue that Jizo is there to protect, so reverence replaces territorial tagging. People also know that Jizo sanctuaries are watched over by neighbors and thus avoid disrespecting the sanctuaries. Being located along pedestrian paths in neighborhood gives the sanctuaries further protection because they are observable, and of course their presence is thought to protect those people traveling through the neighborhood (Figure 12).

In neighborhoods with high tourism traffic some extra accommodation to strangers not understanding cultural norms may be seen. This is illustrated in an occasional cage being built around a sanctuary (Figure 13). In all, though, Jizo sanctuaries offer mutually beneficial experiences for those who create them and those who engage in them, and most residents and visitors honor their presence.

Figure 12: Large Jizo in a neihborhood.

Figure 13: Jizo protected inside a cage.

Neighborhood Safety

Research shows that the presence of Jizo sanctuaries in neighborhoods does indeed increase the safety of the area. Matsukawa, Takaiem and Tatsuki (2009) studied the location and density of Jizo in a sample of neighborhoods in Kyoto, Japan. They calculated "Jizo buffers" based on the number of installations per block. They found a reduction in burglaries in neighborhoods with more Jizo clusters. In their analysis, Jizo attracted more attention of people on the streets, slowing the pedestrian flow and increasing the natural surveillance. This supports Jacob's view that there must be eyes on the street; residents and build-

ings must be oriented to street safety, and the sidewalk must have users on it fairly continuously in order to add to the number of effective eyes on the street. It also supports Jacob's premise that "a well-used street is apt to be a safe street" (1993: 44).

Most Japanese narrow streets also have several shops, stores, and restaurants directly fronting the street, creating a supportive density of activities and people flowing in and out of the street. In other words, Jizo is but one means of slowing pedestrian traffic. With Jizo, however, people fix their gaze and establish a link with broader social norms while connecting to the community in a spiritual way. This is quite different from stopping at a restaurant window to read the menu. It is not unusual, as well, to find a Jizo next to a street facing a vending machine located outside of a small store (see Figures 8 & 9). While the Jizo is on private property, it is used in a public way with the pedestrian not having to cross any entrance or gateway in order to participate with it. Again, while this increases residents' and visitors' connections to the community, the placement of Jizo as a component the public realm also decreases the likelihood of crime in that area.

Annual Festival

On August 23rd and 24th, the memorial days of Jizo Bosatsu, a festival for children is held in many parts of Japan, especially Western Japan. These festivals create social spaces within the neighborhoods and remind the people why Jizo is important to them. The deity's statues are washed, and they are clothed in red hats and bibs to help expel the demons. During the festival, local elders share with young people the meaning and work of Jizo. Small stalls or tents are placed in front of the statues, where children sit and recite a long rosary with many large beads. Children participate in this ritual since Jizo is the protector of children, especially those that have passed on (Figure 14). After the

Figure 14: Jizo-bon festival with children.
(source: http://www.psy.ritsumei.ac.jp/~akitaoka/jizobone.html)

recital of the rosary, the children play in the stalls and tents. Red lanterns also are hung with the inscription, "Hail to Jizo Bosatsu." Children eat red-colored foods, and there is dancing by special groups. The festival experience reinforces the Japanese concept of merging the individual with the group, with local residents and visitors alike becoming part of the same wholeness—a collective (Nute 2004). The festival also reinforces interest in Jizo during the year and strengthens the bonds of people in the neighborhood both with the statues' intent and with the linking of the residents to a larger spiritual state.

Jizo Outside of Japan

The concept of deity in the streets is not confined to Japan. In Nepal, for example, ritual statues in the street are quite common. Takeuchi, Funo, and Pant (2000) in their study of Patan in the Kathmandu Valley made observations on the use of devotion as one of the systems to regulate community. They find a broad range of ritual statues exist in the streets; some Buddhist, some Hindu, and some indigenous are formed as deity figures or aniconic natural stones. Takeuchi et al (2000) sees parallels between the Nepalese and Japanese practices in terms of mixing the spiritual aspects of life with the daily use of the street. In Japan, however, Jizo as a distinct figure dominates. That is, in Patan there are a wide range of deities represented, as people wish to ask for many things to assist in daily life, whereas Jizo is more specific to honoring expectant mothers and deceased children. As well, in Patan there is a clear separation between public and private space, with a mother goddess stone (Pritivi-mata) placed inside the doorway of a sanctuary. Takeuchi et al. (2000) makes an association with the mother stone and that of Jizo, as Jizo also is thought to protect women and to promote ritual.

Discussion: Cultural Influence on the Public Realm

In Sennet's (2015) view, the public realm is a place, and the most important fact of interest is what happens in that place; that is, the social experience. Jizo create small public realms by connecting an individual with a spiritual idea that is linked to family and to the concept that the individual is somehow related with the statue(s), albeit not directly. As well, Jizo create sociable spaces in that people can gather together at a small temple and share their thoughts and feelings. Not only do Jizo create social spaces, but also the sanctuaries validate Jacobs' (1993) criteria for making streets function as providers of neighborhood safety. The annual festival further reinforces sociable spaces in that it fortifies the community's spiritual beliefs and provides a means to linking generations together in collective activities. Because Jizo establish a spiritual space where ritual can occur, even on a crowded street, their existence slows pedestrian and, at times, automobile traffic; and such a shift adds to the "eyes on the street" count. Finally, Jizo function as a way for people to share their grieving and as a protector of people in times of need.

Their presence on a street or sidewalk is a way to connect people with some part of the past at a very local and personal level. And, what's perhaps most significant is that these statues and temples are culturally driven, without regulations, design guidelines, and/or administrative review requirements. That is, just as no one tells the local resident how to construct Jizo, no one tells the pedestrian when or why to stop and look at Jizo. Doing so is a personal activity, simple to engage in because of direct proximity to the sidewalk or the street.

The small scale and organic public space encounters that Jizo creates do contribute to a neighborhood's sense of character and positive function. The fact that Jizo continues to be valued in Japan, after many centuries, is a tribute to its social utility. People still find it of use as part of their daily lives. Jizo offers a means to be in the present through linking with the past. Jizo also suggests that the public realm does not have to be regulated, nor managed by a government entity. The power of the people in the neighborhood, taking actions on their own behalf, appears to work well in this instance. This Japanese practice is a lesson to city design professionals and social analysts that the informal does have a place in the public realm.

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Essays
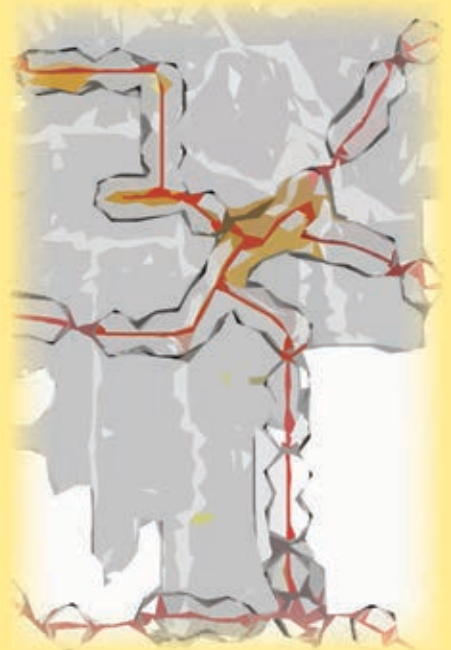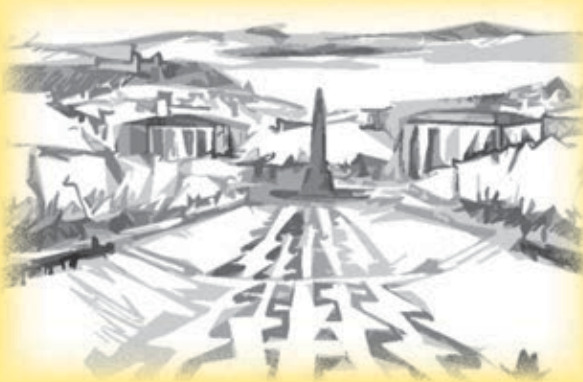
The Cerdà Plan for the Expansion of Barcelona: A Model for Model City Planning

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Modern city planning started with the Industrial Revolution and the scientific advances of the 19th Century. At the time, Catalan engineer Idelfons Cerdà coined the word "urbanism" as a new and necessary science to deal with cities, having three major preocupations: hygiene, traffic, and equality. In this article, Judith Urbano discusses Cerda's plan for the expansion of Barcelona and why it is considered an icon of modern planning.

Barcelona's 2,000 years of history is very apparent in its streetscape as buildings of different eras and architectural styles coexist side by side: Roman, Paleochristian, Romanesque, Gothic, Renaissance, Baroque, Neoclassical, Modernist, and Contemporary. But history is also evident in the city fabric, as development is revealed in the interplay of site and urban form. From Barcelona's foundation as a small Roman colony to the present, the city's many transformations responded to its increasingly important port; to its commercial and service dynamics in the regional, national, and international scenes; and to its population growth. This article discusses the importance of Ildefons Cerdà's visionary 19th century plan for the expansion of Barcelona that turned out to be one of the most revered international examples of modern planning and urban design.

From Romans to Medieval Walls

Like most cities built by the Romans in territories they conquered, Barcelona originated as a military camp at the end of the 1st century BC. Shaped as an irregular octagon and protected by a surrounding wall with four guarded entrances, the city covered about 24 acres. Like all Roman settlements, its design was based on a regular orthogonal grid with two main streets: the cardo (running north to south) and the decumanus (running east to west). At the intersection of these two axes, the forum served as the administrative and religious center, including temples, shops, and municipal buildings. As in all Roman colonies, all other streets were based on the Roman army's basic unit, the legion, which sometimes included five thousand soldiers with different ranks and functions. Roman cities were rationally planned: They had to be practical in their use; and after retirement the legionaries were welcomed to settle in these newly founded towns.

It is difficult to know much about the first wall since it was rebuilt in the 4th century to be bigger and higher, including

76 defense towers (Puig & Rodà, 2010). This new wall was built on top of the original footprint and materials from an old cemetery and other buildings located outside the protected perimeter were utilized in its construction to make it stronger. Remains from the Roman era can still be see in what is left from the wall in different parts of the city center, such as the gates to the decumanus and four Corinthian columns of the Augustus temple hidden in the courtyard of a medieval building. Outside the walls, in the ager, one can still find the ruins of the Roman cemetery and its austere tombs.

From the 1st to the 5th centuries Barcelona slowly started to grow outside the Roman walls. Three monasteries and two churches in particular became foci for growth and new housing outside the walls, evidently with no planning. Opposite of the Roman period, streets were irregular and buildings were uncomfortable and unhealthy; there were no sewers, water supply or heating. Some of these new buildings were built onto the old Roman wall, incorporating the wall into their own construction.

By the 13th century the city—both inside and outside the original Roman fortification–was consolidated, and blocks of houses and streets had formed the medieval city. Buildings were mostly three-stories (42 to 48 feet) and many had arched passages in the ground floor to connect different spaces, sometimes between houses (González, 2010). The old Roman political and religious buildings inside the first wall were converted into new, medieval uses such as the Consell de Cent (Council of One Hundred), an assembly of leading citizens that selected five councillors with executive powers, the Romanesque Cathedral, and the Bishop's Palace.

By this time Barcelona had about 312 acres and a new 3.2-mile long wall was built to protect its inhabitants. To the south, in an area known as Raval or "the outskirts", some vegetable gardens and orchards were left outside the perimeter of the medieval wall. However, as the city continued to grow (possibly to 30,000

people while Catalonia as a whole had 500,000) and it became important to protect these food sources in case of an attack or a siege, a new wall was built around the Raval in the 14th century. Some public buildings were made in this part of the city, including the Hospital de la Santa Creu and the Drassanes, the shipyard. Today, remains of the two medieval walls can be spotted throughout the city: in the access to the metro station of Plaça Catalunya at Pelai Street, in Pla del Teatre, in Carrer de les Flors and of course, in Portal de Santa Madrona. Also at that time a new gothic cathedral and other Romanesque churches inaugurated a new aesthetic and style, including Santa Maria del Mar and Santa Maria del Pi.

The cityscape changed significantly from Roman times; streets were narrow, dark and lacked ventilation. Although this was common in medieval European cities, in Barcelona the maintenance of the city walls impacted the city's organization, density, and the health of the residents leading to cholera epidemics by the mid 19th century. These city walls lasted until the 19th century when the population was significantly larger.

The industrial revolution –which in Spain began in Catalonia— added to the unhealthy living conditions in Barcelona, as the new industries and factories inside the walls greatly affected the environment and living conditions. With the factories a new social class emerged, the proletariat, and a variety of social movements, strikes, unrest and demonstrations against the squalor and the terrible working and living condition they had to face. The first general strike occurred in 1855 and again during the revolt of the Tragic Week in 1909, monks and nuns were killed and several convents and churches were burned. On the other hand, the Industrial Revolution led the Catalan bourgeoisie to become aware of the need to invest in new factories, new technology, and eventually in the expansion of the city according to more modern principles. But before a new plan for expanding Barcelona could be chosen, the central government in Madrid had to agree to the demolishing of the medieval walls, which occurred from 1854 to 1856.

The Plan for Barcelona's *Eixample*[1]

In 1854 a topographic plan of an area outside Barcelona's walls was commissioned to Ildefons Cerdà (1815-1875), a Catalan engineer who had been studying transportation issues in Barcelona since 1849. Because Cerdà had good relations with the central government in Madrid, he was commissioned by the Ministry of Public Works to study the extension of Barcelona and the renovation of the old city. But Barcelona's City Council decided to announce a competition for the plan on April 17, 1859 and asked Cerda to submit his work. The central government in Madrid made clear that they would keep the right to choose between the winner of the competition and Cerdà's plan (López, 2010).

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[1] *Eixample* means expansion in Catalan.

The competition was won by Architect Antoni Rovira i Trias with a radial plan that was centered in the old historic town and incorporated the surrounding independent villages of Sants, Sarri and Gràcia. Radial plans were very popular in Europe at the time, such as the one during the Ringstrasse period in Vienna (1850 to 1857). However, this plan was rejected by the central Government of Madrid in 1860, who preferred Cerdà's.

Fortunately, Cerdà had deeply studied the living conditions inside Barcelona's medieval walls and he was well aware of the needs of a modern city. At that time city planning was looking to create a clear geometric street structure in order to organize spaces, functions, and movement.

Developed around some key elements, Cerdà's project was visionary in preparing Barcelona for later centuries (Figure 1). The city's expansion was organized into a regular orthogonal grid --reminding us of the planning of Greek and Roman cities-- for order and clarity, and into blocks measuring 113 meters square (370 feet). The blocks had buildings and sidewalks cut at a 45º angle in all corners for higher visibility at street intersections, improving mobility and allowing for a small central plaza for services and complementary activities (shops, kiosks, toilets, etc.). With this design solution Cerdà had intersections take a prominent role in the city's structure (Figure 2).

Another important element of Cerdà's plan was the design of the streets at a time when carriages and horses were the predominant mode of the transport and the train was the most important innovation. A normal street in Barcelona's Eixample is 65-feet wide (16-feet sidewalks at either side plus 32-feet for vehicular circulation) as Cerdà believed that a street had to serve four coaches at the same time and had to provide generous spaces to pedestrians (Grupo 2C, 2009). However, some avenues are wider because they connect important zones and provide connections through the city. Meridiana, the most important avenue connecting to the north; Gran Via, from east to west; and Diagonal, from north-east to south-west, are 164-feet wide. Aragó varies from 98 to 131-feet and connects the city from west to east. Passeig de Gràcia is the widest avenue with 196-feet, because it is an artery linking Barcelona's old center to Gràcia, a village that soon would became part of the city (Busquets, 2009). This avenue became very popular at the end of 19th century and beginning of the 20th century time because it was closest to the center and provided a spacious area for families to stroll and socialize (Figure 3).

To provide for better living conditions, Cerdà knew that a green city was needed. The maximum building height was fixed at 72 feet and building footprints would be sited as to guarantee green public spaces on all blocks (Figure 4). This open recreational space would guarantee sun, light, and ventilation to all residential units. Additionally, he planned a large public park as a lung for the city in the Besós river area. Unfortunately, real estate pressures would eventually led to the abandonment of the original block concept and of the idea
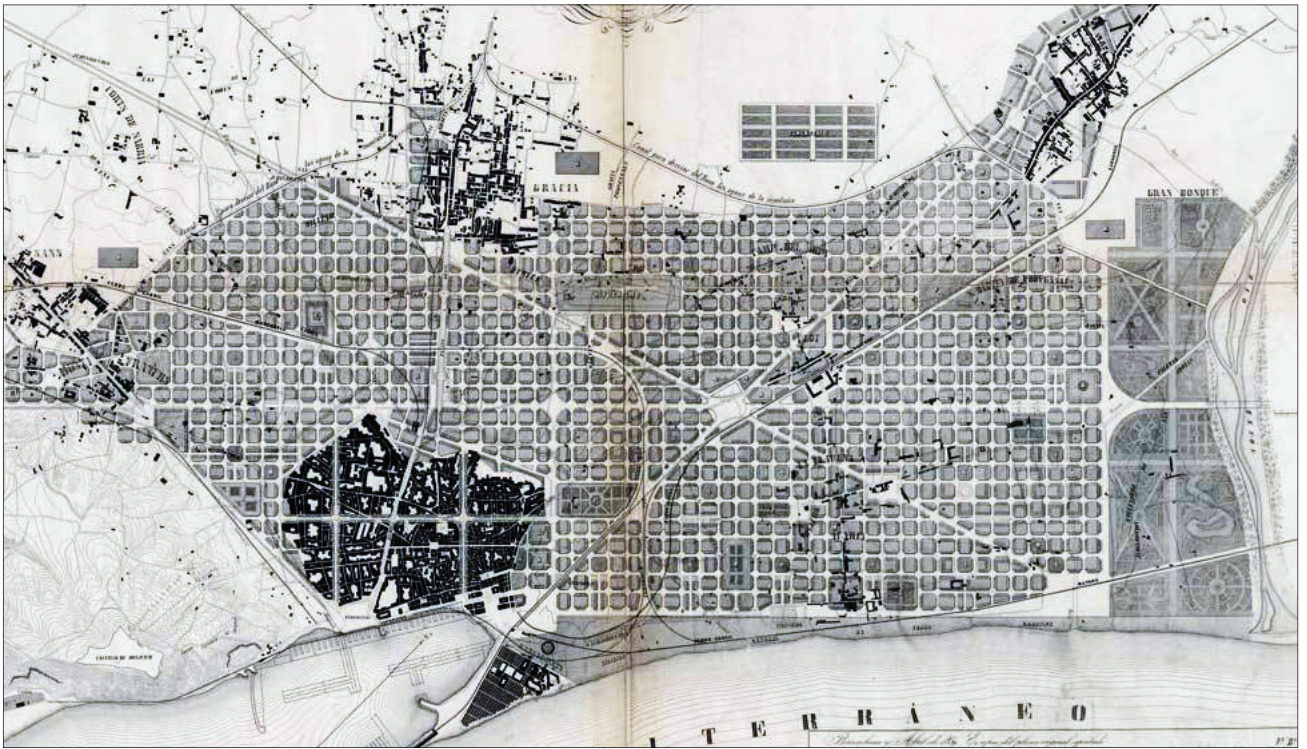
Figure 1: Cerdà's plan for Barcelona, 1859.
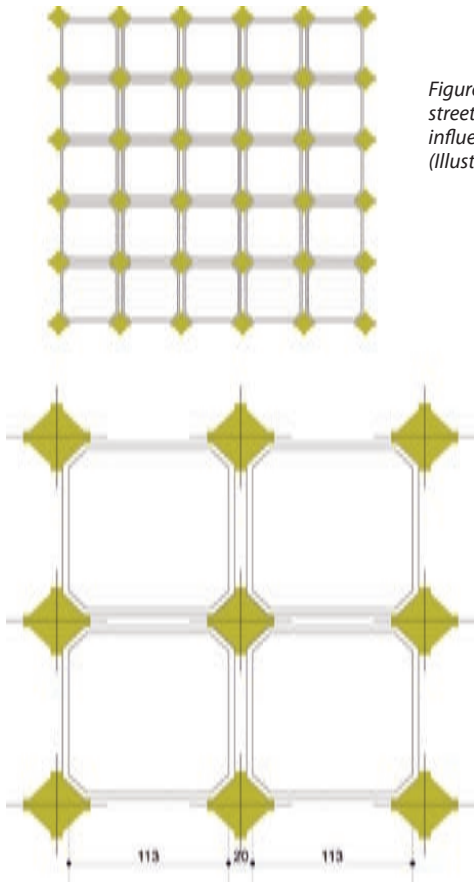(courtesy of the City of Barcelona Historic Archives)

Figure 2: Barcelona's basic orthogonal
street grid. In color, the space of
influence of the chamfered corners.
(Illustration by Guillem Carabi)

Figure 3: The popular Paseig de Gracia, with its landscaped
median and chamfered corners, connects to the old center.
(photo: Maria Gonzales; https://www.flickr.com/photos/
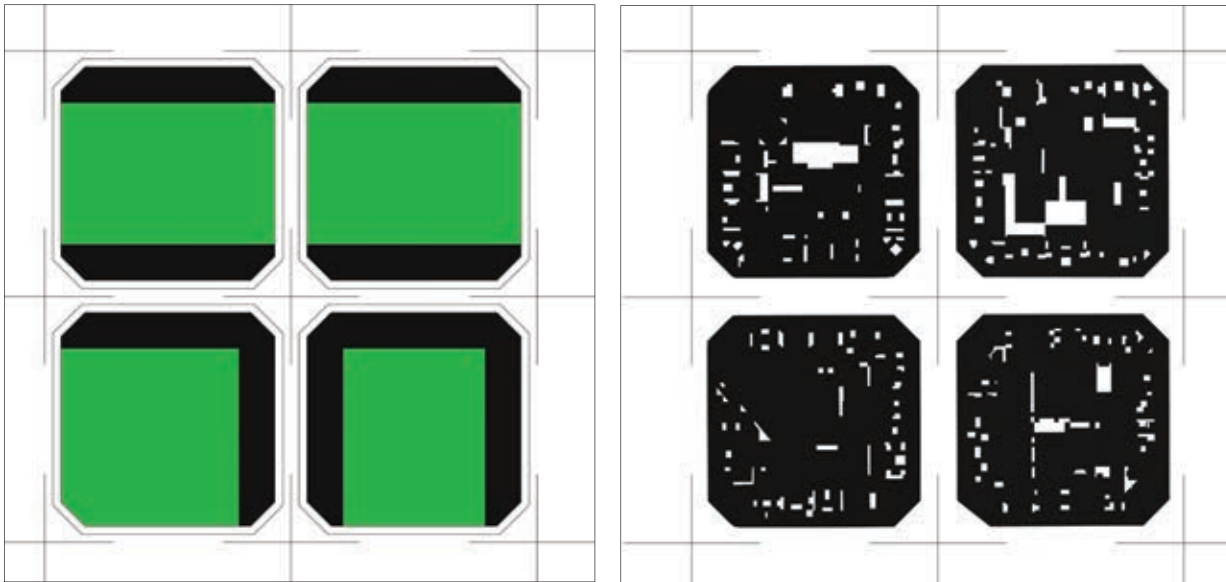magoro/2111915341; retrieved 6/20/2015)

Figure 4. The blocks proposed by Cerdà included peripheral buildings and public green spaces (left) but were transformed over time due to speculation and privatization (right). (Case study: streets Roger de Llúria/Bruc/Girona and Gran Via/ Casp/Ausiàs Marc; Illustration by Guillem Carabí)

of the public spaces, and the park was never built. Developers built higher and the interior of the blocks got occupied by parking, shopping centers, and private quarters. Since 1987 the city, through public-private initiatives and incentives, has been promoting the conversion of the interior spaces of some blocks into gardens, playgrounds, and public facilities such as libraries and centers for the elderly.

Cerdà's plan divided the Eixample into sectors of twenty blocks each, providing them with public amenities such as a market, parks, schools and hospitals, providing homogeneity to Barcelona's functionality. He also planned for public transport, including the railway, what reaffirms his idea of progress and having the city as a center of the new industrial era.

Cerdà also planned for building types for different social classes. The most common type in the Eixample had the owner living on the first floor (which was called the principal since it was the most important) with the other floors subdivided into smaller apartments, usually two to a floor, and roof gardens. He also planned for wealthy families, a good example being the Passatge Permanyer, a passageway through a block with English-styled houses designed by Jeroni Granell in 1864. Most middle class and wealthy families chose the Eixample for their new homes and architects had a lot of work practicing different styles, from neoclassicism to art nouveau and the unique Barcelona's "modernisme" of Antonio Gaudí, Luis Domènech, Josep Puig, and others.

In 1897, in response to the city's growth, Barcelona's City Council annexed several surrounding villages. Gràcia, Sant Martí de Provençals, Sants, Sant Andreu de Palomar, Sant Gervasi de Cassoles and Les Corts had to give up their independence and became city quarters. But the intention of the plan was also to intervene in the Gothic Quarter, as the ancient city is known, that had been contained by the walls for so long, solving its

Figure 5. For Cerdà, the Eixample should serve different social classes and offer a variety of building types. English-style town-homes by Jeroni Granell, 1864. (photo by the author)

many problems. Cerdà proposed opening three new straight avenues: two connecting the new Eixample to the harbor, and the other cutting the old quarter at a perpendicular angle to them. However, the City Council adopted José Angel Baixeras's plan for the old quarter instead, which included Cerdà's three streets but added some other details. Work on the first of these avenues Via Laietana, started in 1908 and lasted until the 1950s, but the other arteries were never built.

Figure 6. Designed by Cerdà himself, this mixed use building with apartments above retail and a chamfered corner would become a common typology throughout the Eixample. (photo by the author)

Final Remarks

Barcelona is one of the densest cities in Europe, but thanks to Cerdà's plan vehicular traffic is still bearable. The Eixample's regular grid, the street widths, and the 45° angle cut in all corners helps circulation due to the increased visibility and allows intersections to be an ideal place for parking, loading and unloading, taxis, etc., without affecting vehicular mobility. The design of these corners make them stand out in the city grid, providing them with the potential of becoming special places. The regular grid makes navigation very easy, and by keeping streets running in single directions, traffic flows easily. The disposition of the grid, having the sea on one side and the mountains on the other makes navigation even easier. Due to its unique design, Barcelona enjoys a strong identity and is highly memorable.

It was also clever to spread the facilities throughout the various quarters of the Eixample, not concentrating the services in one place. This functional approach was in fact opposite of what the modernism of Le Corbusier proposed in the 1920s, with zones concentrating specific uses. In terms of connectivity and the width of streets Cerdà was also ahead of his time if one compares his ideas with Le Corbusier's plans. Perhaps the engineer mentality of Cerdà made him think all aspects of his plan in a rational way.

In the beginning not everyone understood Ildefons Cerdà's plan for the expansion of Barcelona and he was often criticized. However, in time, Cerdà's visionary plan became a reference as his ideas generated one of the most ordered, rational, and structured urban plans of all times.

He published his ideas in two books *Teoría de la Construcción de las Ciudades* (Volume 1 in 1859, and Volume 2 in 1861) and *Teoría General de la Urbanización y Aplicación de sus Principios y Doctrinas a la Reforma y Ensanche de Barcelona* (1867). In his works he coined the terms urbanizacion (urbanization) and urbs (human settlements) that would eventually generate the concept of urbanismo (urbanism or planning) as the science of dealing with cities.

Idelfons Cerdà's was a pioneer and he is recognized as the first urban planner in the modern sense. His success was certainly due to his knowledge of the old city and its problems, allied to a forward-thinking approach for the expansion that combined functionalism, circulation, and quality of life. Cerdà's plan placed Barcelona, once again, in the book of history.

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[2] The titles in English are: Theory of the Construction of Cities and General Theory of Urbanization and the Application of its Principles and Doctrines in the Reform and Expansion of Barcelona.

Shifting the Tide: Transit-Oriented Development and Active Transportation Planning in Los Angeles

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Chamberlain and Riggs present an overview of the historical context of automobile dependency in Los Angeles, the current transit-oriented development strategies underway, and the planning and implementation of Complete Street strategies. The discussion illustrates how the city is using these strategies to reduce greenhouse gas emissions and the impacts of climate change.

Los Angeles has the reputation of an auto dependent city. Historically, much of the region was developed as suburban sprawl, designed to accommodate automobile use. Although the region is served by a robust public transportation system, the majority of the population commutes by automobile (SCAG, 2012a). As a result of excessive automobile use, the region has long suffered from poor air quality, traffic congestion, unsafe streets, and environmental degradation. Sprawling development patterns have diminished the environmental quality of natural areas on the urban fringe. Automobile use has exacerbated the region's greenhouse gas emissions. In recent years, issues around climate change have become paramount for cities throughout the world. Because a major source of greenhouse gas emissions comes from automobile travel, cities have a responsibility to reduce emissions in their jurisdictions by shifting travel behavior. This typically involves limiting development to primarily occur in areas accessible by public transit, and by accommodating alternative modes of travel through the design of the transportation system.

The Los Angeles region has made significant headway in reversing sprawl and automobile use. Encouraging greater land use densities around transit stations, coupled with investments to active transportation systems, has become both city and regional strategies to reduce greenhouse gas emissions. A dense, transit-oriented Los Angeles is a bold new vision. The following paper presents an overview of the historical context of automobile dependency in Los Angeles, the current transit-oriented development strategies underway, and the planning and implementation of Complete Street strategies.

Sprawl and Auto Dependency in Los Angeles: The Historical Context

Streetcar Suburb

Automotive use has been the primary factor that has shaped

the urban form of Los Angeles. Before the private automobile gained popularity, Los Angeles was served by an extensive streetcar system, established in the late 1800s by powerful real estate moguls. These entrepreneurs not only constructed the streetcar lines themselves, but also residential neighborhoods adjacent to streetcar lines (Jackson, 1985). The streetcar system thus enabled Los Angeles to grow outward from the downtown core, fostering the development of "streetcar suburbs" that would eventually set the momentum for the region's decentralization and sprawl (Bottles, 1987; Jackson, 1985; Longstreth, 1998).

From the late 1880s until the 1920s, the streetcar was the dominant mode of travel for commuters in the Los Angeles region (Bottles, 1987; Longstreth, 1998). During this time real estate development was closely associated with the streetcar – most development in the region occurred around streetcar lines (Longstreth, 1998). The streetcar suburb is not specific to Los Angeles – this pattern of development characterized historic development trends in virtually every major American city prior to the mass adoption of the automobile. However, few other American cities were altered as dramatically as Los Angeles from the automobile.

The Early Proliferation of Automobile Use

Private automobile use caught on quickly in the Southern California region. The 1920s marked a departure from the streetcar to the automobile as the dominant mode of travel. From 1918 to 1923 automobile registration in Los Angeles County had increased by fourfold (Bottles, 1987).

By 1925, there was approximately one car per 1.6 persons in the region, a level of automobile density that the rest of the nation wouldn't reach until the late 1950s (Davis, 1992; Bottles, 1987). As a result of increased automobile use, residential development became more closely associated with the automobile than the streetcar. To keep up with the demand for

housing, developers had two options: increase density in built-up areas around railways, or construct housing on the urban periphery, often in areas distant from existing streetcar lines (Longstreth, 1998). Developers typically chose the second option. Post 1920, residential development and automobile use had a "symbiotic relationship" resulting in a high percentage of low-density neighborhoods consisting of single-family houses located increasingly further away on the urban periphery (Longstreth, 1998).

Automobile Domination

The number of people commuting by automobile eventually grew to outnumber the number using public transportation (Longstreth, 1998). As automobile use proliferated, there was an increasing conflict between streetcars and motorists for use of the right-of-way. Automobiles exacerbated traffic congestion in downtown Los Angeles, an area that had already been struggling with streetcar congestion (Bottles, 1987; Longstreth, 1998). To curb congestion, the city council passed a rigid no parking law in downtown that was met with heavy opposition and protest, forcing the council to quickly repeal the law (Bottles, 1987). This was the first of many legislative decisions that entrenched the automobile as the integral component of the regional transportation system. Between 1920 and 1950, highways were constructed, streets were widened, and streetcar lines were demolished, all to accommodate the automobile (Longstreth, 1998; Bottles, 1987; Jackson, 1985). By 1944 the streetcar system was scarcely used (Bottles, 1987).

The prioritization of automobiles in the transportation system allowed automobile use to increasingly grow during this time period. As a result, Los Angeles has a whole became more decentralized and suburban in character. Downtown's "central place monopoly" (Davis, 1992: 118) was superseded by new automobile-oriented commercial districts located away from the urban core (Longstreth, 1998; Davis, 1992; Bottles, 1987). Low-density sprawl has largely characterized the region's development history (Longstreth, 1998). Both the city and region now primarily consists of suburban areas highly dependent on the automobile. Although suburbanization and decentralization was exacerbated by the automobile, the city had been following this trajectory since the turn of the 20th century when streetcars were the dominant mode of travel. Mobility in a city as decentralized as Los Angeles requires some form of vehicular travel, whether it is by public transit or the automobile. As Bottles (1987: 14) describes it, Los Angeles has "never existed as a true walking city".

Transit Oriented Development

The long-term development of Los Angeles as an automobile oriented city has had profoundly negative impacts on the environment and public health. However, there has been recent momentum in creating a more environmentally friendly and healthy region through transit-oriented development strategies.

Densely populated cities with strong access to public transit emit less carbon than sprawling, low-density cities. A 2006 study found that the most densely populated cities have less private automobile use and lower greenhouse gas emissions per capita than the majority of cities in the United States (Dodman, 2009). Increasing land use densities close to transit is considered as a key strategy to reduce greenhouse gas emissions. However, it is also simply considered good urbanism. Compact communities with strong access to transit have greater access to jobs and services than sprawling, low-density cities.

Los Angeles has a robust transit system in place, yet is often characterized as a city that is inherently not transit-oriented. The existing transit network, coupled with proposed investments, creates an enormous opportunity for a more transit-oriented region. 97% of residents in the SCAG region live within two miles of an existing transit station, and 22.5% of jobs in Los Angeles County are within a half-mile of existing or proposed transit stations (SCAG, 2012a; Center for Transit-Oriented Development, 2010). Land use densities and intensities can be increased around Metro stations throughout the region. A 2010 study found that much of the land uses around transit stations consist of vacant and underutilized properties, including small parcels that do not comfortably accommodate development (Center for Transit-Oriented Development, 2010). The same study concluded that local governments need to better coordinate their land use and implementation strategies to better accommodate commercial and high-density residential development in station areas. This will be a challenge in meeting state goals to reduce greenhouse gas emissions from automobiles.

SB 375 and Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act (SB 375) was enacted in 2008 with the intent of supporting California's climate action goals to reduce greenhouse gas emissions from vehicle use (California Air Resources Board, 2014). SB 375 requires each urbanized region to prepare a Sustainable Communities Strategy (SCS), which coordinates land use and transportation planning efforts to reduce vehicles miles travelled over a 25 year time period (California Air Resources Board, 2014). Local governments within each region are incentivized to coordinate planning efforts with the SCS, typically because of opportunities for state and federal funding sources (Logan, 2013).

In 2012, the Southern California Association of Governments (SCAG) adopted a $525 billion Regional Transportation Plan (RTP) and Sustainable Communities Strategy for the six counties and 191 cities it represents (Logan, 2013; SCAG, 2012). The plan outlines a regional transportation plan and land use plan to meet GHG reduction targets consistent with SB 375 (SCAG, 2012). The transportation component proposes a variety of improvements to the region's multimodal transportation system, including the expansion of the system to areas where growth is appropriate (SCAG, 2012). The land use component proposes

that growth should be prioritized in areas well served by public transportation, particularly around transportation nodes and corridors (SCAG, 2012).

SCAG RTP/SCS Overview: Land Use

Employment and housing growth is encouraged in the RTP/SCS to primarily occur within the region's designated High-Quality Transit Areas (HQTA) and Transit Priority Areas (TPA) (SCAG, 2012). HQTAs are described as walkable areas located within a half-mile radius of local and regional transit corridors with frequent service (15 minutes or less) during peak commute hours (SCAG, 2012). TPAs are areas within a half-mile of a major existing or planned transit station (SCAG, n.d) where transit-oriented development projects are provided with CEQA exemptions and alternative analysis of transportation impacts (OPR, 2014).

Not all HQTAs and TPAs in the region are targeted for growth (SCAG, 2012). Under SB 375 an SCS cannot mandate land use and General Plan policies at the local level. It is rather intended to provide cities and counties with land use, transportation, and housing policy guidance on how to help the region achieve greenhouse gas reduction targets (SCAG, 2012; California Air Resources Board, 2014). SCAG RTP/SCS land use policies were heavily influenced by local land use policies (SCAG, 2012). Many localities within the SCAG region have robust transit-oriented development land use policies and programs in place, while others continue to encourage auto-oriented development (SCAG, 2012). Development within the region will likely occur outside of HQTAs.

Local Transit-Oriented Land Use Planning

In addition to the RTP/SCS, Metro and the City of Los Angeles have a number of transit-oriented development supportive policies, programs and strategies in place. Although areas around transit stations are mostly out of Metro's jurisdiction, they encourage local governments to enact land use policies that incentivize transit-oriented development through policy guidance, technical support, and grant funding (Los Angeles County Metropolitan Transportation Authority, 2015; Center for Transit-Oriented Development, 2010). Metro administers a TOD Planning Grant Program designed to facilitate the adoption of local land use regulations that supports transit oriented development, and a Joint Development Program that collaborates with developers to construct transit-oriented developments on properties owned by Metro (Los Angeles County Metropolitan Transportation Authority, 2015; Los Angeles County Metropolitan Transportation Authority, 2015a).

Transit-oriented development is encouraged in the Framework Element of the Los Angeles General Plan and in Community Plans. The General Plan Framework Element sets forth a long-term growth strategy that guides the update of community plans and other General Plan elements (Los Angeles Department of City Planning, 2001c). The Framework Element has defined overlay zones that encourages different development types,

densities, and intensities. Dense transit-oriented development is primarily encouraged in the Downtown Center, Regional Center, and Community Center categories, most of which are located close to transit stations and lines.

Community Plans are the primary tool used by the city to support transit-oriented growth (Center for Transit-Oriented Development, 2010, p. 84). The majority of Community Plans support transit-oriented development, while the Southeast and South LA Community Plans specifically support the RTP/SCS. Community Plans generally propose zone changes to encourage mixed-use development of greater density and intensity in areas close to transit (Los Angeles Department of City Planning, 2001b; 2012a; 2012b; 2012c; 2013; 2014a; 2014; 2014c). In addition, the city is in the process of finalizing the Community Plan Implementation Overlay (CPIO), a land use tool that will bolster the implementation of Community Plan proposals. The CPIO will incentivize transit-oriented development through flexible zoning requirements and a streamlined review process (Center for Transit-Oriented Development, 2010, p. 85; Sulaiman, 2015).

Development Permit Analysis

The majority of the City of Los Angeles is considered a High Quality Transit Area. These areas have frequent access to some form of transit, whether it is light rail, bus, BRT, or subway. Within the City of Los Angeles, an optimal transit-oriented development strategy involves the prioritization of development specifically within a half-mile radius of Metro stations. Development in these areas is appropriate for several reasons. First, a half-mile radius is the standard transit station catchment area (average distance people are willing to walk to take transit) used in the United States, and it has come to represent the spatial extent of most transit-oriented development planning (Guerra, Cervero, & Tischler, 2012). Second, SCAG and the City of Los Angeles encourage growth to occur in these areas. All areas within a half-mile radius of Metro rail stations in the City of Los Angeles have been designated by SCAG as both a HQTA and a TPA (Figure 1) (SCAG, n.d). The majority of locally designated higher-intensity land use districts (Downtown Center, Regional Center, Community Center) are located in these areas.

In a city as large as Los Angeles, it is questionable whether or not transit-oriented development is being maximized in Metro station areas. To answer this question, a spatial analysis was used. Using ArcGIS, a half-mile buffer was placed around all existing Metro rail stations in the City of Los Angeles. New development permit data ranging from 2013 to 2015 was then added to ArcGIS to examine how many new buildings were permitted in Metro station areas. Between 2013 and 2015, only a very small number of development projects were permitted in transit-rich areas. The vast majority (95%) of new development has been permitted in areas located outside of a half-mile radius of Metro stations (Table 1). This supports the Center of Transit Oriented Development's conclusion that the City of Los Angeles can
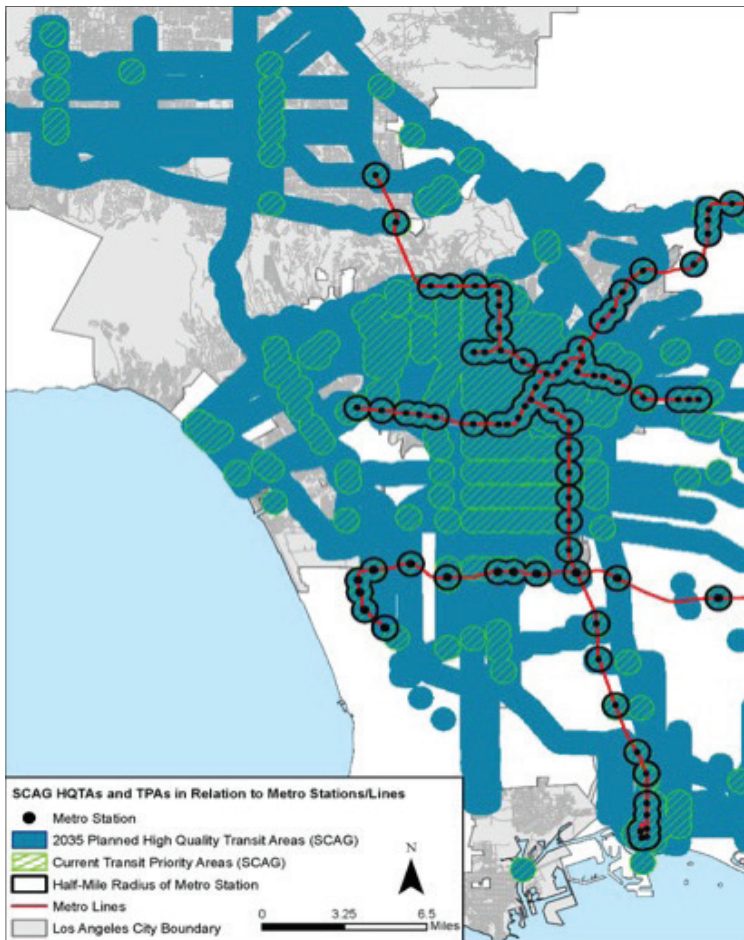
Figure 1: Map of SCAG HQTAs and TPAs

better accommodate transit-oriented development close to Metro stations (Center for Transit-Oriented Development, 2010). The City of Los Angeles should more aggressively incentivize multi-family residential and commercial development within walking distance of Metro stations.

Complete Streets and Active Transportation

Most commuters within the region commute by car, truck, or van (SCAG, 2012a). According to the 2008 American Community Survey, less than four percent of the region's population commuted to work via an active transportation mode (SCAG, 2012a). Although one could view these figures in a pessimistic light, the region has an opportunity to shift travel behavior. The Southern California Association of Governments (SCAG) has found that approximately 97% of residents in the region live within two miles of a transit station, considered an easily bikeable distance (SCAG, 2012a). Furthermore, the region has made massive financial and planning investments to expand its public transit system and active transit network. These investments are largely intended to lower vehicle miles travelled as a way to achieve state mandated greenhouse gas reduction targets.

Encouraging dense, mixed-use development in areas close to transit is a critical step in building sustainable communities. Convenient access to transit, jobs, and amenities translates into less reliance on the private automobile. However, land use factors are not the only variables that affect travel behavior. The transportation network must also be designed in a way that encourages active modes of transportation, namely walking and cycling, over the automobile. Streets and sidewalks designed to allow safe and convenient travel for active transportation users are referred to as "Complete Streets"(Los Angeles County Metropolitan Transportation Authority, 2014). Complete Streets feature design characteristics oriented towards pedestrians and cyclists, such as bicycle lanes, curb bulb-outs, traffic calming measures, and safe pedestrian crossings.

Table 1: Metro Buffer Analysis - New Building Permits
(January 2013 – January 2015)

Development Characteristics	Total	New Development Permitted in Half Mile of Metro Station		New Development Permitted Not Within Half Mile of Metro Station	
		Number	% of Total Permits	Number	% of Total Permits
Citywide	**5,778**	**279**	**5.26%**	**5,509**	**94.73%**
1 or 2 Family Dwelling	4,755	159	4.83%	4,596	95.34%
Apartment	439	36	8.20%	403	91.80%
Commercial	594	84	14.14%	510	85.86%

Note: New construction permit data has been obtained from the DataLA, the open data portal for the City of Los Angeles (https://data.lacity. org/). This dataset only includes building permits from January 2013 to January 2015. Earlier permit data is available from 2001 to 2014 through Plan Check and Inspection Disks, inspection from the Department of Building and Safety (DBS). These disks only include monthly permit data, they cost $11 each and they must be purchased in person from the DBS office in Los Angeles. Earlier permit data (prior to 2001) must be viewed on microfilm at the DBS office.
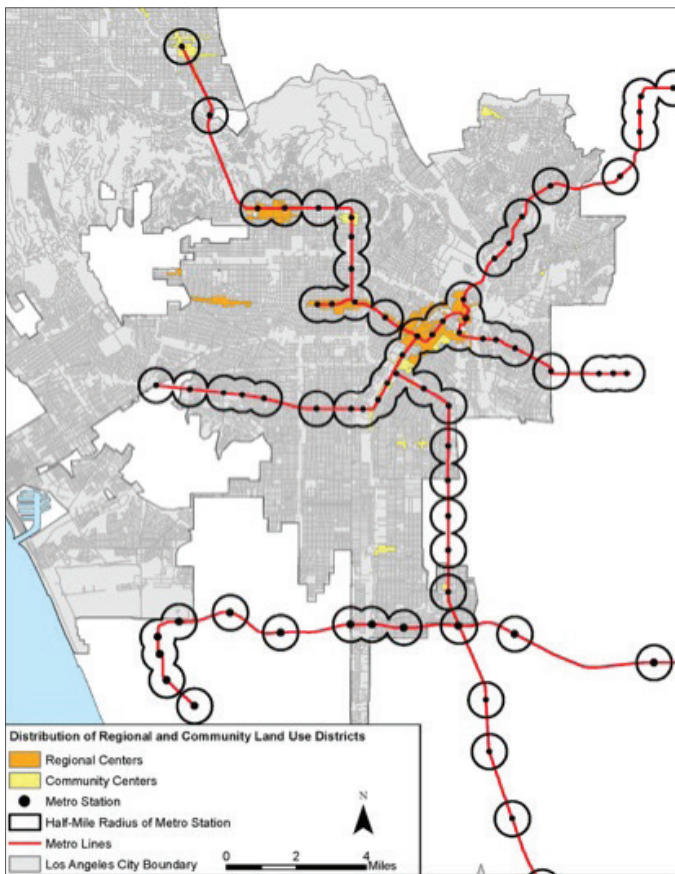
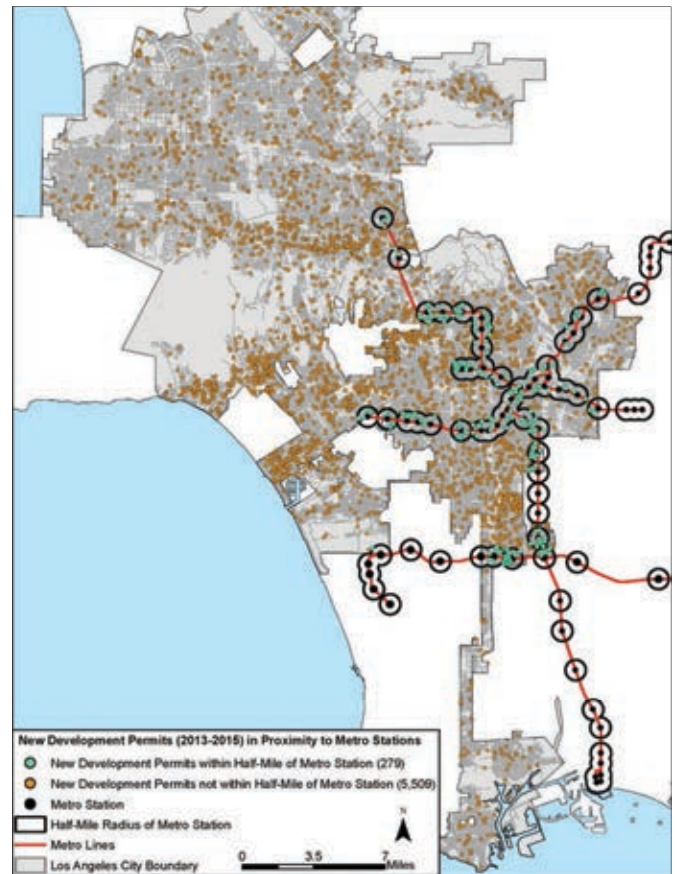*Figure 2: Map of Regional and Community Land Use Districts.*

Figure 3: Proximity of New Development Permits (2013-2015) to Transit Stations.

In order to successfully reduce automobile trips, transit-oriented development must be paired with a public realm conducive to other modes of transportation. According to Hank Dittmar, president of the Great American State Foundation, many transit-oriented neighborhoods are designed for automobile dependency, making them transit-adjacent rather than transit-oriented (Tumlin & Millard-Ball, 2003). Complete Streets are one strategy that can help to reduce automobile use in areas served by transit. Research shows that transit commute shares increase with the implementation of pedestrian-oriented design treatments in neighborhoods around rail stations. Research also shows that an increase in lineal miles of bicycle facilities contribute to a growth in accessing rail stations by bicycle (Cervero, Caldwell & Cuellar, 2012). Complete streets will be essential to curb automobile use in Los Angeles, a region that will experience substantial transit investments in the next several decades.

AB 1358 and SB 375

Enacted in 2008, the Complete Streets Act (AB 1358, 2008) requires cities and counties to incorporate Complete Streets principles into their circulation element when performing General Plan updates (AB 1358, 2008; SCAG, 2012). These principles are intended to foster a multimodal transportation network that accommodates all users of streets – pedestrians, cyclists, and motorists. Prior to the adoption of AB 1358, there were no state laws requiring localities in California to incorporate Complete Streets or active transportation principles into their circulation elements. When paired with SB 375, these two bills have the potential to advance transit-oriented growth in a way that is largely unprecedented. Both are considered as landmark planning legislation in California.

Although there is no explicit language in SB 375 or AB 1358 stating that the two bills should be linked during implementation, they both share similar end goals to reduce vehicle miles travelled (SB 375, 2008; AB 1358, 2008). SB 375 approaches this goal by encouraging transit-oriented development, while AB 1358 approaches this goal by encouraging active transportation. In this regard, the two are fundamentally linked. Land use changes and transportation investments will go a long way in reducing greenhouse gas emissions. However, AB 1358 provides the impetus for the mode shift required to reduce private vehicle use. An optimal planning strategy to reduce vehicle miles travelled requires both approaches.

SCAG RTP/SCS Overview: Active Transportation

Complete Streets and active transportation is a key cornerstone of the Southern California Association of Government's Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The RTP/SCS states that a mode shift to walking and bicycling will be essential to reduce greenhouse gas emissions and congestion (SCAG, 2012a). SCAG has adopted strategies in the RTP/SCS to achieve four overarching goals: 1) increase dedicated funding for bicycle and pedestrian infrastructure; 2) increase accommodation and planning for bicyclists and pedestrians; 3) increase transportation options, particularly for trips less than three miles, and; 4) significantly decrease bicycle and pedestrian fatalities and injuries (SCAG, 2012a). Similar to the land use component of the RTP/SCS, SCAG will primarily play an advisory role to local governments in an effort to support Complete Streets and active transportation in the region. However, SCAG will allocate funding to local governments to plan and implement Complete Streets in their jurisdictions (SCAG, 2012).

The RTP/SCS has allocated $6.7 billion to engineering, enforcement, and education strategies related to active transportation and Complete Streets (SCAG, 2012). Funding is specially allocated to support such strategies near transit stations and schools to reduce vehicle trips and to improve the safety and desirability of active transportation modes (SCAG, 2012). The $6.7 billion of funding does not include locally funded projects or large development project that involve the construction of bicycle and pedestrian facilities. When factoring in local expenditures, the region is expected to spend more than $10 billion on active transportation investments by 2035 (SCAG, 2012a).

Local Active Transportation Planning

Localities within the SCAG region have proposed and implemented a number of active transportation and Complete Streets projects. The draft Los Angeles County Bicycle Master Plan, released in 2011, calls for the development of a comprehensive, 695 mile network of bicycle facilities (SCAG, 2012a). Metro's Long Range Transportation Plan proposes the development of regional bicycle trail projects throughout the region. Metro has also created an initiative to provide an inventory of existing and proposed bicycle facilities, and an estimation of expenditures for such facilities (SCAG, 2012a). In addition, Metro's Complete Streets Policy has ranked higher than any region in California by Smart Growth America, who ranked Complete Streets policies and programs in the United States adopted in 2014 (Curry, 2015).

Metro's draft *Complete Streets Policy* supports existing planning efforts and proposes new projects. The Metro Complete Streets policy is intended to support these efforts by providing guidance and funding to local agencies (Los Angeles County Metropolitan Transportation Authority, 2014). Metro is particularly interested in the implementation of Complete Streets on "first/last" streets used to get to and from transit stations.

Metro further bolstered this effort through the draft First Last Mile Strategic Plan (2013) a set of planning guidelines with the goal to improve active transportation accessibility to Metro stations(Los Angeles County Metropolitan Transportation Authority, 2014a). The guidelines provide localities with examples of design treatments that can be implemented to improve active transportation on street segments located close to Metro stations. Because portions of these segments are out of Metro's jurisdiction, the Complete Streets policies and guidelines are primarily meant to advise localities (Los Angeles County Metropolitan Transportation Authority, 2014a). Metro has also proposed to establish active transportation improvements to their transportation system, including bicycle/pedestrian facilities and amenities at Metro stations (Los Angeles County Metropolitan Transportation Authority, 2014).

The draft 2014 update of the Circulation Element of the City of Los Angeles General Plan, referred to as "Mobility 2035", strongly emphasizes the incorporation of Complete Streets principles in the transportation system. Three of the nine key policy initiatives explicitly address Complete Streets and active transportation. These policy initiatives include the establishment of new Complete Streets standards, the promotion of "first mile-last mile" connections, and the expansion of the role of the street as public space (Los Angeles Department of City Planning, 2014e). The element also proposes the establishment of areas prioritized for pedestrian improvements, the development of an interconnected bicycle network, and the enhancement of multi-modal transportation services in areas close to transit stations(Los Angeles Department of City Planning, 2014e). Mobility Plan 2035 has yet to be adopted. As Linton (2015) points out, the plan serves as a departure to auto-centric character of Los Angeles, to "an emerging multi-modal Los Angeles that embraces walking, bicycling, using transit, and driving".

In 2011, the Downtown Los Angeles Neighborhood Council (DLANC) formed the Complete Streets Working Group to implement design treatments aimed to improve Downtown's cycling and pedestrian environment (Downtown Los Angeles Neighborhood Council, n.d.). According to their website, the DLANC Working Group has primarily focused on the development of bicycle facilities and parklets. The website does not mention traffic calming strategies, education strategies, and enforcement strategies. The DLANC Working Group has been responsible for the implementation of Downtown Los Angeles's first bicycle lane along a segment of Spring Street, as well as bicycle lanes on two more road segments (Downtown Los Angeles Neighborhood Council, n.d.). A 40% increase in bicycle ridership along Spring Street was observed one year after installation of the bicycle lane (Downtown Los Angeles Neighborhood Council, n.d.).

Conclusion

The Los Angeles region has established aggressive transit-oriented development and active transportation programs and plans. Although transit-oriented development programs

are ambitious in their intent, it is somewhat unclear how effective they have been. In the last two years, only 5% of new development has been permitted within a half-mile radius of Metro stations in the City of Los Angeles. It is clear that the City could do more to prioritize development within these transit-rich areas. If the region continues to develop in a low-density manor away from major transit stations, it will be difficult to achieve long-term greenhouse gas reduction targets.

When scanning Los Angeles's Complete Streets plans and programs, one could conclude that the region will be a haven for multi-modal transportation in the future. These plans are also ambitious, yet it is unclear how effectively they have been implemented. Further research is needed to examine the current state of Complete Streets implementation and active transportation in Los Angeles. For example, research could measures the increase in lineal miles of bicycle facilities over time. Monitoring the implementation of active transportation investments may be a more difficult task than development activity, as data is not as easily accessible as permit data. Overall, the City of Los Angeles has an enormous opportunity to reduce greenhouse gas emissions through land use changes and transportation investments.

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Walls as a Reflection of Society and Culture

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Beginning as an simple utilitarian element to defend a place or one's home from external threats, a wall reflects a society's culture. Walls express territoriality and are evident symbols of the perceived relationship between the public and private realms. Levi and del Rio discuss why understanding the meaning of walls is fundamental for planners and urban designers, and for any attempt to design and regulate place.

From historic walled cities to gated communities to the privacy walls surrounding homes, walls are an important factor in architecture and urban development. The rise of gated communities is a current topic for planners but the use of walls has been around a long time. Walls reflect the history, society and culture of a place; so understanding walls provides a way to see how society and culture get reflected in the built environment.

Purpose of Walls

Walls provide safety, security, comfort, and privacy; they separate private from public domains. Walls mark one's territory -- the perceived or actual control of a defined physical space (Gifford, 2007). Territoriality satisfies three important human needs: efficient use of the space, self-identity, and security. It helps to organize human behavior by defining access, use, and types of activities in places (Edney, 1976). For example, territoriality defines the appropriate behavioral customs of owners and visitors to a place. As an expression of territoriality,

walls and fences are a form of psychological ownership where people mark an area to identify their territorial intentions. They serve as preventive defenses that attempt to stop infringements on one's territory before it occurs.

Altman (1975) defines three types of territories: primary, secondary, and public. Primary territories are spaces that are owned or controlled on a relatively permanent basis by people and are central to their lives such as homes. Secondary territories are less important to people and their control can be rotated or shared with others, such as a classroom, a front yard, or a community garden. Public territories are open to anyone in the community, such as streets and squares.

Territoriality reflects social context, such as neighborhood climate and social class. In neighborhoods with good social relations, neighbors are able to recognize intruders, feel more responsibility for defending territory, and therefore experience less territory control problems (Taylor, Gottfredson, & Brower, 1981). In lower class neighborhoods in the U.S., the dwelling is one's primary territory and control often ends at the door (Taylor, 1988).

In middle class suburban neighborhoods, control extends beyond the house to include yards and to some extent the street. Upper class neighborhoods may expand control to the entire neighborhood through the use of gated communities. Societies with limited space or complex social class hierarchies tend to use more walls separating public from private domains, and even the dwellings themselves may express this gradation in their internal architectural solutions (Rapoport, 1969).

Territoriality helps to make people feel more secure, and territorial marking may help to reduce crime. Crime prevention through environmental design (CPTED) examines the principles of design that increase one's sense of security and reduce crime (Casteel & Peek-Asa, 2000). There are two main principles: a) use real or symbolic barriers that separate public from private territory, and b) provide opportunities for surveillance of a territory by the owner and concerned neighbors.

All cultures are territorial, but territoriality is expressed differently in various cultures (Gifford, 2007). For example, North Americans view the sidewalk and street curb as part of their home territory so they often monitor and clean these areas, while Greeks view their territory as ending at one's door and the sidewalk as public and are less likely to care for them (Worchel & Lollis, 1982).

Reflection of History, Society and Culture

The use of walls to divide and structure communities has a long history. The Garden of Eden was walled to protect the chosen ones and to keep evil out, and the word paradise has its roots in the ancient Persian *pairidaeza* or "walled garden" (Miller, 2014). From historic walled cities to the privacy walls surrounding homes, the use of walls reflects how society and culture are expressed in the built environment. As symbolic and physical barriers that separate people and activities (Sillar, 2013), walls play a vital role in structuring society that reflects historical and social conditions, such as social class, land ownership, and social networks.

Walls are used to structure people's social organization and sense of community, and as a way to control the use of space they can create tensions and social divisions. Medieval cities used fortress walls to prevent access by outsiders, while privacy walls around homes in Latin America create a buffer between the family and the outside world. In contemporary Western societies a growing uses of walls is in gated communities.

Gated communities are the typical example of the privatization space (Low, 2008) and primarily occur in large-scale housing developments at the city edge or in rural areas. In the US, they first began to be used for the wealthy in the 1930s in Southern California and by the 1980s they had expanded to retirement communities, resorts, and suburban development. The 2010 Census data indicate that over 5% of US households live in communities surrounded by walls (Low, 2008).

Besides controlling access to homes, the walls of gated communities serve a number of purposes (Low, 2008). They control the use of streets and amenities –such as parks, swimming pools, and golf courses– and they create a perception of safety and security. They separate people socially, spatially, and racially from dangers or people one wants to avoid. Their exclusiveness displays social status, and they segregate the residents along social class, racial, and ethnic criteria.

As in the US, other regions in the world have a long history of residential gating (Hirt & Petrovic, 2011). In Latin and Islamic countries, for instance, wealthy homes have been traditionally walled off from urban life. But the current expanded use of gated communities is a global phenomenon that has spread from the Western, industrialized countries and represent socially homogeneous lifestyle enclaves with special services, rather than familial connections. The expansion of gated communities is a result of weaker social ties in urban communities, of increasing social and economic disparities, of fear of crime, and the failure of governments to provide services and security (Low, 2003).

Gated communities entrench social inequity and are a threat to the development of a sense of community (Low, 2003). The impact of gated communities is more social and racial segregation in housing, less support for the creation and maintenance of public spaces and services, increased insecurity and fear of crime, and decreased sense of community. Although gated communities are developed to provide security, their use in the US is not related to a decrease in crime rates.

Types of Walls

This work considers walls, fences and hedges as synonyms since they serve the same purpose: to define, enclose, divide, and provide security and privacy. A territory can be marked in the public's use and perception in five different ways.

No wall

Even when houses and buildings have no walls surrounding them, there are territorial markers. A setback to a house defines a territory separating private and public spaces, and even when a house abuts the start of private property is clear. Churches may use plazas and elaborate symbolic gateways to mark the transition from secular to sacred. Government buildings may use stairways, signs and other powerful gateways to mark the entrance to their territory.

Symbolic wall

Buildings may have walls, fences or hedges that symbolically mark the territory. The classic three-foot high picket fence around a US home marks the territory but does not prevent people from viewing the residence or easily climbing over the fence.

Security wall

A security wall is designed to prevent intruders from invading the building and its grounds such as high fences and walls with spikes or barbed wire. Sometimes, one can see through a security wall. As noted by CPTED research, the ability of neighbors being able to see through the wall increases security and reduces crime.

Privacy wall

A privacy wall or fence blocks vision from the street to the building. It is typically high enough to create both a visual and sound buffer from the street. Hedges can also be used for privacy, although they are less useful for blocking sound. Because it blocks surveillance by neighbors, a privacy wall may not provide security. Consequently, some buildings combine privacy and security walls. Privacy walls can be topped with spikes or broken glass for security.

Fortress wall

Fortress walls can be seen in historic walled cities and consist of a high (over 7 feet) and solid wall for defense and privacy. They may have extra security measures at the top such as spikes, barbed wire, security cameras, or places for guards. Nowadays they can be found in modern embassies and in gated communities for the very wealthy, particularly in regions where populations are socio-economical distress and the government does not guarantee public safety.

Walls and Building Types

There are different types of walls depending on the type of building. For example, there are different types of wall for residential buildings, churches, and government buildings. Walls around homes separate the public from the private. Walls around churches separate the secular from the sacred. Walls around government buildings separate government institutions from the public.

In the United States, there is a tradition of not having walls surrounding houses. Houses have front yard setbacks, rather than street walls, to display territory (Siembieda, 1996). Front yards are secondary territories that are neither private nor public. The open lawn expresses the egalitarian and democratic culture of the US. The landscaping and decoration of the yard displays social status. Their use helps to promote neighborhood and community relations. Symbolic markers rather than physical barriers often mark front yards.

For churches and religious buildings, it is important to clearly separate the secular from the sacred, but also to be inviting. Churches often use elaborate or awe-inspiring gateways rather than walls for entrances. Churches also desire to have private outdoor spaces for contemplation, meditation, rituals, and social activities. These may occur in walled areas behind the church.

Government buildings are often designed to show the power and authority of government institutions. In democratic America, the buildings may be open to the street to show trust and a positive relationship to the community. However, some government functions have security concerns that lead to the use of security walls around buildings, such as police or courthouses.

The Study

In order to better understand the social and cultural use of walls, photographs and observation notes were taken in various cities, and the use of walls was classified according to the five types of walls identified above. These informal observations were supplemented by a more formal survey of neighborhoods and the downtown in San Luis Obispo by a team of students in a Cal Poly Environmental Psychology class in 2013. The results of these observations can be summarized as follows.

San Luis Obispo, CA

The typical San Luis Obispo residence has no walls (50%), symbolic walls (40%), or privacy (10%) walls. There were very few security walls around individual homes, although there are gated communities in other parts of the County. Churches have no walls (50%) or symbolic walls (50%). However, even when

Figures 1 and 2: In San Luis Obispo, the Mission (left) and the County Offices building (right) have no walls and bear a direct relation to the public space. (Photos: D. Levi and V. del Rio)

Figures 3 and 4: The walls protecting the medieval fortress (above) and a typical street in Carcassonne, France. (Photos by D. Levi)

Figures 5 and 6: In Sitges, Spain, fences and walls protect public and private buildings. (Photos by D. Levi)

there were no walls, they often have steps and gateways to denote entering sacred space. Churches sometimes had privacy walls in the back, such as the Mission, that enclose private areas for contemplation and social activities. Government buildings primarily had no walls (70%) or symbolic walls (30%), with the exception of buildings with police functions, which may have security walls in the back or side.

Carcassonne, France

Carcassone is a medium sized city in Southern France whose historic core contains the Cité, a medieval fortress city that is now an UNESCO World Heritage Site. The Cité is surrounded by a double set of fortress walls with watch places for guards. Within these city walls, residences have no setback from the street, they share walls between them, and short walls separate backyard gardens. Churches have no walls but face plazas and have elaborate gateway entrances that define entering the sacred space. Government buildings are clustered and set behind a wall and moat that, in the old days, gave further protection if the city was invaded.

Sitges, Spain

In Sitges, a small Spanish coastal town near Barcelona, privacy walls surround nearly every residence, both individual homes and small apartment buildings. In some cases, these walls are combined with security elements (spikes primarily). In newer neighborhoods, a common solution was to combine wire fences with a hedge to provide both security and privacy. In some cases, the "hedge" consisted of plastic plants woven into the fence. Churches have plazas in front defining the sacred space but not walls, although most had privacy walls in the back enclosing a private outdoor space. Most government buildings had either no or symbolic walls, and only but a few had security walls. Sitges is similar in its use of walls to many Latin American countries.

Walls are a major part of Latin American vernacular architecture as an evolution of the influence of the Moorish centuries-long domination of the Iberian Peninsula and, later, of Spain's Law of the Indies (Siembieda, 1996). Compiled and enacted in 1573 for all territories dominated by Spain, the Law of the Indies defined procedures for town planning from how to lay down and plot a settlement to the size and use of plazas and the segregation of activities and social classes. Government, religious, and commercial buildings were built bordering plazas, and houses had walls surrounding them. In Latin America, walls are used around almost all houses, regardless of social class serving both symbolic and functional purposes (Siembieda, 1996). They mark the boundary between private and public space and provide privacy and security for the household. These Latin walls provide a variety of functions: cultural expression, family privacy, display of social status, and security.

Nong Khai, Thailand

Along the Mekong River, the medium sized city of Nong Khai is an important transportation link to Vientiane, Laos. The city layout and its buildings reflect collectivist Asian culture. In the older part of the city residences have no setbacks from the street, therefore no walls. In the newer residential areas there were yards but there were either no or symbolic walls. There were no privacy walls as in all East Asia privacy is primarily about social rules rather than physical barriers. For example, Japanese houses have paper interior walls made of paper.

The Buddhist wats (temple complexes) were typically surrounded by tall privacy walls creating quiet, contemplative areas as oases in the urban environment. The walls also provide a very clear separation of the sacred from the surrounding secular city. Although historically wats in small Thai towns did not have walls and they were owned and protected by the community, as cities grew larger walls were incorporated for protection from urban noise and crime.

The government buildings had symbolic or security walls. Northern Thailand is culturally different from the government center in Bangkok, which asserts authority over the northern regions. There is not a strong democratic history in Thailand, so government buildings are often separated with large setbacks and protected with security fences from the public.

Vientiane, Laos

Vientiane, capital of Laos, is a large city along the Mekong River. Culturally its people are similar to the people in nearby Thailand's Nong Khai. However, Vientiane's architecture and urban design has been largely impacted by French colonialism. Although many residential areas had no walls, there were middle and upper class historic, urban neighborhoods with security and fortress walls. These were different from the gated communities in the West as they were used to protect the French Colonial administrators from the Lao people they governed.

The Buddhist wats in Vientiane have symbolic walls which are architecturally similar to those surrounding the Thai wats, except that they were only 2 or 3 feet high. This is because in Laos social revolutions often start from activism at schools and monasteries located inside the wats, the government wanted the ability to monitor activities within them. One the other hand, government buildings have either security or fortress walls, reflecting the lack of trust between the government and people.

Conclusions

Walls mark one's territory and their use reflects history, culture, and society. History can be seen in the medieval fortress walls around cities and the fortress neighborhoods in post-Colonial countries like Laos. Culture and history can be seen

Figures 7 and 8: In Nong Khai, Thailand a government building with low walls (top) and a residence with no walls.(Photos by D. Levi)

Figures 9 and 10: In Vientiane, Laos a wall reflecting the French colonial past (top) and a low wall around a Buddhist watt (Photos by D. Levi)

in the walled homes and open plazas of Spain and Latin America. Social forces are presented in the open front yards of democratic United States, and the rise in gated communities linked to social inequity and increased security concerns.

The use of walls also depends on the type of building they surround. Residences use walls to mark territory, provide security and create privacy. Residences in collectivist cultures are less likely to have privacy walls because of increased social connections. Religious buildings use walls as a way to separate the secular from the sacred; however, this creates conflicts for them. Religious buildings want to be open and inviting, so they use awe-inspiring gateways. But they also have the need to create privacy and serenity, so Buddhist wats and Catholic Missions create quiet, meditative environments in walled areas in the back. Governments use walls and gateways to display power and authority and their relationship to the public. Secure democracies do not have imposing government walls – they are open to the people. Colonial governments do not trust the public and need to watch the natives to protect themselves, so they use security and fortress walls.

Walls tell us a lot about a place. They convey a variety of messages about the history, culture, and society of a place. They tell us whether we are welcome, how to behave, and the character of the people behind them. They reflect the characteristics of the community by defining the relationship between private versus public space.

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Urbanity, the *Flâneur*, and the Visual Qualities of Urban Design: A Walk in Lisbon, Portugal

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The concept of urbanity and the literary figure of the flâneur are a platform for del Rio's exploration of the visual qualities of urban design in Lisbon's historic core. Drawings are are used throughout this study since they are analyses in themselves and capture the essence of places more than a photo can do. All drawings in this article are by the author.

"Landscape - that's what the city is transformed into for the flâneur. Or, more precisely: for the flaneur, the city is composed by dialectic poles. It opens up for him as a landscape, and closes around him as a room"
(Benjamin, 2007: 462)

I am fascinated with Lisbon, Portugal. I feel privileged to have visited the city frequently over the past decade as visiting faculty at the Universidade Lusófona, as director of Cal Poly's summer urban design program there in 2011, and as a researcher during a sabbatical leave (Spring 2013) when the study discussed here got started. I never get tired from exploring Lisbon's cityscape, its geography, urban design and architecture; a city with a deep sense of history and an attractive social and cultural life. I particularly love Lisbon's historic core where all of these qualities comes together in a lively and engaging environment where you can walk tirelessly for hours. This core is approximately 1.5 square miles, includes seven districts (Baixa Pombalina, Avenida, Alfama, Mouraria, Bairro Alto, and Principe Real) and, despite Lisbon's famous hilly topography, is very walkable and well served by public transit.

As an urban designer and studio instructor I love experiencing the historic core's urbanity as a *flâneur*, discovering and rediscovering Lisbon's urban design visual qualities and learning from it. In this process I have been using photography intensely but also sketching as a means to enjoy and analyze places, representing them and learning from the process. Architectural education continue to stress the importance of sketching places and keeping a sketch-diary but not planning programs, in the US most long detached from physical planning and design. However, with the recent strong resurgence of urban design as a fundamental part of the planning profes-

sion, we need to return to graphic thinking and to use drawing not only to represent a place but also as a means to study, decompose it, and investigate its fundamental components. This is even more important today when the accessibility and ease of use of digital tools fascinate urban design students so much that perfect models and photorealism become ends in themselves and obfuscate the essence of what is being represented, de-personalizing it. Differently from a perfect digital rendering of an imagined reality (the project), a good sketch is a fusion between the means of representation and the personality of the designer (Richards, 2013). The ease and speed of sketching also facilitates conceptual development, helping the connection between mind and projected futures in a typical graphic thinking process (Laseau, 2001). Thus drawing as a means of representation and analysis feeds drawing as a process.

Not unusually I have simply wondered in the streets of Lisbon with a curious mind and eye, a camera and a sketchbook, without a specific purpose in mind but discovering new streets and places, or new ways and vistas into places I already knew. Like Walter Benjamin's *flâneur*, I am always fully engaged with what I was seeing and feeling, trying to assimilate as much as I can. In this process, the city history, culture and urbanity with its various physical and spatial components are revealed incrementally, as are its visual qualities: sometimes from afar, predictably, other times surprising me with sudden revelations, but always making my walk a pleasure, and turning the city into an endless learning environment.

On Urbanity and the *Flâneur*

Urbanity is a rich, powerful but difficult concept to define. Dictionaries describe urbanity as being about urban life, and link the concept to having good manners and knowing how to behave in social situations or, in other words, to being *urbane*. The search for urbanity has been constant in the planning and urban design fields. Urbanity is about the presence of differences and the experience of otherness in a city (Baudelaire apud Sennet, 1990: 123) and about being immersed in the public

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sphere while breaking away from the tyranny of individuality (Sennett, 1974). Urbanity is about recognizing different cultural, political, and social points of views in the city. Urbanity is in the vitality and diversity of a city and its spaces (Jacobs, 1961) or, simply put, it is about the human dimension of a city (Gehl, 2010). Of the 253 patterns identified by Christopher Alexander to create a cohesive design language towards more human environments, 64 are directly related to urbanity and the quality of the street environment (Alexander et al 1977). Phenomenologists point out that urbanity is about the existential dimension of place (Norberg-Schulz, 1979), the physical patterns allow for a myriad of small acts that make a place timeless (Alexander, 1979), and the quality in a city that makes you feel at home in public space (Aguiar, 2012).

Even if we cannot define urbanity precisely in words and recognize it more as a feeling, reaching for urbanity is our profession's most noble goal in urban design --understood here as the city's physical and sensual manifestation. We are only able to fully enjoy urbanity and a city's urban design qualities through our daily experiences and explorations and, most certainly, walking.

Walking without a specific purpose, just to enjoy the walk and what is revealed along it is a fundamental way to experience urbanity. This takes us to the concept of the *flâneur* —French for a stroller or urban observer– which takes us back to 19th century Paris, a time and place when science, culture and urban life where undergoing profound changes. At the time, French culture was western society's paradigm of advanced civilization, and Paris was regarded as the model city. On one hand, under Mayor Haussmann and Napoleon III, Paris was going through intense physical transformations and a "modernization" process. The monumental Paris was created with entire districts giving way to new developments, the urban fabric being cut by new boulevards and punctuated by new squares and monuments, and strict architectural guidelines being imposed in the city core.

On the other hand, Parisians and particularly the growing bourgeoisie, were experiencing an intense public and cosmopolitan life with a strong cultural scene animated by sidewalk cafes, theatres, museums, and arts in general. An extraordinary group of artists (such as Manet, Gaugin, Monet, van Gogh, Toulouse-Lautrec, Rodin, and Matisse), writers and poets (such as Hugo, Dumas, Verne, Zola, Valery, Balzac, Mallarmé, and Baudelaire) helped generate a rich and creative environment throughout the city. Being part of this urban scene and becoming a public figure became an important middle-class value. Water Benjamin (2007) called Paris "the capital of the 19th Century" and several theorists identify this period and the processes taking place there as the birth of modernity.[1] David Harvey calls Paris the "capital of modernity" (Harvey, 2003).

During this period, French poet and philosopher Charles Baudelaire created the literary figure of the *flâneur* as a man who takes pleasure in strolling and exploring the streets of Paris, in observ-

ing life and its characters. The *flâneur* represents a life-style that only becomes possible in modern Paris and in the type of society it represents. Later, in his critical writings about the birth of modernism and the capitalist city, Walter Benjamin explored the concept of the *flâneur* as an urban observer and the emblematic explorer of the modern urban experience but, more importantly, he adopted the concept as an analytical tool: the observer-participant. To David Harvey, the *flâneur* represents the rise of the Parisian middle class and their need to show themselves in a place and to show disposal of time, therefore the importance of shopping arcades, as pictured by Benjamin. Wilson (1995) notes that the *flâneur* "spends his day simply looking at the urban spectacle" and that he takes visual possession of the city. Although by definition, the *flânerie* –or the act of being a *flâneur*- is an urban experience enabled by all five senses, vision prevails. For Benjamin, the *flânerie* is above all a visual experience that results from walking. Interestingly, the poet Honoré de Balzac described *flânerie* as "gastronomy of the eye".

The *Flâneur* and Visual Qualities in Urban Design

For the *flâneur* urbanity is the spectacle and his perception of the city is intrinsically linked to walking and movement, much as in a cinematic experience of space. Urban design theory has always looked for inspiration from these notions considering vision as the main source of environmental images and knowledge. For instance, Camillo Sitte (Collins & Collins, 1965) and Gordon Cullen (1961) in their critiques of modernism, argued that the visual stimulation caused by unpredictable, complex, and surprising urban morphologies is more engaging, aesthetically pleasing, and essential for urbanity. Jane Jacobs (1961) defended the street as the major space for daily social activities and that, as such, it should create sufficient visual *stimulae*. Post-Modernism and, more recently, New Urbanism try to recreate the pedestrian's visual and social street experiences as a fundamental factor in urbanity or, as many prefer, as place making (Dutton, 2000). Jan Gehl (1987, 2010) in his tireless research and international work towards more humane cities has always noted the importance of visual perception for place experience.

From the perspective of environmental psychology, and particularly along the *gestalt* theory, the spatial composition and aesthetics of the street and urban spaces are fundamental for visual perception, imageability and legibility, and affect our decisions and behavior (Lynch, 1960; Smith, 1974; Kopec, 2006). Facade and street edge discontinuities, changing perspectives, variety and contrasts, focal points, enclosures, and perception of figure-ground are among the visual *stimulae* that captivate our eyes and interest. Research repeatedly shows the close

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[1] Walter Benjamin was a German philosopher and social critic who lived in Paris and committed suicide during the Nazi invasion of 1940. His famous book Passages or Arcades is a posthumously collection of his writings on the life of 19th Century Paris, with particular emphasis on the impacts of capitalism on urban life and on streets and shopping arcades as engaging environments for the flâneur.

relationship between the perception of the environment and human mental and physical health. Recent studies in public health suggest a direct causal relation between the quality of street environments and obesity: interesting, captivating, and safe streets and public spaces tend to encourage people to walk more (Ewing et al, 2006). Through a literature review of classic works, Ewing and Clemente (2013) identified 51 perceptual qualities of urban design and selected those that most directly stimulate walking: imageability, enclosure, human scale, transparency, complexity, coherence, legibility, and linkage. Writing from a neuroscience perspective, Ferris Jabr (2014) seems to be referring to the *flâneur* when noting how walking stimulates the brain, lets it free to wander, and helps us think by "overlaying the world before us with a parade of images from the mind's theatre", a mental state linked to insights and innovative ideas.

For the scope of my studies, the concept of *flâneur* is extremely useful since it represents he/she who is directly and indirectly, intentionally and unintentionally affected by urbanity and the design of cities through perceptions and experiences as an observer-participant. By embodying the concept of the *flâneur* as an observant-participant I wondered in Lisbon's historic core, getting lost, observing, being attracted, and exploring the city and its life, and looking for the urban design qualities that engaged me in my visual exploration, making my *flânerie* a pleasure and a memorable experience. For my observations I applied concepts from various authors who defend the notion of fundamental visual urban design qualities that engage us and generate meaningful places and good cities.

The *Flâneur* in Historic Lisbon

Inspired by Lynch (1981), my discussion on the engaging urban design visual qualities in Lisbon must start by considering three meta-qualities: imageability, legibility, and human dimension. Without them the *flâneur* would not exist, or rather, he/she wouldn't be moved by the city, would not experience any sense of place, and certainly would not want to walk its streets. The manifestation (presence, composition, intensity, and interplay) of these meta-qualities have a direct impact on urbanity and dictates the *flânerie* and the urban experience proper. Lisbon is imageable because of its strong identity and uniqueness, and it is legible because it is easy for to navigate it and to find our way around it. The human dimension is embodied in the warmth of its people and its public life, in the pace of Portuguese life, and in the scale of the city and most of its architecture. These meta-qualities result from the unique interplay between geography, history, culture, urban form, architecture, and people.

Next, there are specific urban design visual qualities that engaged me as a *flâneur* and made my *flânerie* in Lisbon's historic core a pleasure, a constant invitation to walk and see just a bit more. In the following lines, I will try to illustrate this experience and the qualities through brief discussions and drawings.

Complexity and Surprise

The *flânerie* is fed by the visual composition of places and, particularly, the space that lay ahead and the options we perceive as the next steps, in our desire to continue walking and experiencing the city. Discontinuities in the morphology, unexpected angles and dead-ends, multiple decision-points, narrow passages, sudden revelations, contrasts, succeeding views, stimulating tensions. Cullen (1961) notes that these qualities, the emotions and the drama they reveal depend on the dynamics between the place one's are at and the emerging views that are revealed by walking, a notion he calls serial vision. For Smith (1974: 236) "a creative townscape is that which stimulates the mind... generating images and motivating exploration". Rapoport (1969) defines environmental complexity when the mind is attracted by the multiplicity of information and options for behavior. A *flâneur* finds plenty of that in the streets of historic Lisbon, particularly in the medieval morphology of the Alfama and the hilly Bairro Alto.

Complexity and surprise in urban design keeps the mind curious and the walk more rewarding. An alley in Alfama (top) and a building arching over Rua dos Academicos invites the flâneur to explore even further.

Vitality and Robustness

Social and human activities are crucial for the perception of vitality and for sense of place (Canter, 1977; Gehl 1987, 2010; Whyte, 1980; Lynch 1981). The *flâneur* is engaged by activities that liven up and give meaning to the streets and spaces he walks through. A place or street is robust when it offers a variety of land uses, density, activities, and behavioral choices that sustain its vitality in the long run, attracting different people at different times. Streets, squares and plazas in historic Lisbon are filled with life from the mixture of residences and a myriad of small shops, restaurants, cafes, and bars with sidewalks seating, plus small kiosks selling newspapers and magazines, snacks, coffee or drinks. One of the drawings depicts Praça Camões, a popular hangout place day and night and a favorite for all sorts of social manifestations, whose simple design supports behavior and is adapted to topography and an underground parking. The other drawing shows a historic kiosk in Praça Principe Real specializing in coffee, while another at the opposite corner opens exclusively at rush time for beer and cigars and attracts a huge young crowd!
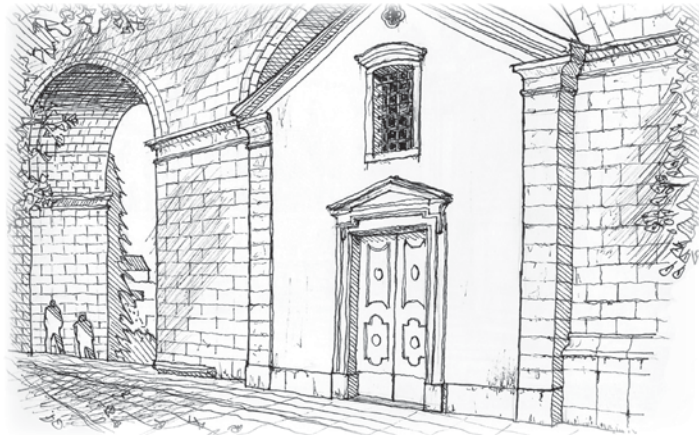
Enclosure and Linkages

Urban design studies agree that enclosure through well defined edges and facilitating a sense of position are fundamental place qualities due to their deep psychological meanings, making us feel confortable and in control of our whereabouts. The correct proportions between a space and its edges (surrounding buildings or perceived defining places) make us feel comfortable, protected, and in control of our surroundings. A well-defined space with visible entrances and clear edges is a defensible space. Defining edges lead our walk to spaces beyond through linkages in the urban tissue, contributing to the feeling of accessibility and continuity. The perception of a way out of a place and being able to move from point a to b is as important as the feeling of enclosure and defensible space: they are complementary. The *flâneur* finds plenty of enclosed spaces and linkages in historic Lisbon, with the most compelling examples in the old moorish and medieval hilly district of Alfama. Even the regular baroque design of squares at the Baixa Pombalina, though of a more monumental proportions, provide an excellent sense of enclosure and clear linkages to the surrounding city.

Robust spaces like Praca Camoes in Bairro Alto (above) become social nodes and incorporate changes over time. Kiosks seeling food, coffee, beverages and beer (below) help inject vitality in the public realm.

Parque das Amoreiras is a well enclosed small park with one side defined by a XVII Century acqueduct where a small church was built into one of the arches. Below, an elaborate street design with double ramps access Parque Principe Real.

Transparency and Vistas

Transparency is the quality that allows us to see or perceive what lies beyond an edge or, in other words, being able to be in a place whilst seeing out of it into another place and its activities (Cullen, 1962; Ewing et al, 2006). When the edge opens up towards a far horizon or a clear focal point we are dealing with vistas –some of them only glimpses- that capture the eye and attract the *flâneur*. These concepts, together with enclosure and linkages, are grounded in the human topological need of locating one's body while at the same time being confortable enough to participate in a place beyond, always feeling safe due to the visual control of the spaces and the perceived link between both places.

The streets of Lisbon are lined up by buildings whose traditional typology is punctuated by windows and doors, generating a dynamic public-private relationship. The adaptation of Lisbon's morphology to topography and to historical processes with its architectures plenty of windows and doors, lend the perfect conditions for a *flâneur* to be constantly attracted by vistas and transparencies. Lisbon is a city of *miradouros*, or places to enjoy dominating views towards the valley, the other hills, and the river. Several *miradouros* are next to important historical buildings and complemented by landscaping, cafes and seating, such as the one depicted in the drawing.

Legibility and Coherence

The human brain and the *flâneur* need a legible city with a recognizable overall form, a clear relationship between districts and neighborhoods, and a set of coherent spaces and architectures for a mental map. Legibility refers to the ease that a city or a place may be navigable and understood as a whole, and coherence makes for a certain degree of visual order (Lynch, 1960, 1981; Ewing & Clemente, 2013). These qualities are counterpoints for the *flâneur*'s need for surprises and complexity but are fundamental to provide him/her with an understanding of the whole and moments of reassurance. Usually, streets and spaces of high legibility are robust nodes full of vitality, are punctuated by monuments, and become highly meaningful places, detaching themselves in the *flâneur*'s
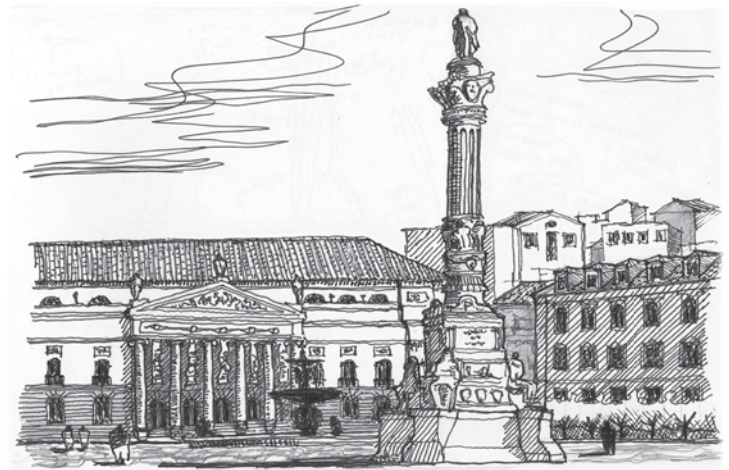

The transparency of historic buildings help animate Lisbon's streets, and the interplay between city form and topography constantly reveal surprising vistas such as from Miradouro da Graça to Castelo de São Jorge.

In Lisbon, the clear relationship between city tissue, hills, and river generates a strong mental map. This is helped by clear paths (avenues) and strong nodes, such as Rossio (above) leading to Praça do Comercio and the river.
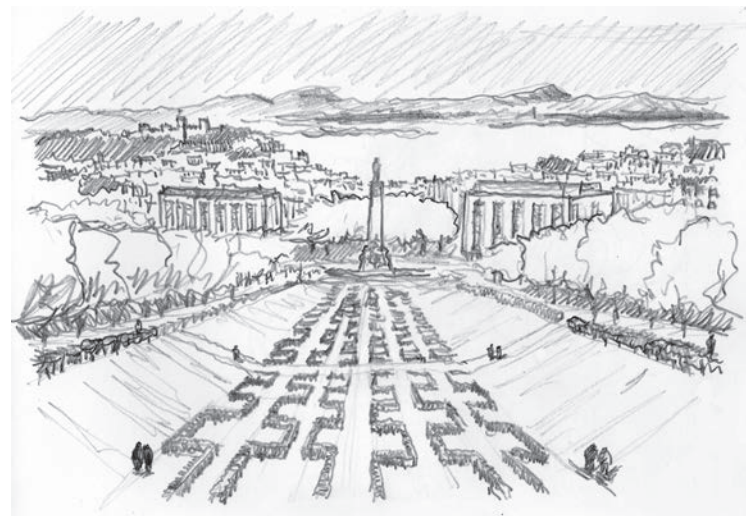
mental map. The legibility and coherence in Lisbon's historic core are facilitated by the geography, hills and gentle sloping valley towards the Tagus river. A major monumental axis connects the top of a hill to the valley and the river through the regular grid of enlightened baroque Baixa Pombalina, the area rebuilt after 1755's big earthquake, adding to the dramatic and monumental *parcours* towards and the monumental archway to Praça do Comercio and the riverfront.

Architectural Richness

Architecture is said to be the only inescapable art form as one cannot avoid experiencing it on a daily basis. In experiencing the city, architecture is always present in the buildings (style, shape, ornamentation, colors, etc), streetscape (paving, street furniture, planting, etc), and punctuating elements (statues, fountains, etc). Lisbon's historic architecture is of an incredible richness of ornamentation, and the city's sidewalks and squares are famous for their beautiful handset cobblestone mosaics. These elements add extreme value to the visual perception of the city. They add to surprise and complexity by keeping the eye busier in appreciating and making sense

of details. They add to the legibility and coherence as they add character and identity to a place or street, an area or the whole city. Architectural richness adds a fine grain of aesthetic enjoyment to the experience of the *flâneur,* keeping him constantly engaged in his walk.

Personalization and Community Values

A responsive design allows for personalization by residents and users find ways to imprint their marks in buildings, space, and time, making the built environment their own and an expression of their selves. Spaces that become places due to a series of individual and collective imprints, normally resulting from participatory processes between neighbors, are living expressions of community values. Lisbon's historic core is a great example with dead-end streets and alleys taken over and decorated by neighbors, the colorful clothes drying lines hanging off windows, and public and semi-public spaces richly decorated and adapted to traditional and religious events such as the lively *festas*. These practices allow the *flâneur*'s imagination to connect people to place and embark on a myriad of imagined personal stories.

A Conclusion?

It is hard to end this essay due to the strong power of attraction that Lisbon's landscapes, morphologies, spaces, and architectures exert on the urbanist-*flâneur* and the lessons we can learn from them. Relationships between built, un-built and topography; imageability and legibility; continuities and transparencies; appropriateness and contextuality of architectural typologies; scale, textures and materials; coherence, transparency and visual order; enclosure and linkages; density of life and complementarity of land uses.

Lisbon's architectural richness is a visual feast to the flâneur: the levels of history revealed by the styles (such as in the baroque São Roque church and old hospital), the architectural details (such the art-nouveau door below), and the monuments and sidewalk coble stone designs (such as in Largo do Carmo with its unique XVIII century fountain).
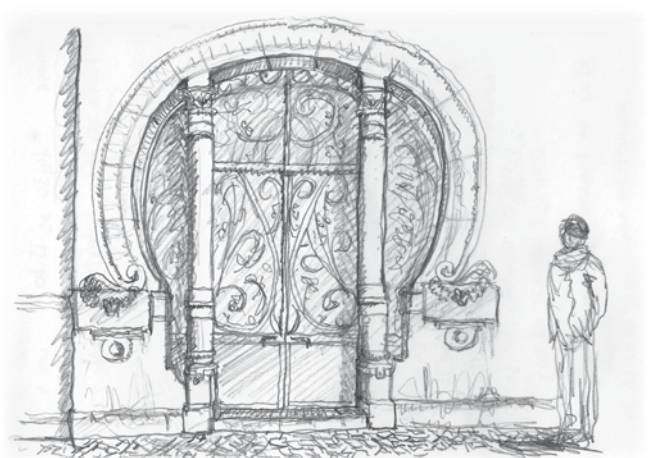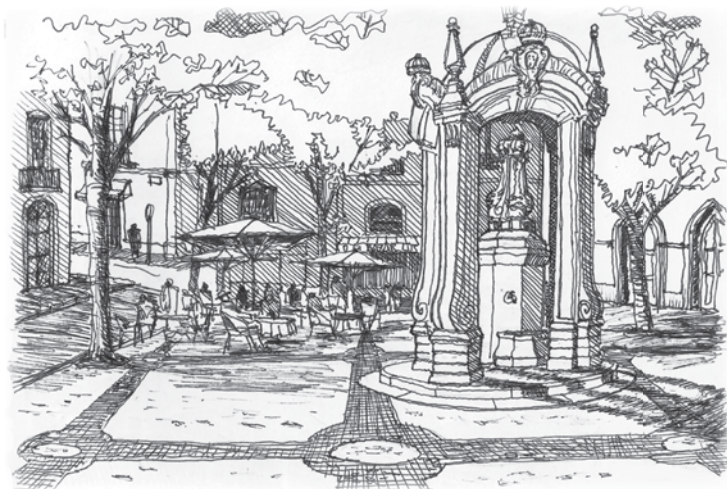
Wandering around the historic center of this magnificent city with eyes and brain wide open teach us how urban compositions influence our perception of space, our expectations and behavior, making of our *flânerie* a pleasurable and memorable a experience in a process of discoveries and continuous awareness of Lisbon's urbanity and urban design qualities. Sketching some of these moments allowed me to take time to look carefully, analyze and capture the essence of the place; a much more intense and relational process than simply taking a photo. And perhaps the most important conclusion is that the planner and urban designer should use the concept and method of the *flâneur,* the observer-participant, and imagine him/herself experiencing his/her plan or design, enjoying the imagined urbanity and the projected visual experiences. If he/she finds that these flâneries are memorable experiencse, then perhaps, successful new urban places will come out of the drawing board (or computer...).

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FOCUS 12

Faculty and Student Work
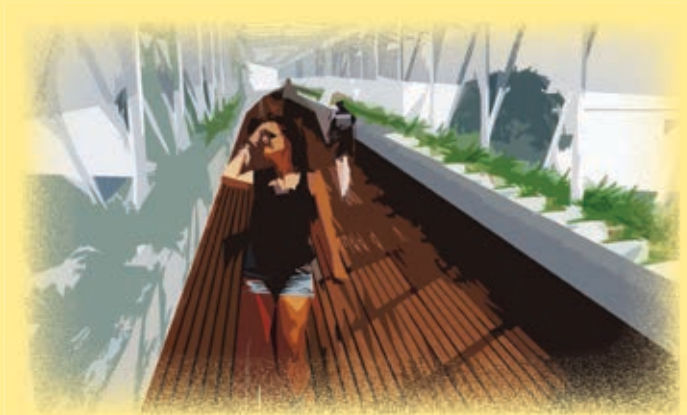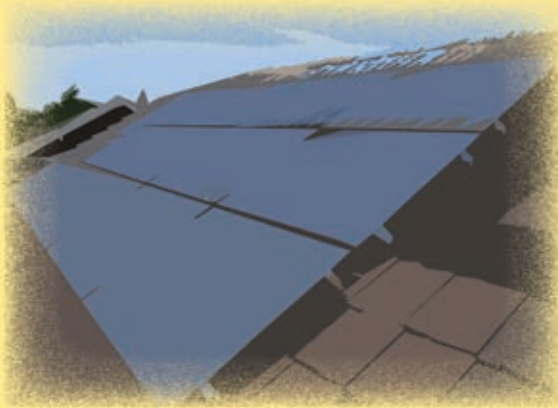
Mandatory Solar Ordinance Benefits the Homeowner and the Community

Darya Oreizi

BCRP, Cal Poly, 2015;
Field Canvass Trainer for Sunrun in San Luis Obispo.

While society's energy consumption only tend to increase and traditional solutions for these needs have lasting environmental impacts, the capture and use of solar energy becomes vital. California has always been in the forefront of enviromental efforts through legislation and regulatory efforts. In this article, an abstract of his senior project, Darya Oreizi discusses the potential impacts of mandatory solar ordinances.

California has always been on the forefront of adaptive regulations to combat its economical and environmental adversities. Specifically, electricity has increased in price over the years while maintaining the release of harmful air pollution and greenhouse gases.

Since 2000, residential electricity rates have increased over 65%, as reported by the Energy Information Administration. Essentially, every year rates increases 6%. Specifically, baseline rates have increased from $8.95 per kWh (kilowatt-hour) in 2008 to $12.10 per kWh in 2012. This is due to a number of factors:

- Increasing demand
- Increasing capital costs for new power plants
- Increasing infrastructure and repair costs
- Increasing fossil fuel costs

Despite California enacting the Renewable Portfolio Standard (RPS) in 2007, a regulation requiring all utility companies to produce at least 30% of electricity from renewable sources by 2020, fossil fuels have been the choice fuel for electricity generation. Burning fossil fuels has numerous economical, public health, and environmental problems. According to the Environmental Protection Agency (EPA), electricity generation accounted for 31% of total greenhouse gas emissions (GHG) in the United States in 2013.

As noted in a research by the Center For Disease Control, public health costs from GHGs were estimated to have cost $6.5 billion in 2008. Furthermore, GHG emissions are linked to climate change, which carries numerous negative effects, such as increase heat wave frequency and longer drought spells. As

Note: The author based this article on his senior project, available at <http://digitalcommons.calpoly.edu/crpsp/>

stated by the EPA, "Over the past three decades, nearly 8,000 Americans were reported to have died as a direct result of heat-related illnesses such as heat stroke".

Converting sunlight in electricity is a minimal carbon emitting process. The Intergovernmental Panel on Climate Change found the counterpart, fossil fuels, emit anywhere from 469 to 1,001 grams of CO_2e (Carbon Dioxide equivalent) per kWh whereas solar only emits 46 grams of CO_2e per kWh. As reported by the Rocky Mountain Institute, electricity generation costs the United States $100 billion a year.

Fossil fuel power plants also release vast amounts of air pollutants. These power plants emit pollutants such as nitrous oxides and sulfur oxides. For example, a natural gas power plant releases 1.7 pounds of nitrous oxides per MWh (megawatt-hour). These pollutants negatively impact the health of living species in the surrounding area. Health impacts from inhaling too much pollution causes respiratory and vision problems. Pollution from solar PV from the manufacture process is negligible.

Furthermore, fossil fuel power plants consume vast amounts of water to produce electricity. A recent report entitled, Burning Our Rivers, found for every MWh generated, fossil fuels consume 172-692 gallons depending on which fossil fuel (i.e. natural gas, coal). On the other hand, solar only consumes 2 gallons per MWh (for manufacturing and cleaning purposes). Less water for power plants equates to more water for agriculture and community use.

Within the past decade, homeowners and developers have taken this problem into their own hands. Since the past decade, the use of residential solar photovoltaic (PV) systems has increased dramatically. With much help from the California Solar Initiative, a state-run tax deduction program, residential solar has increased over 1,800 MW in 10 years just from the

program alone. On top of state incentives, homeowners and developers are able take advantage of the Federal solar Investment Tax Credit (ITC), which offers a 30% tax credit off the total cost of the solar PV system. The ITC was renewed in 2008, but will expire at the end of 2016. The solar industry has also boomed due to the increase in demand along with the refining of technologies reflected in the decrease of cost. The Solar Energies Industries Association observed that just between 2011 and 2013, the total cost of a system decreased by 60%.

Numerous studies prove the cost effectiveness of residential solar. A research of over 45,000 homes in California, conducted by Clean Power Research, found the lifetime savings (20 years) of a solar PV system accounted to over $34,000. Another study by Energy Informative found similar results. By using national electricity consumption, electricity rate, and PV system cost averages, the study found homeowners save over $21,000 over the life of the panels. In addition, a study by the Lawrence Berkeley National Laboratory found homes with solar increase property values from $4,600 to $26,000 depending on the size of the system.

The combination of state and federal incentives, decreasing costs of the technologies, savings in monthly electricity costs, and the real-estate appreciation are factors that increasingly encourage residential solar systems. On the other side, cities that adopt mandatory solar ordinances will not only save energy costs and increase home values for homeowners, but also benefit the community in multiple ways, such as reducing greenhouse gases, air pollution, and water consumption. However, the solar industry has only made a slight dent in the fossil fuel empire. Cities have to take the lead to really make a difference in how communities acquire energy for the sake of the economy, public health, and the natural environment.

The California Global Warming Solutions Act of 2006, or AB 32, and Climate Action Plans (CAP) provide cities opportunities to change how communities acquire energy with legislature as justification. AB 32 requires California to reduce GHG emissions to 1990 levels by 2020. Switching away from fossil fuels to solar for electricity generation easily qualifies as a solution to the state GHG reduction mandate. In addition, CAP layout exactly how cities will reduce GHGs. For example, the City of Piedmont includes solar PV systems in its CAP as a method to decrease GHG.

California cities can also advance the move towards a more energy efficient way-of-life through more specific legislation affecting residential development. Lancaster and Sebastopol, for example, have already taken the initiative, and have passed mandated solar ordinances for new residential development in 2014. Since adoption, both cities have yet to see any resistance to the ordinance, possibly because homeowners experience significant energy savings as well as community pride for their environmental efforts. Lancaster Planner, Chuen Ng, explained

Figures 1 and 2: Detail of solar panels on a roof (top) and a totally integrated architectural solution (below). Photos courtesy of Sunrun, San Luis Obispo.

how Lancaster and other California cities could be successful to implement such an ordinance. Ng stated, "Most importantly, you need support from stakeholders". As Sebastopol Building Official, Glenn Schainblatt stated, "[the mandatory solar ordinance] really wasn't that hard to do".

City budgets can impede innovated regulations or measures that would benefit the community. However, both Lancaster's and Sebastopol's solar ordinances cost little to zero dollars to the city. Lancaster adds the entire tab for the solar PV system to the homeowner. This includes permits, installation, and hardware costs. Though this adds $20,000-$30,000 (pre-incentive) costs to the new house, the initial investment is found to be popular due to the significant energy savings and quick ROI (return on investment) as reported by Lancaster and Sebastopol city staff.

The devastating effects of the California Energy Crisis of 2001 should not be forgotten. Cities have the ability to avert increasing residential energy expenditures and excessive GHG emissions. Mandatory solar ordinances for new residential development would benefit not just the homeowner, but also the community. These ordinances not only benefit the community's economics, public health, and the local environment, but also qualify for several state legislatures like AB 32. Altogether, mandatory solar ordinances are necessary for healthy and sustainable cities.

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Redesigning a Street Corridor in San Clemente, CA: South El Camino Real Urban Design Concept Plan

Vicente del Rio
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Paul Donegan, Curran K. Lord-Farmer, Jana Schwartz and Sara Steinberger
Master of City and Regional Planning students, Cal Poly.

The South El Camino Real Urban Design Concept Plan was developed by a first-year MCRP studio for the City of San Clemente, CA. The San Clemente community, the City planners and the City Council welcomed the students' ideas for making the corridor appealing, economically attractive, and safer for pedestrians and bicyclists.

In the Spring Quarter of 2015, the MCRP's first-year graduate studio was commissioned by the City of San Clemente's Planning Division to explore innovative visions for development and public investment along the South El Camino Real (SECR) corridor. The studio included 12 first-year MCRP students and an international exchange architecture senior. The work took place over an intense 10-week process in which the class went through several phases and tasks including: the analysis of existing documents, plans and legislation; a weekend-long site visit; a site assessment; a review of literature and inspirational case studies; community interviews; a project website for community comments; a comprehensive online public survey; a community meeting; a thorough analysis of constraints and opportunities for future development; visioning and preliminary concepts; and final project development.

The South El Camino Real Urban Design Concept Plan preserves the integrity of the area while introducing opportunities for development and an attractive and functional street design. The proposals enhance the pedestrian experience by promoting a safe, attractive and walkable environment, community vitality and connectivity, and increased aesthetics. The resulting corridor will serve the community while providing San Clemente with a memorable south gateway into the city.

**San Clemente and South El Camino Real**

Nested in Orange County's coastal hillsides midway between Los Angeles and San Diego, the City of San Clemente is home to approximately 65,000 people. Originally built as a new community by a visionary land developer in the mid 1920s as a "Spanish Village by the Sea", the city is well known for its stunning topography, coastal landscape, scenic beaches, Spanish-style architecture, and the attractive and quaint downtown. San Clemente's location and unique qualities attract many affluent residents (including Richard Nixon who bought a vacation house there during his presidency) and a great number of tourists year around. Well known for good surfing, the city has an active surfing community, numerous surf-related businesses, and world-class surfing events.

However, while most San Clemente's neighborhoods are extremely attractive, the southern-most part of town along South El Camino Real (SECR) has an unfulfilled potential to better serve the needs and expectations of both the surrounding community and the city as a whole. The project area runs for approximately one mile along SECR (including the right-of-way and all parcels along it) between the Trestles neighborhood (east) and the San Diego Highway or I-5 (west), from Magdalena Avenue (north) to the City's southern border (open space controlled by Camp Pendleton) (Figures 1 & 2). Along this stretch, SECR has five lanes (four for vehicular traffic, and one turning/parking lane) and a single southbound bike lane that abuts the fence and sound-wall along the I-5. There is very little space between the I-5 and the SECR corridor with a north-bound ramp leading directly into corridor at the southern edge of the city.

On the east side of the corridor, by the Trestles neighborhood, a narrow sidewalk rarely serves pedestrians who are deterred by the noisy and fast moving traffic, the sparse and unattractive commercial uses, the limited crosswalks, and the uninviting landscaping and lack of shading. While parking is plentiful and the roadway is wide, SECR is used significantly less than its full capacity and sometime serves as a diversion by motorists avoiding the I-5's heavy traffic thus worsening impacts on the local community.

The class included Paul Donegan, Anacany Hurtado, Sherman Kyles, Jeremy Loh, Kai Lord-Farmer, Douglas Moody, Jose Palma, Jana Schwartz, Camille Sorrant, Leana Sossikian, Sara Steinberger, and Nick Zhao (from the MCRP program); and Renato Miranda (architecture senior). The instructor was Vicente del Rio.
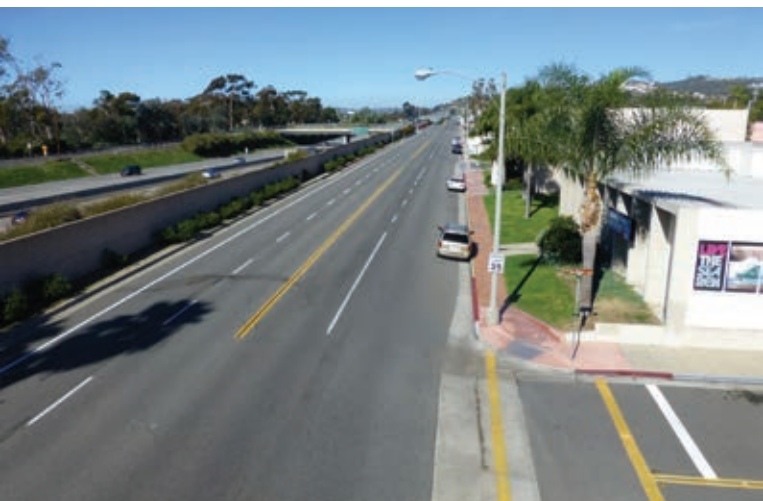
Figures 1 & 2 (top): Views of South El Camino Real's current conditions. Note the sound wall and the scary pedestrian bridge connecting to the school on the other side of the I-5.

In general, pedestrian and vehicular accessibility to the project area is very poor and it is currently served by only two county bus lines. Connections between both sides over the I-5 are limited to two vehicular-oriented bridges, and an unattractive and poorly maintained pedestrian bridge used by kids to walk from the SECR area and the Trestles neighborhood to Concordia Elementary school located on the west side of the highway.

The Trestles neighborhood is a working class residential area where younger and lower-income families are able to live due to the higher percentage of affordable housing and apartment units compared to the rest of San Clemente. There is also a higher rate of cultural diversity in the area with over 20 percent of residents being Hispanic or Latino. Since the trailhead to the Trestles beach --world famous for surfing-- is a short walk south from the neighborhood (on the south border of the project area), many residents are surfers or are involved with the surfing industry. Due to the single access to the beach and the limited parking during weekends and popular surfing events, the neighborhood and the SECR corridor are highly impacted by the excessive volume of cars during these periods.

Although Avenida Magdalena at the north edge of the project area is the main access to San Clemente's excellent public golf course and clubhouse and aside from the Trestles beach access point, the SECR corridor receives little attention from tourists and most other city residents because of the limited services, shopping, and eateries it currently offers. Two hotels, the Rip Curl surf shop and outlet, a cyclery, a bar, a cafe, and a Carl's Jr are the only draws to the area for visitors and city residents. It must also be noted that there is still a relatively negative public perception of the area given its unattractiveness and some criminal activities in the past. As both a south gateway to San Clemente and a local serving resource, the SECR corridor is in need of help and San Clemente's General Centennial Plan recognizes this by including specific policies for the area (City of San Clemente, 2014).

Figure 3: Site analysis map of the project area.

The Guiding Principles: Complete Streets, Walkability and Urban Design Qualities

Many cities across the nation face similar issues as San Clemente's SECR corridor. From the introduction of the automobile in the 1920s until recently, our built environment has been shaped to serve dispersed land uses and to accommodate vehicular traffic. The resulting cities may have streets that are easy to drive in and neighborhoods that are easy to drive through, but at the cost of placelessness and environments that are dangerous and unpleasant for people to walk or bike. This inefficient system encourages vehicular traffic in detriment of transit, cyclists and pedestrians, causing serious impacts on the quality of life and in our environment, namely air pollution and climate change.

Our project development included studying the concepts of complete streets and walkability as well as a literature search for the most appropriate urban design qualities that could support these concepts as guiding principles. In recent years, several California cities have embraced the concept of "complete streets" and "walkable" neighborhoods in plans, policies and actions; the class performed six case studies of such projects in different US cities.

Gaining traction from the mid-2000's, the concept of complete streets promotes transportation policies and the design of streets that are safe, convenient and comfortable to all modes of transportation: walking, bicycling, driving, and public transit (MacCann, Barbara & Rynne, 2010; Smart Growth America, 2012). As of 2013, more than 490 jurisdictions in the United States had enacted complete streets policies including the State of California with the Complete Streets Act of 2008, charging CalTrans and local transportation authorities to plan for multi-modal transportation networks that meet the needs of all users no matter their level of mobility including pedestrians, bicyclists, children, seniors, persons with disabilities, motorists, and users of public transportation. Several cities and counties in California have approved specific plans and/or guidelines recognizing such concept and supporting its implementation such as San Francisco (2010) and Los Angeles County (2011).

The notion of complete streets is strongly linked to that of walkability or how much the built environment and the diversity of land uses encourage people to walk, rest, and socialize (Barnett, 2003). Thus complete streets and walkability are about improving safety, enhancing public health through walking and biking, reducing auto-dependency, encouraging social interaction, supporting community building, creating attractive environments for residents and visitors, and stimulating economic activity (NACTO, 2013; ITE, 2006).

Small and large cities throughout the US, San Clemente among them, are changing their urban policies and projects in order to accommodate the concepts of complete streets and walkability. Most of these experiences have led to significant benefits not only in quality of life and community satisfaction, but also in economic vitality. This notion is included in the Mobility & Complete Streets Element of San Clemente's Centennial General Plan (City of San Clemente, 2014).

A literature review allowed the class to identify the eight urban design qualities most related to supporting complete streets and a walkable street environment which, according to Ewing and Bartholomew (2013) are: imageability, legibility, enclosure, human scale, transparency, linkage, complexity, and coherence. These qualities were utilized to analyze the SECR corridor during the field studies through the application of a specific analytical method developed that revealed very low walkability scores (Ewing at al 2006). The same qualities were later adopted by the class as general principles to help define the vision, objectives, and design concepts in the South El Camino Real Urban Design Concept Plan.

Public Outreach

Since San Clemente is at least a five-hour drive from San Luis Obispo and the dynamics of the academic quarter did not allow for much travelling, the class had to maximize opportunities for public outreach in the planning process. There were four such opportunities to conduct meaningful community outreach. Firstly, during the site assessment visit students conducted surveys throughout the city (23 interviews) as well as in the project area and the Trestles neighborhood (30 interviews). The class also met with city planners, members of San Clemente's planning commission, and a local architect who is very active in the project area.

Secondly, the class created a website specifically dedicated to the project to inform and gather comments from the community, and utilized SurveyMonkey.com for an online survey on community perceptions and expectations for the SECR area. These tools were disseminated through a variety of outreach avenues, including the City of San Clemente's planning department, social media, and an article published in the Orange County Register. The website remained open throughout the whole quarter allowing the community to see the progress of our work and email us any concerns or ideas.

The online survey included questions about the respondent's motivations to visit (or not) the SECR area, how they normally get there, what they thought the area needed, and their preferences for street design, land uses, building types and architectural styles. A total of 128 responses were collected from May 5th to 29th. Since the survey included three open-ended answers, their content analysis generated "word clouds" that made results more visually clear, indicating some of the respondents' perceptions and preferences.

Thirdly, San Clemente's associate planner Sean Nicolas held a special community public meeting about the project. Based on the powerpoint presentation provided by our class featuring preliminary design ideas, participants engaged in a conversation regarding potential improvements and provided several

Figures 3 & 4: The proposed landmark monument celebrates the area's surfing tradition. On the right, the proposed gateway/node in the redesigned SECR at Magdalena Avenue.

Ground-level retail added to existing parking structure

Planted median at gateway

Widened sidewalk and new bike lanes along soundwall

useful comments. The input and ideas from this meeting inspired the concept development towards the final plan.

Finally, the fourth opportunity for community involvement was at the end of the quarter when we presented the final proposal at the Planning Commission and the City Council public meetings.

Project Development

The foundational phases of site assessment and SWOT analysis, public outreach, and literature research led the class to the project development phase which included the identification of a Vision Statement, objectives and design ideas, all framed by the eight urban design principles discussed above. The vision statement for the project area is as follows:

"The South El Camino Real corridor will serve as the southern gateway to San Clemente and a vibrant, mixed-use neighborhood center that fosters community interaction and economic vitality. The street will provide a safe, comfortable, and appealing environment for people walking, biking, driving, or using transit. South El Camino Real will be an inviting and walkable

corridor that reflects the culture and character of the community and enhances the quality of life in the neighborhood."

A total of 16 development objectives are proposed, two for each urban design principle, and the design ideas were grouped into three main categories: Connections, Anchors, and Design Guidelines. The Connections concerns proposals for street design, parking, streetscaping (landscaping, street furniture, lighting, public art), connectivity elements, and access to parks, trails, and open space. SECR's roadway redesign includes comfortable sidewalks, pedestrian crossings and amenities, angled parking, a Class 1 bike lane, a redesigned sound wall, new street and pedestrian lighting, parklets and attractive landscaping. The pedestrian bridge will be renovated to make it safer, aesthetically attractive, and serve as a gateway into San Clemente for drivers on I-5. New pedestrian connections to San Luis Rey Park and from the Park to the golf facilities will increase connectivity, including through a weekly Farmers Market proposed for the park's parking lot. The alleyway running parallel to SECR will be transformed into a series of "woonerfs", or pedestrian community oriented spaces providing safe play spaces for children and for the community to socialize.

Figure 5: The proposed node around the pedestrian bridge includes mixed-use buildings, a plaza and, on the other side of the bridge, a community center with a business/artists incubator.

Proposals for Anchors highlight three nodes along the corridor with the potential to act as catalysts for the community, to attract new development, and to add to SECR's new identity. One will be located at the intersections with Avenida Magdalena, the main access to San Clemente's public golf course, and act as the North Gateway where retail will be encouraged at street level, pedestrian crossings will be provided, and a planted median will feature a landmark sculpture. In the middle of the corridor at the intersection with Avenida San Dimas and around the access to the pedestrian bridge, the Community Core will feature mixed use buildings, a community building with a business incubator and artists' lofts, and a small parklet; the redesigned bridge will be a strong marker in this node. The third node, the South Gateway next to the Trestles trailhead, will consist of a new surf-oriented retail complex next to the existing Carl's Jr, a small park with facilities for surfers, a public parking structure, a small bus terminal, and another landmark sculpture.

The third category, Design Guidelines, includes proposals for rezoning along SECR to encourage, in some areas, vertical mixed-use and street-oriented retail, while in others higher density residential. Site design guidelines encourage street-oriented buildings, and architectural guidelines control signage and, while embracing the diverse and eclectic nature of the existing structures, provide for more consistent and aesthetically-pleasing buildings along the corridor.

In the last chapter, the South El Camino Real Urban Design Concept Plan discusses the implementation process. An "Implementation Matrix" considers the degree that the various specific project proposals meet the eight urban design principles and their objectives, as well as their estimated time for full implementation. The matrix is meant to help city planners and community members to understand the relative importance of each proposal and their time frame, helping to prioritize actions. The funding possibilities more readily available for the projects implementation are in-kind developer contributions, city funds, and eight different state and federal grants.

Concluding Remarks

The limitations of this academic work are obvious from the short time span available for such a complex project to the limited involvement of the public and other city departments, such as public works and transportation. Nevertheless, the South El Camino Real Urban Design Concept Plan brings together a sound site and community assessment, a thorough theoretical foundation, and a collection of feasible, articulate and community oriented design concepts that are consistent with San Clemente's Centennial Plan.

Figure 6 (a&b): The existing pedestrian bridge would be renovated to become safer and more aesthetically pleasing, serving as a gateway to San Clemente.
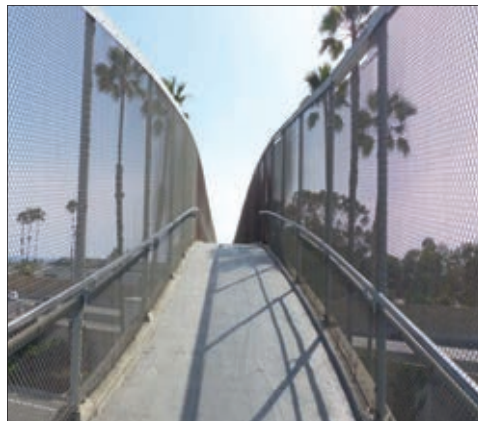
Figure 7: The node around the pedestrian bridge as seen from the south, showing the new undulating sound wall and the community center with a business/artists incubator.

Undulating sound wall incorporates community art

Community center and incubator

Redesigned pedestrian bridge

WELCOME TO SAN CLEMENTE

*Figure 8 : The class presenting the final proposals to
the San Clemente City Council on June 3, 2015.*

*Figure 9: Part of the class posing with San Clemente
planner Sean Nicholas (second from the left)
outside the San Clemente's City Council building.*

Our work responded to the city's intentions in hiring our studio: proposed concepts and ideas on how the corridor could become more visually appealing, economically attractive, and inviting for pedestrians and bicyclists. The final results and proposals were very positively received during the class presentations to San Clemente's Planning Commission and City Council at the end of the quarter. From an academic and pedagogical perspective, this project was both inspiring and very effective. We are grateful to the City of San Clemente and its Planning Division staff for the opportunity, and we sincerely hope that our work, concepts and suggestions may help in the future development of a sustainable, attractive, and community-oriented South El Camino Real corridor.

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Avila Beach: From Funky to Fabulous

Amanda Ross
Master of City and Regional Planning student, Cal Poly

Among California's costal communities, Avila Beach may be the one most defined by its history. Amanda Ross discusses the unique planning and redevelopment process there, starting with the cleanup of a decades-long crude oil spill that had contaminated the soil and led to the reconstruction of its beach and the entire historic downtown. This article reflects part of the activies for Professor Paul Wack's Plan Implementation *graduate class in 2015.*

Avila Beach grew as a funky small fishing town from its founding in in the late 19th Century as the main shipping port for San Luis Obispo. Buildings sprung up as the population grew, defining a downtown along the beachfront (Figure 1). In 1906, Union Oil Co. built a 95-acre oil tank farm on higher ground next to the city and by World War II, 2 million gallons of crude oil a day were being pumped into tankers (Figure 2). Despite these operations, Avila Beach remained a quaint small town with a popular beach.

The appeal, built environment, and character of the town were forever changed in the early 1990s with the discovery that 22,000 gallons of crude oil from Unocal operations had been contaminating the soil under and surrounding the downtown for decades. The oil tanks leaked and so did the pipes that went under Front Street to connect to the tankers. Unocal agreed to pay $200 million in cleanup costs and damages in what was considered to be the largest environmental settlement in California's history at the time. About 300,000 cubic yards of soil —sometimes 15 feet deep– had to be removed and replaced. The entire downtown including several residences were razed to remove the contaminated soil.

Path to Rebuilding

Town rebuilding began with a series of community workshops leading to the Avila Beach Specific Plan, adopted by the San Luis Obispo Board of Supervisors in October 2000 and approved by the California Coastal Commission in November 2001. Out of the 395 residents of Avila Beach at the time, 200 were involved in the process. The plan's major goal was to provide Avila Beach with a design character that replicated the pre-existing informality and human-scaled features, besides strengthening the interface with the beach. James Caruso, one of San Luis Obispo County's senior planners responsible for the Specific Plan, presented an overview of the process

The Avila Beach Specificy Plan was developed by San Luis Obispo County's Planning Department under the direction of Victor Hollanda, with the assistance of Design, Community & Environment, Earth Design Inc., Bay Area Economics, and RRM Design Group (San Luis Obispo). It can be downloaded from <http://www.slocounty.ca.gov/planning/General_Plan__Ordinances_and_Elements/Specific_Plans.htm

highlighting both successful and not so successful features, and accompanied students on a study visit.

Front Street

Starting at a new community park on its north end and running along the beachfront, Front Street is a fundamental element of the Specific Plan. A comfortable sidewalk next to the sand turns into a block-long comfortable pedestrian promenade where traffic lanes were blocked and vehicular access is allowed only for emergency and occasional loading and unloading.

Front Street's pedestrian block coincides with the pier and was planned as a hub for Avila Beach, allowing for an animated and flexible public space for café seating, outdoor vendors, observation decks, access points to the beach, and special events (Figure 3a). The local weekly Farmer's Market is held there providing locally grown foods, fresh fish and seafood, live music, wine tasting, art, and various vendors. Tourist-oriented businesses, restaurants and bars along this segment provide extensive outdoor seating and help animate the promenade. There are plenty opportunities to enjoy Avila Beach's wonderful climate and views to the ocean.

The design for Front Street incorporates attractive and innovative streetscaping features, all ADA compliant. Planters

Figure 1: The Avila Grocery store in 1925, an example of the old town's architectural character. The building was removed for the clean-up and rebuilt on Front Street. (source: Avila Beach Specific Plan)

with benches and undulating strips of red colored and beveled asphalt define pedestrian spaces from roadway for times when the street needs to be open to vehicles (Figure 3b). Front Street is the Specific Plan's most successful and popular feature.

Mid-Block Passage

In Front Street, students were attracted by Landing Passage, a mid-block walkway that proposed by the Specific Plan's Circulation Element as a connection between the public parking lot, a block away, to the beach and the pier (Figure 4a). However, visitors use the street right in front of the lot to access the beach instead, certainly due to the lack of clarity at the passage's final design, the jagged architecture, and the difference in grade between the parking lot and Front Street which prevent a clear visual connection (Figure 4b).

Instead, the passage is used as a haven for leisurely strolling since its informal design creates visual interest, and buildings have retail and office spaces on the ground floor and residences (mostly tourist rentals) above, adding to its attractiveness and

safety. Differently from what the plan predicted, Landing Passage's success was not due to a seamless movement of people from the parking lot, but as a place to wonder into and access retail and eateries.

Design Standards and Mixed Use

Given its importance of Front Street as the interface between town and beach, the plan dedicated the rebuilding of the downtown along it a chapter with specific design standards. The goal was to recreate the small town character destroyed during the cleanup, and to integrate with the Avila Grocery (Figure 1) and Avila Yacht Club, two historic buildings that had been relocated. Variable setbacks, facade articulation and materials, roof types, and a setback to the second stories along the street are some of the specific guidelines (Figure 5).

The plan defines the Front Street Commercial District as a two-story commercial-retail visitor-serving area with allowable residencial uses on the second floor to accommodate visitor-lodging, live-work, and residents who had their units removed during the cleanup. However, according to SLO County Planner James Caruso, due to the gentrification generated by the project, community members who received these residential units have long

Figures 3 a & b: The concept for the Front Street pedestrian promenade from the Specific Plan, and a photo after completion. (sources: Avila Beach Specific Plan and author)

rented out their apartments and live elsewhere. In one instance, the original residents who lived above their shop decided to move out due to the noise from the bar next door, what indicates that the mixed-use ideal has unplanned consequences.

Overall, the facade articulation and the second story additions to the Front Street redevelopment were artfully added, and in combination of the lively atmosphere generated by the visitor-serving uses, eateries and bars, contribute successfully to a lively small town feel (Figure 3b).

Design Elements

Besides the carefully crafted standards for architecture, streetscaping, and signage, two important design elements add to the success of the Avila Beach Specific Plan:

Artwork

As part of the redesign, local artists were summoned to collaborate. One of the most popular pieces is a beautiful floor inlay located at the Front Street promenade by local artists Tres Feldman and Ginny Vreeland. It depicts the history of Avila Beach, highlighting major historic moments and elements including the original Chumash settlement, the building of the pier, the fishing, the Avila Lighthouse, the building of the oil tanks, the oil spill, and the new redevelopment (Figure 6).

To deter skateboarders from riding on railings, benches and pavements areas, beautiful metal sea creatures such as sea-stars and shells, were placed on their corners (Figure 7). Created for the first time for Avila Brach, this idea has since become quite popular and has been used in many projects.

Community Park

Before the redevelopment plan, apart from the open space provided by the beach, there was no park space to serve local families and children. During the plan-making community workshops, a park was one of the most important demands.

Originally a mobile-home park, the site chosen for the community park anchors the Front Street promenade on the north and connects directly to the beach (Figure 8). The park includes a playground, a basketball court, picnic tables, barbecue pits, drinking fountains, bike racks, and public restrooms with outside showers for beach goers. Following the plan's concept, the park also includes a community-oriented public building, now the Central Coast Aquarium at Avila Beach.

The park is considered a huge success by the community as it constantly in used by families, both local and visitors, non-profits, and school children during field trips. The popular Bob Jones bike trail, which eventually will connect to the city of San Luis Obispo, ends at the Avila Beach park.

Figures 4 a & b: The concept for Landing Passage suggested a more linear connection to the beach than what was built. (sources: Avila Beach Specific Plan and Google earth)

Figure 5: Example of the Front Street Commercial District Design Standards from the Avila Beach Specific Plan.
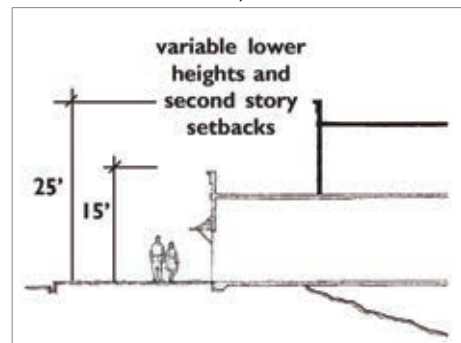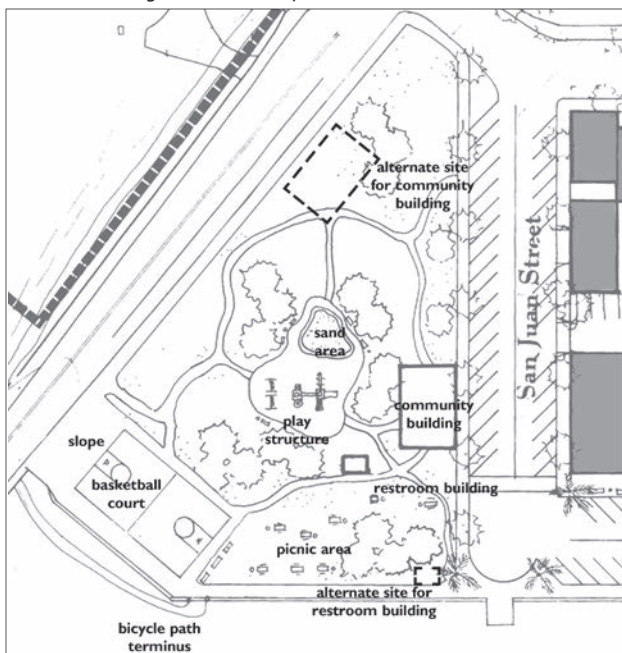
Figure 6: The Circle of Life mosaic by local artists Tres Feldman and Ginny Vreeland, located at the Front Street Promenade (see lower right corner of Figure 4b).

Figure 7: Bronze sea-stars prevent skaters damaging planters and benches

Figure 8: The concept for Front Street Park.

Lessons Learned

Reviewing the Avila Beach Specific Plan and comparing its intentions with the town we see today provides us with a few lessons that may be useful for other communities facing a similar situation.

The discovery of the oil spill and the subsequent tense process leading to cleanup and reconstruction held the community together. The strong support for the participatory plan process, the many inputs and ideas from the community was a testament to their love of their home. When disaster strikes, it is important for communities such as Avila to have their voices heard when it comes to redevelopment.

Today, many residents are not happy with the new development and the crowds of visitors attracted by the beach and the tourist-oriented uses. However, this can be interpreted as disappointment with the inability to recreate the past, or frustration with the need to raze the town in order to rebuid it. From another perspective, tourists and the new arrivals see Avila as a haven to enjoy the many retail and eating opportunities, and the beauty of the central coast.

Vehicular circulation has always been a major problem in Avila Beach due to the single two-lane access road and the town's limited area and geography. The success of the Specific Plan and the redevelopment caused a significant increase in the number of visitors arriving by car. Conflicts and safety issues are evident, and the lack of parking is very serious: as the existing public parking lot and street parking spaces get filled, visitors park along the shoulders of the access road for a couple of miles on popular holidays. The community's proximity to the Diablo Canyon nuclear power station and other eventual emergency situations add concern to the already over-stressed circulation system.

Although some of the plan's objectives and design elements did not result as predicted, most were implemented with great success and add to the uniqueness of Avila Beach. The most unpredicted result of the redevelopment was certainly its own success and extreme popularity, what may serve as an alert to other towns since new problems are created.

Perhaps the main moral of Avila Beach's case study is how untrustworthy oil companies are with the responsibility of monitoring their own facilities, pipes, and operations, but that is a story for another time.

Learning from California:
Highlights of CRP Studios 2014/2015 AY

Hemalata Dandekar
PhD; Professor and Department Head,
City and Regional Planning, Cal Poly

Dr. Hemalata Dandekar highlights the studio projects from both BSCRP and MCRP programs during the 2014-15 academic year. Fundamental in the learn-by-doing service-learning pedagogy embraced by the department, the studios help shape students into professionals that are fully with their communities.

The CRP department takes pride in the fact that our students, through core course work, serve California communities while they learn skills that make them invaluable as they enter the planning profession. We seek out opportunities for our students to work in contexts, and in communities, that otherwise might not have access to the planning analysis and visioning that our students can offer. The studio work completed in the past academic year (2014-15) represents some of the work this year, and is available for detailed review on the Cal Poly digital commons. First and foremost, in these "hands-on" efforts is our responsibility to our students, to pedagogic clarity, and the detail of incremental, aggregated accumulation of knowledge and capabilities. Student learning in always at the core of our concern and commitment. We are fortunate to have a very talented group of studio faculty who consistently demonstrate that with good direction and mentoring students deliver creative projects that meet the needs of multiple constituencies.

The California communities who hosted our studios were diverse and spread throughout California. Most upper division undergraduate and graduate masters studios received financial support from the host client-communities. This support is essential in subverting student travel and expenses but also exerting greater accountability and responsibility on supervising faculty. In the 2014-15 academic year CRP students engaged in the following projects in their various studios:

Undergraduate Studios: *Basic Graphic Skills CRP 201 (Fall 2014), Urban Design Studio 1 CRP 202 (Winter 2015). Professors Umut Toker and Woody Combrink.*

A series of applied in-studio and out-of-studio assignments introduced students to basic graphic communication methods and urban design concepts in CRP 201. Freehand sketching, orthographic drawing, and layouts using traditional drafting techniques, as well as basic computer-based graphic techniques were used to explore a site at the west end of the downtown core in San Luis Obispo adjacent to San Luis Creek.

Skills acquired in CRP 201 were applied to a small urban design project in CRP 202, in which students articulate the rationale behind their design decisions as they relate to a specific client program, environmental concerns, regulations and ordinances, economic factors, site opportunities and constraints, circulation, and creating a pedestrian friendly environment. This year the work was sited on a full city block at the east end of the downtown core where the major entries of Highway 1 (Santa Rosa Street) and Monterey Streets intersect forming an important gateway to the downtown.

Figure 1: Mixed-use block with bus terminal at Santa Rosa and Monterey, San Luis Obispo; CRP 202. By Julia Cannata, Maribel Covarruvias and Tanya Ramirez.

Undergraduate Studios: *Urban Design Studio 2 CRP 203 (Spring 2014). Professors Vicente del Rio and Woody Combrink.*

Mixed-use development, Avila Beach.

Designing a large mixed-use infill project in Avila Beach, a small beach community and popular tourist destination was the task addressed by both sections of CRP 203, taught by Professors Vicente del Rio and Woody Combrink. Located in the heart of town, the site is currently used as a major public parking lot. The students were challenged to assess the problem, study the existing Specific Plan, and propose feasible solutions that accommodate the needs of the local community with those of tourism, while satisfying parking and circulation requirements. Walkability, livable public spaces, complementary land uses, a variety of architectural typologies, strong economic anchors, and linkages to the beachfront were some of the design issues dealt with by the students' creative solutions.

Undergraduate Studio: *Urban Design Studio III CRP 341 (Fall 2014). Professor Vicente del Rio; Student Assistant Evan Evangelopoulos.*

Highway 46 Corridor Urban Design Plan, Wasco.

Through a contract with the City of Wasco's Planning Department, this studio of 28 undergraduate BSCRP students engaged in an intense ten-week process leading to several forward-looking urban design ideas to help guide the city's future development along the Highway 46 corridor. Traversing Wasco from East to West, Highway 46 is a major connector between the Central Coast and the Central Valley, but acts as a divider between the north and the south parts of town. It also suffers from a limited two-lane capacity and irregular geometry; lack of sidewalks and bike lanes; limited signalization and dangerous intersections; the hodgepodge of big-boxes and car-oriented land uses; old and unattractive buildings, vacant or under-developed parcels; weak connectivity to the downtown; and very poor identity and character. The studio re-envisioned the Highway 46 Corridor to serve the region and the City of Wasco's community simultaneously. Taking advantage of the

Figure 2: Mixed-use development in Avila Beach; CRP 203. By Nima Kabirinassad and Bryan Cochran.

thousands of drivers that use the corridor everyday and willing to complement Wasco's downtown uses, the strategic plan proposed by the class will help Wasco's economy and provide residents and visitors with a livable, walkable, more attractive, and well connected environment.

Undergraduate Studios: *Community Planning Laboratory I and II CRP 410/411 (Fall 2013 and Winter 2014). Professors Kelly Main and Adrienne Greve.*

General Plan Update, City of Sanger.

Sanger is located in Fresno County, in California's Central Valley approximately six miles east of the City of Fresno, the largest city in the county and the fifth largest city in California. The Sierra Nevada Mountains, east of the city create a scenic setting for the area as does the Kings River. Highway 180 the nearest major roadway, is approximately one mile north of Sanger and runs in an east-west direction. Sanger populations was 24,270 residents in 2010 and encompassed a land area of just over 5.5 square miles. A general plan update for the City of Sanger, completed by fourth year undergraduate CRP students, helped strengthen community. The effort was to assist the City of Sanger to develop a strategic plan and become a vibrant, unified,

Figure 3 : Highway 46 Corridor Urban Design Plan, Wasco; CRP 341. Class project for the City of Wasco, showing major proposed redevelopment sites and the redesigned highway.
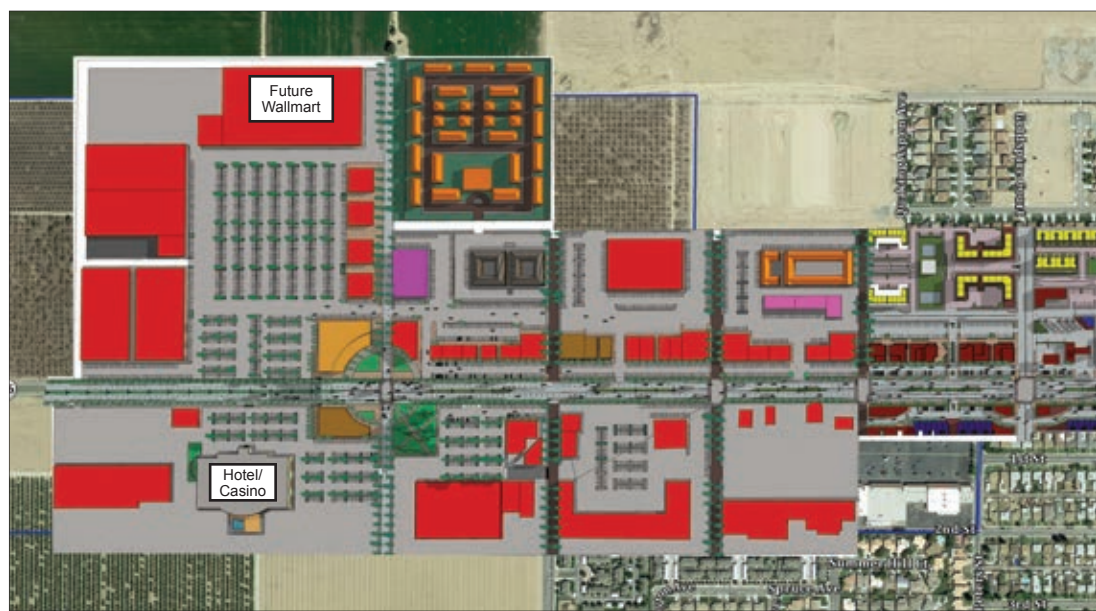
community. The plan envisions that in 2035, the City of Sanger will have maintained the small-town feel that so many residents appreciate and have built a strong sense of community. The downtown area will have an economically healthy community and small, local businesses will be promoted (Figures 4 & 5).

Figures 4 & 5: Images of students working on the General Plan Update or Sanger. Above: helping highschoolers to plan their ideal city. Below: helping residents choose their favorite ideas as developed by the class, outside Sanger's Walmart.

Graduate Studio: *Project Planning and Design Studio CRP 553 (Spring 2013). Professor Vicente del Rio.*

<u>*South El Camino Real Urban Design Vision, San Clemente.*</u>

The City of San Clemente's Planning Division hired this graduate studio to explore innovative visions for future development and public investment along a one-mile stretch of the South El Camino Real (SECR) corridor that extends to the city's southern edge. The class conduted extensive studies including field surveys, an internet-based survey, and collected comments from a project website and a public workshop. The resulting Concept Plan promotes an attractive, safe, and walkable environment; community vitality and connectivity; increased aesthetics and identity-giving features; and opportunities for public and private investment. The recommendations included: redesigned sidewalks, public art, a specially designed sound-wall (to buffer sound from the I-5), the redesign of the existing pedestrian bridge, new pedestrian crossings, parklets, a zoning overlay to encourage vertical mixed use, design guidelines to shape new developments, and three anchor points of concentrated retail. The project is discussed in detail in this issue of FOCUS (see *Faculty and Student Work*).

Graduate Studio: *Project Planning and Design Studio CRP 553 (Spring 2013). Professor Kelly Main.*

<u>*Parks and Recreation Master Plan, Woodland.*</u>

The City of Woodland hired this graduate studio to study and develop a vision for the city's parks and recreation system for the next 20 years. Developed by the graduate CRP Masters class and employing several surveying and participatory techniques, the plan strove to improve the parks, facilities, and programs to accommodate the diverse community in Woodland and offer a variety of social, recreational, and cultural opportunities. The plan emphasizes community values in the needs assessment and recommendations chapters, as well as asserts health, sustainability, public space, connectivity, and fiscal responsibility for the parks system (Figure 6).

Graduate Studio: *Community and Regional Planning Studios CRP 552/554 (Fall 2014 & Winter 2015). Professor Chris Clark.*

Campus Master Plan Update, Cal Poly San Luis Obispo.

Cal Poly's Master Plan update was the subject of a graduate studio. This work presented a rare opportunity for students to be engaged in the work of setting the University's course for the next three decades. They were engaged by the professional master planning team to staff and in some instances, orchestrate public outreach events. Over a thousand individuals participated in these outreach events, giving students ample opportunity to meet with members of the public. The Master Plan will entail over one and a half billion dollars worth of capital improvements to the campus. An additional six thousand students are programmed in the plan to live on campus. It is anticipated that Cal Poly enrollment will grow to approximately 24,000 students. In a culminating effort, the graduate students were invited by President Armstrong to present their plans and policies to him and his executive staff.

Graduate Studio: *Community and Regional Planning Studios CRP 552/554 (Fall 2014 & Winter 2015). Professor Cornelius Nuworsoo.*

Draft General Plan, Wasco.

An administrative draft General Plan for the City of Wasco was the focus of Professor Cornelius Nuworsoo's CRP 552/554 studio, through a contract with the city's Planning Department. Fourteen graduate students collaborated with residents, planning staff, and city leaders to formulate a development scenario to accommodate projected population, jobs and housing needs by 2040. The class engaged in a thorough analysis of the community and the opportunities and constraints for development through a process that included intense public feedback.

The comprehensive update of the City's General Plan and its twelve elements (Economic Development; Land Use; Circulation; Conservation; Housing; Public Facilities; Safety; Health; Open Space; Noise; Community Design, and Air Quality) will help improve the quality of life for residents, provide diverse housing options, generate economic vitality, and enhance Wasco as an attraction and a center for agricultural production in the Central Valley, and service provider for truckers and tourists on SR 46. Three distinct alternative growth scenarios for 2040 were explored and the class combined the prefered that captured community desires: (a) for vibrant, walkable, and attractive neighborhoods; (b) to preserve the City's character; (c) to provide an adequate supply of housing; and (d) to increase the number of jobs within the City (Figure 8). The map shows areas focusing on neighborhood commercial centers, on district commercial centers, and on a regional commercial center to serve residents, travelers, and neighboring communities.


Figure 6: Professor Main's graduate class conducting a workshop with students from the Pioneer High School in Woodlands.

Figure 7: Professor Clark (pictured on the left) and his graduate students presenting their work on the Cal Poly's Campus Master Plan Update to President Armstrong (forth from the right).

Figure 8: City of Wasco's General Plan Update. Preferred Growth Scenario.
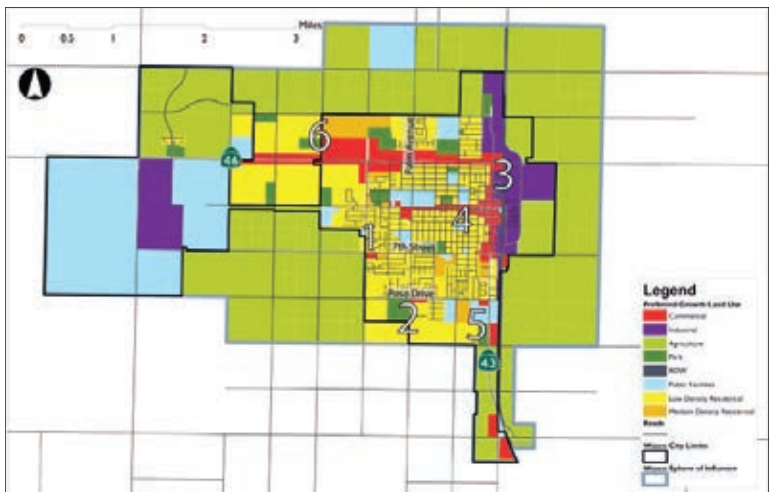
Spotlight on Greg Errett
Bachelor of Science in City and Regional Planning, Cal Poly, 1979

Insights for Future Planners
Views by Alumnus Greg Errett, AICP

Jennifer Hooper
MCRP student, Cal Poly

The City and Regional Department has been generously supported by the Errett-Fisher Foundation for many years. Greg Errett, one of the foundantion's board members and CRP alumnus, spoke to our students on his long experience as transportation planner, and pointed out some of the challenges for future planning professionals. MCRP student Jennifer Hooper reports on Mr. Errett's presentation.

On October 16, 2015, Department Head Hemalata Dandekar, introduces a classroom full of MCRP students to an alumnus of the planning program, Mr. Greg Errett, AICP. She describes Mr. Errett as a modest gentleman, and a successful, innovative transportation planner. That Friday morning, Greg Errett's quiet sense of humor engages the group of students immediately. Surprisingly, he tells us that he is a native of Santa Barbara – he has picked up an accent from living and practicing planning in the southern United States for the past 35 years.

Greg Errett attended Cal Poly from 1975 to 1979, and earned a degree in City and Regional Planning. "My era is completely different than yours… but, a lot of the issues in transportation are the same," he says and mentions congestion, air quality, social and environmental justice, placement of facilities, sidewalks, highways, and improvements. For the past 22 years, Mr. Errett has worked for the City of Winston-Salem, North Carolina, as Transportation Planning Manager. He plans to retire from the profession in eight weeks, and in this presentation at CRP he wanted to share his legacy project and all that he has learned from a full career.

As he sees its, Mr. Errett's work has culminated with "by far, the most enjoyable project of my whole career." The story starts with Business Route Interstate 40 that runs through Downtown Winston-Salem. In a stretch of less than two miles there are five interchanges that cause numerous, severe accidents regularly. There are also more than ten bridges crossing the highway in this short span. Most of the bridges date from the 1950s and "their sufficiency ratings are very poor, and they need to be rehabbed or replaced."

The North Carolina Department of Transportation (NCDOT) identified the need for improvement of the roadway and the bridges, and chose to close the route through downtown Winston-Salem for two years during construction. Rather than through a piecemeal process with traffic delays lasting six or more years, NCDOT will replace all bridges at once in the shorter timeframe. Mr. Errett compares this to "basically shutting down Highway 101 from Grand Avenue to Higuera Street" in San Luis Obispo.

Greg Errett with CRP Department Head Hema Dandekar.

Planning for this massive project began over seven years ago, and Mr. Errett saw this as a "golden opportunity" to build on Winston-Salem's push to reinvent itself as a desirable place to live and work. The City currently has a population of 400,000 and wishes to attract more young professionals to the area. More than $1.2 billion have been privately invested downtown, and the City is witnessing the transformation of dozens of old manufacturing facilities and warehouses into an innovation district specializing in medicine, medical technology, and biotech research.

In the early stages of planning for this project, Mr. Errett collaborated with local community groups, including the Arts Council of Winston-Salem and the Creative Corridors Coalition, to bring quality design, public participation ("over 100 public meetings"), and critical sustainability elements to the project. The highlight and backbone of the project championed by Errett is a multi-use path (MUP) that will run parallel to the section of I-40, built within the right-of-way. Mr. Errett recalls that "when we introduced the concept, people were aghast…" but he used the Golden Gate Bridge as a comparison of bicycle and pedestrian lanes sharing space with auto traffic, along with other examples from around the world.

The MUP will be combined with the installment of walking bridges, expanded sidewalks, greenways, and strollways to create a network of active transportation that aims to connect the revitalized downtown to the suburbs. The construction will also provide the potential for the designation of new parkland, real estate frontage development, the rehabilitation of buildings and structures, and opportunities to infuse art and design that honor Winston-Salem's heritage into the space. Mr. Errett describes the project as a "game-changing opportunity to develop world-class bicycle and pedestrian infrastructure."

Since several of CRP's Masters students are working towards a dual MCRP/MS Transportation degree, Mr. Errett's presentation was particularly relevant. His presentation covered many of he challenges found in the practice of planning and how to overcome and learn from them. In the Q & A period the issue of racial sensitivity within the community of Winston-Salem was raised. Dr. Dandekar and Mr. Errett built on each other's descriptions of what they have learned over the course of careers in planning for diverse communities. Dr. Dandekar provides insight to students about "bringing your ethical framework to the planning exercise and inserting it at those points in the decision-making process where you can actually make a difference." Mr. Errett adds that in practice it becomes a learning experience to engage sensibilities and priorities, work habits, and how you talk and approach people with sensitivity and awareness.

We also heard about the challenges of funding, which require ongoing staff commitment and establishing the critical infrastructure and demonstration projects that will engender more investment. Project phasing demands complex

forethought and planning to develop priority orders and begin projects in such a way that additions can be made efficiently. On the part of the planner, this takes a deep understanding of the intricacies of city infrastructure. Public-private partnerships are also crucial, involving the maintenance of relationships over many years.

Finally, Mr. Errett tells students to not be discouraged planning in a conservative environment. He suggested that inspiration in the field of planning can be found around the United States, "if you dig just a little bit." He challenges us future planners to push the status quo and to find innovative ideas through attending planning conferences and to experience firsthand travel.

Through this conversation with Mr. Greg Errett, we learned that a successful planner will find areas of specialization over the course of a career, but will also gain skills in a broad range of subjects. Mr. Errett specializes in transportation but has clearly acquired knowledge on the topics of construction and building materials, economic development, landscape architecture, land use, parks, public outreach, public speaking, real estate development, and urban design, among many others.

Mr. Errett has been a supporter of the City and Regional Planning Department at Cal Poly for many years. Planning students and faculty are grateful for the wisdom that he has been able to share, and for the ongoing way that he facilitates learning by doing for Cal Poly planning students by making trips and experiences possible. Greg Errett is helping to inspire students in the way that he has attributed much of the success in his career in planning.

Spotlight on Michael Heater

Master of Science in City and Regional Planning, Cal Poly, 2013

Learning by Teaching in Rwanda:

Alumnus Michael Heater Takes Planning Knowledge to a Rural Village

Paul Donegan
MCRP student, Cal Poly

MCRP Alumnus Michael Heater is examplary in combining CRP's practical community-oriented approach with the planning profession's noble mission of helping populations in need. For the last couple of years, Michael and his wife GraceAnne have been working as Peace Corps volunteers, making sure that they make a difference in a small village in Rwanda.

San Luis Obispo is often considered to be a rural and secluded corner of a bustling state. Regardless of how isolated it is perceived, this quality is what makes the area unique, and so well loved. In 2013, Michael Heater graduated from Cal Poly with his master's in City and Regional Planning, completing the program amongst the iconic rolling green hills of the Central Coast, where rush hour traffic hasn't begun to dominate.

Today, he and his wife GraceAnne, might not find San Luis Obispo to be as remote as it is sometimes considered. Together they now live in Murunda, a small village on the west coast of Rwanda, a grueling four hours by bus and motorcycle from the capital city of Kigali. Here, once again beneath rolling green hills and a relaxed pace of life, the couple teaches English as Peace Corps volunteers.

Michael, wife GraceAnne and their host sisters, in front of the school in Murunda.

The cuisine of Rwanda is based on local staple foods such as bananas, plantains, sweet potatoes, beans, and cassava. Rwanda is one of only two countries in which mountain gorillas can be visited.

Rwanda has three official national languages: Kinyarwanda, English, and French. As a former Belgian colony, French has historically been the language of educated Rwandans. However, over the past several years, in part because of a large Rwandan population returning from Uganda, there has been a major push toward English. In 2008, English was accepted as the official language of instruction for all government schools. As the Rwandan government moves rapidly toward economic and social development, it has targeted information technology and human resource development as its major priorities. English is perceived as essential for achieving these goals. Rwanda has also begun to move closer to its East African neighbors, joining the East African Community, whose official language is English.

After months of training on teaching, and Rwandan language and culture, Michael and GraceAnne are well into the academic year – one filled with unexpected challenges and frustrations, but also satisfying breakthroughs and achievements. Despite

Rwanda is a very small country (about the size of Maryland), but it has a population of about 12 million, which makes it one of the most densely populated countries in Africa. Rwanda lies a few degrees south of the equator but has lower temperatures than are typical for equatorial countries because of it's high elevation.There are two rainy seasons in the year; the first runs from February to June and the second from September to December. Coffee and tea are the major cash crops for export.

Michael teaching one of his English classes in the village of Murunda.

Michael and the community building a sport court that he helped design and secure funds for.

the difficulties of teaching English, Michael and GraceAnne have found ways to expand their difference making work beyond the classroom, and into the village of Murunda. Outside of their teaching schedule Michael and GraceAnne have made time for numerous secondary projects, no doubt leveraging Michael's expertise in planning and community engagement.

The school's popular volleyball and basketball courts, made of uneven red dirt and raised bricks marking the lines of the court, would often become unplayable after turning to mud in a rainstorm. Leveraging a grant from the Peace Corps, Michael and his local counterparts helped guide approval of the project through school administration, local government officials and priests, and other decision makers to help improve the well-used but inadequate sports courts. Community commitment to the project donation of many needed materials, as well as a majority of the labor. Thanks to Michael's leadership, Murunda can now host tournaments and games need not end with the fall of rain.

This community development project demonstrated the value of leveraging partnerships and supporting the involvement of the end users in planning, design, and construction of the project. As demonstrated by this project, community ownership can be increased by including local leaders and the general public in the undertaking – from start to finish – which can result in the project being well maintained and leaving a lasting impact on the community.

Michael has also spent time developing a vision plan for the school he works in, adding hand-washing stations, and leading the Community Finance Initiative (CFI) – a financial education program for rural community members. CFI provides lessons to area residents, including female business owners, on savings, budgeting, loans, and personal finance at weekly meetings. The engaged and motivated group has potential to improve

the lives of the participating students, their families, and the community by also teaching others about these essential financial lessons. Through this community development effort, Michael demonstrated the valuable role of public education in the field of planning, and the importance of community engagement in economic development and empowerment.

Michael and GraceAnne also participated in the Grassroots Soccer program through the Pease Corps, which teaches participants about HIV/AIDS and Malaria through soccer skills training. Along with two other counterparts from Murunda, Michael and GraceAnne completed soccer drills to learn more about HIV/AIDS and Malaria and how to better teach students and the community about dealing with these public health challenges. This program also demonstrates the role planners have in improving public health through education, partnerships, and using games and interactive activities as a technique for community engagement.

The lessons learned in the classrooms and studios on the south side of Cal Poly's Dexter Lawn, might feel like a world away for Michael, but he and GraceAnne have demonstrated the value of the skills and experiences gained in the MCRP program during their time in Murunda, Rwanda.

You can follow the inspiring work of Michael (MCRP, 2013) and GraceAnne on their photo-filled blog: http://moments-away.blogspot.com/

Conversations with Alumni
Spotlight on Dave Javid
Master of Science in City and Regional Planning, Cal Poly, 2004

FOCUS: *What was your major in college and why did you decide to become a planner and to apply for CRP's MCRP program?*

I received a B.A. In Urban Studies and Planning with a Minor in Visual Arts from U.C. San Diego. I have always wanted to be a planner, since I was young. I took a detour into the corporate world working for the corporate offices of Williams-Sonoma and GAP, Inc. where I learned invaluable project management skills while I worked for their new store construction departments. From there I went to a summer program at Harvard to get reintroduced and entrenched into the planning world and confirmed that I wanted to go back to school to get my Masters and jump into what I always wanted to do. It was definitely the right decision.

FOCUS: *Which was your first planning job? Can you talk a bit about your professional career?*

My first true planning job was working as an environmental planning intern for Rincon Consultants in San Luis Obispo. I had a couple other related jobs working for architecture firms in San Diego and Los Angeles, but that was my first full exposure to planning. Since then I have worked for a range of multi-disciplinary planning firms including RRM in SLO and up in the Bay Area as Senior Planner, for MIG in Berkley and PMC (now Michael Baker, Inc.) in Oakland as a Project Manager, and most recently as a Principal Planner + Urban Designer for the M-Group in the Bay Area.

FOCUS: *What were the highpoints and most interesting projects of your career?*

I have been fortunate to have the opportunity to work on a wide range of projects over the years from vision plans, corridor and specific plans to farther reaching policy documents. A common thread amongst these projects is that most have been deeply rooted in inclusive urban design and community engagement strategies. A few of them stand out:

See FOCUS 11 (2014) Spotlight Section for an article on the M-Group by its principal CRP Alumnus Geoff Bradley.

Downtown Transit Corridors Plan and EIR, San Bruno, CA

I led visioning and planning process in collaboration with the City of San Bruno to prepare a Specific Plan and Environmental Impact Report (EIR) for Downtown San Bruno and the key corridors that lead to it. We developed strategies around multi-modal, high-density mixed-use development and walkable streetscape designs to capitalize on the close proximity of the San Bruno Bart and future Caltrain stations (Figure 1). The plan was integrated with the Grand Boulevard Initiative, an effort to increase the performance, safety and aesthetics of the El Camino Real Corridor of which this project is adjacent.

Downtown Specific Plan and EIR, Napa, CA

For the Downtown Napa Specific Plan I managed a multi-disciplinary team to craft a comprehensive Specific Plan and EIR. We developed an outreach strategy that involved various community engagement opportunities including walking tours, workshops, charrettes, online surveys, and stakeholder, focus group, and steering committee meetings. I led the team and collaborative efforts to establish the Plan's goals of fostering a more inclusive and vibrant environment in Downtown Napa while developing detailed policies, design guidelines, and development standards to steer future improvements (Figure 2).

North Fair Oaks Community Plan and EIR, Redwood City, CA

As Project Manager I led the team to develop a community plan which emphasized sustainable and health and wellness principles (Figure 3). We worked with the community, including multi-lingual, youth and senior groups, to formulate goals and policies for land use, housing, health and wellness, parks and recreation, circulation, and infrastructure improvements for the North Fair Oaks neighborhood in San Mateo County. The Health and Wellness principles included access to healthy food, healthcare, viable transit options, and recreational opportunities.

Meridian Strategic Plan and EIR, Elk Grove, CA

I was responsible for managing the project and preparing a tailored outreach strategy to establish a vision for the Meridian area, which encompasses 1,200 acres of currently vacant land

in the city of Elk Grove. The process included engaging a range of property owners, stakeholders and community members through interactive workshops and an online community forum. Land use alternatives and a preferred plan were developed working collaboratively with City staff and the community to spur sustainable development in the area. The project culminated into a Strategic Plan that includes hybrid form-based development standards and design guidelines, comprehensive transportation and infrastructure studies and an EIR.

Model Sustainability Toolkit, County of San Gabriel, CA

I helped develop a toolkit to provide framework to address energy efficiency and sustainability through zoning regulations for 27 cities participating in the San Gabriel Valley Council of Governments Energy Efficiency Climate Action Plan project. The toolkit is a guide to help summarize existing sustainable provisions adopted by the cities and to identify gaps along with any recommendations to add other mandatory and/or voluntary sustainable provisions in the cities' development codes. The toolkit is focused on specific components of sustainable planning and green building programs, including CALGreen building code provisions and Leadership in Energy and Environmental Design (LEED) principles. A diverse collection of regulations were grouped into four key categories—Energy Conservation and Green Building; Urban Form and Community Character; Community Health and Wellness; and Alternative/Renewable Energy.

Fort Bragg Georgia-Pacific Mill Site Specific Plan and EIR, Fort Bragg, CA

As the Deputy Project Manager and Urban Designer on the Mill Site Specific Plan project, I managed this planning effort to develop a guiding Specific Plan document for a former 415-acre lumber mill site stretching nearly the entire coastline of the City of Fort Bragg. The planning process included comprehensive outreach and coordination with state agencies and the Mill Site Coordinating Committee to reach a cohesive vision for the future of the site and a plan to implement that vision.

FOCUS: *What is your current job? What are your primary responsibilities, and what type of work do you get involved with?*

I am a Principal Planner and Urban Designer with M-Group, and lead our Urban Design, Policy Planning, and Community Engagement service areas. A short summary of my work flow goes like:

- Research and seek out new potential projects, prepare comprehensive proposals in response to Request for Proposals/Qualifications (RFP/RFQ) and lead a team through competitive interview process typically with jurisdictions across the Bay Area.

- Manage a range of projects through the planning process by being the conduit between the consultant team and the client, to keep projects on schedule and budget.

Figure 1: Short and long term visions for a mixed-use high-density corridor in San Bruno connecting to BART and Caltrans stations. 2009.
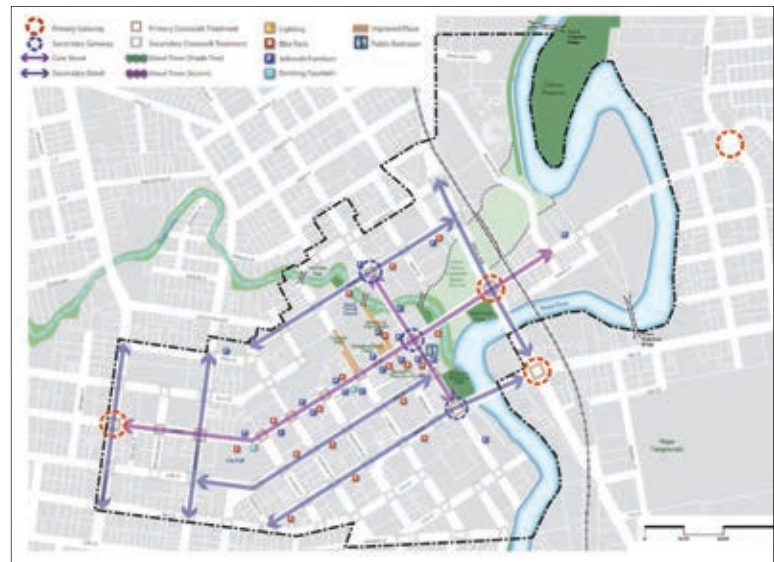

Figure 2: Downtown Napa Specific Plan. 2010.

The type of projects include housing elements, targeted general plan and zoning code updates, citywide and residential guidelines, community engagement plans, and corridor and specific plans.

• Prepare policy and urban design plans and facilitate meetings and workshops.

FOCUS: *Can you describe a couple of projects that got you excited at the M-Group? What are you working in now?*

Over the past couple years I have worked on many multi-faceted projects. Most recently I worked on a targeted outreach effort and just started a corridor planning project that I am particularly excited about.

San Mateo Downtown Engagement, San Mateo, CA

I led an extremely rewarding effort that implemented a full suite of outreach tools geared at reaching a wide cross-section of the community to foster input about Downtown San Mateo. The "Engage Downtown San Mateo" project included hosting focused discussions with local stakeholders and decision-makers and "pop-up" workshops at popular local venues to meet directly with community members and actively engage participants on subjects impacting the Downtown area. In addition, we implemented a series of lectures and focused discussions featuring professionals across a range of topics (including socio-demographic trends, public urban spaces, transit-oriented development principles, and parking strategies) to establish a common planning vocabulary in an informal setting.

We also developed a project website (www.engagedown-townsanmateo.org) to host information on upcoming events, summarize previous workshops, and provide link to the city's existing social media outlets including an interactive MindMixer platform. Information gathered from "Engage Downtown San Mateo" project was synthesized into as Assets and Opportunities Report that serve as the foundation for the upcoming Downtown Specific Plan Update.

El Camino Real Corridor Specific Plan, Sunnyvale, CA

The El Camino Real Corridor Specific Plan project is aimed at defining the stretch of El Camino Real in Sunnyvale by identifying the characteristics of focused nodes of activity. We are working closely with the city and a full suite of consultants including traffic engineers and circulation planners, economists, civil engineers, housing specialists, and environmental planners. I'm playing my typical role as project manager weaving together the direction from the city and a range of stakeholders and decision makers and the consultant team's recommendations, to meet the community's vision.

FOCUS: *How did your education reflect in your work? Do you feel that what you learned at Cal Poly prepared you well for professional practice?*

My education at Cal Poly gave me a solid start into my career, reaffirming that I was in the right field. The most important skills I learned at Cal Poly was how to collaborate with colleagues while striving for consensus.

FOCUS: *What do you think are the strengths and weaknesses of the MCRP program?*

The strength of the program is the range of backgrounds that are attracted to the profession, including the professors that come from interesting fields and perspectives. With my interest in the design profession, I would have liked to see more of an emphasis on or collaboration with the impressive design school at Cal Poly. I also think there is a great opportunity to continue to expose students to sustainable planning practices. The few sustainable planning courses I took at Cal Poly inspired me to pursue my accreditation in LEED (Leadership in Energy and Environmental Design).

FOCUS: *What was the most challenging aspect of moving from the MCRP program to professional practice?*

As is true with any transition from school to the working world, having hands on practical experience is a key factor that helps smooth the transition. I encourage more direct access
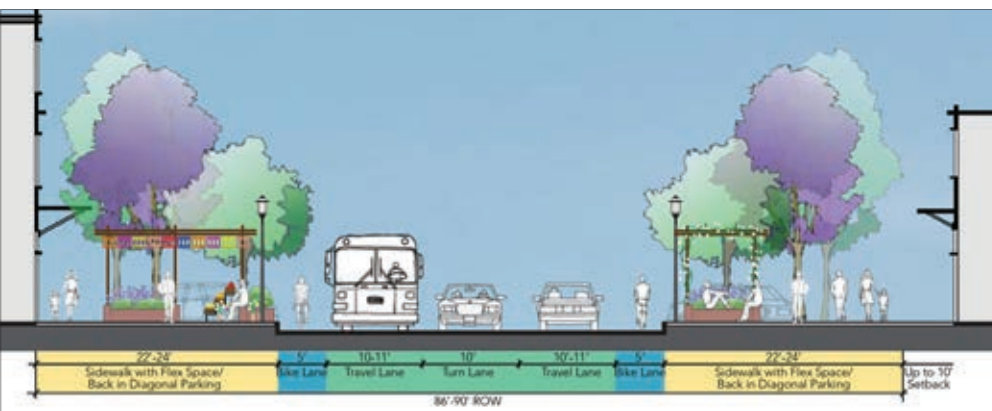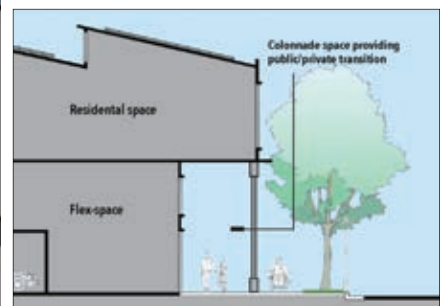

Figure 3 a & b: North Fair Oaks Community Plan, Redwood, CA. Design Guidelines. 2011.

to practice while in the MCRP program to build the necessary experience and networking opportunities.

FOCUS: *What are the critical knowledge areas for planners entering the field? (e.g. land use law, research methods, zoning, housing finance, CEQA, etc.)*

Depending on the type of job a planner chooses (e.g., as a planner at city/county doing development review or long range planning, or private consultant) tasks and knowledge base vary. Areas that are probably most important to stay recent on include environmental and zoning laws that are ever-changing. Beyond the book smarts a critical skill set that is often overlooked is the ability to communicate effectively, both in written form and most importantly verbally. The ability to facilitate meetings and workshops and to develop outreach tools that provide avenues for others to engage in the planning process are critical skills for any planner to gain a comfort level with.

FOCUS: *What are the critical skills/tools for planners entering the field? (e.g. GIS, computer-based design, statistics, surveying, presentation, writing, etc.)*

A basic understanding of design related tools is an important tool to have in the toolbox. In particular a massing or modeling tool like Sketch-up is a user-friendly platform that all planners should be familiar with.

FOCUS: *What do you see as planning's big challenges over the next 5-10 years, and what does Cal Poly need to teach students so that they may successfully engage these challenges?*

There is an interesting convergence between aging communities and the millennial movement that is supporting the need for a diversity of housing opportunities and supporting job and services in close knit transit accessible environments. This supports everything we're taught and want to design for as planners right? If only it were that easy. The challenge is getting everyone to the table and speaking the same language. Recognizing this trend and as I noted earlier, the ability to effectively communicate and the confidence to lead discussions are very important skills that every planner should have. Knowing the right questions to ask and as importantly the ability to genuinely listen and engage individuals with a range of perspectives in respectful and thoughtful dialogue is important in an effort to reach a common goal.

FOCUS: *Any famous last words?*

There's typically more than one road that leads to the where you think you're headed, don't be afraid to get it "wrong", there's something to be learned around every corner, if you're persistent you'll make it to the "desired" destination.

Conversations with Alumni
Spotlight on Brianna Holan
Bachelor of Science in City and Regional Planning, Cal Poly, 2004

FOCUS: *When did you graduate from Cal Poly, why did you choose a planning degree in the first place, and why Cal Poly?*

I graduated from Cal Poly in 2004 with a BSCRP and minor in Sustainable Environments. I chose to go to Cal Poly for its great academic reputation and incredibly beautiful location. I began my college career majoring in Biological Sciences, thinking I wanted to go into ecological field work. Although exposed early to the planning profession from my father who has been a city planner for most of his career, now a Community Development Director in Forest Grove, Oregon, my interest in the profession wasn't piqued until I started taking classes in sustainable environments and found an enriching way to apply my environmentalist and urbanist interests towards real solutions. Through this major, the sustainability course work, and studying abroad in Florence, Italy I found my love for design.

I worked through school gaining some early experience interning at a couple different governmental planning offices. Which gave me some exposure to the various types of public sector planning. I worked at the regional Caltrans office helping with environmental documentation of highway projects. I worked at the San Luis Obispo County Current Planning Office making maps and processing development permits. I also did a few small contract projects with the cities of Arroyo Grande and Grover Beach that opened my eyes to the world of consulting.

FOCUS: *Tell us about life after CRP. What were the most rewarding professional experiences that you remember?*

After graduation I wanted to live in a city that had a good balance of career opportunities, both urban and an accessible outdoor lifestyle. I moved to Seattle, WA and have found it to be an amazingly dynamic place, as it has gone through incredible changes over the course of several boom and bust economies. I started working for the City of Bainbridge Island which required a 15 minute walk and 35 minute ferry boat commute from my Capitol Hill apartment. This first professional job was very enriching; I worked in both current and long-range capacities. I was involved in the city's Farmland Program, Non-Motorized Advisory Committee, Comprehensive Plan Updates,

Editor's note: See some of Brianna's published work: Mark Hinshaw & Brianna Holan, "Rooming House Redux" in Planning, Nov. 2011.

as well as permit review. The permit counter work was among the most intense and memorable parts of my time at the city. There's nothing quite as educational as having to answer so many varying questions about the what, where, when, and how of the development review process. However, I found myself more excited with the implementation and design aspects of the job, working with committee members, creating maps, and even designing flyers for evening meetings. So when I was made an offer to work as an urban design consultant, I jumped at the opportunity.

FOCUS: *Can you talk a little about your current job? What gets you excited about your job? What are your responsibilities? Can you describe the most exciting projects you are working on?*

I currently work in the private sector as a planning and urban design consultant at LMN Architects, excitingly we were just named the AIA Firm of the Year for 2016. I've had the good fortune to work on a wide range of project types and in variou geographic locations. From district/downtown plans for small towns to streetscape and pedestrian bridge design for large urban centers. I have enjoyed urban design work as it specifically deals with the physical context of our cities, how the buildings interface with the street and vice versa. It's fascinating to me how sometimes seemingly simple details, like the existence of an awning on a building can contribute so much to a street being an comfortable, inviting place to walk (especially in rainy Seattle).

I am currently working on a pedestrian bridge for the City of Seattle that will link an urban center around a future Light Rail Station to the North Seattle College and surrounding neighborhoods across I-5. The bridge will act as a visual gateway into the city and offer a unique user experience from within as it traverses distinctive contextual conditions. The bridge is planned to be constructed in 2018.

I have also participated in several art and temporary installation projects for Park(ing) Day and other art events as a fun way to engage the public and explore a specific urban condition.

FOCUS: *Do you like working for the private sector?*

Private sector work has advantages and disadvantages. I love being able to work on such a wide variety of scales and client groups. And there is a lot of excitement around chasing and

getting new work. My role as an urban design consultant centers around concept development and implementation strategies, then the work typically gets transferred back to the client for the execution.

The challenging aspects of private work are the hours, travel, and constant need to think about "what's next?". I'm rarely ever working on just one project at a time and often the schedules are competing so its easy to get overwhelmed.

FOCUS: *Looking back to your planning education at Cal Poly, and from the perspective of a successful professional, what do you think are the strengths and weaknesses of the department? From your perspective, what are the critical skills for young planners?*

My career path took me in a slightly different direction than Cal Poly's planning program prepares one for. The BSCRP is centered around the public sector planning practice in the State of California, where probably the majority of graduates end up working and are well prepared for the job right out of the gate. Where I feel I could have benefited more was individualized design and problem solving skills versus the considerable amount of group work the program tends to utilize. When it comes to an undergraduate education, fundamentals are the most important: being able to write well, problem solve, and present information in a compelling graphic format are key skills that should be overly emphasized in my opinion. The details of state regulation can be learned on the job.

FOCUS: *What was the most challenging aspect when starting your professional practice?*

Finding the right fit for my skills and interests proved challenging when looking for my first job. As I was more passionate about design and implementation than policy and permitting, I struggled early on to figure out the right approach of where I should be focusing my energy. That first job at Bainbridge Island ended up being an appropriate beginning for me as a professional because it gave me a variety of responsibilities to help build my experience in the field and test what aspects of the profession I found most compelling. That exposure is what led to engaging the consulting work I do today.

Figure 1: Brianna and a Park(ing) Day installation.

Figure 2: Brianna at the Corridor Study Open House, Shoreline WA.

FOCUS: *What do you see as planning's big challenges over the next 5-10 years, and what does Cal Poly need to teach students so that can successfully engage in these challenges.*

Over the next 5-10 years the biggest issues on the table are climate change and the rapid growth in our cities. I suppose the overall approach is figuring out how we all live together with less of an ecological footprint, but more choices in our daily lives. These topics bleed into many aspects of the planning field from affordable housing to bicycle and pedestrian infrastructure. Our next generation of planners will need to address livability and sustainability with less resources, its a tall order, but I'm optimistic there are solutions out there. Its all too easy once embedded in a specific jurisdiction to focus on localized issues, but we need to keep mindful of how localized decisions effect the larger system.

Growth management strategies and implementation is an important topic for California planners to dive into moving forward. Planning students should be prepared with an understanding of regional and global conditions, how to access resources and to begin to address these issues; "what are the problems and who are the players that need to be engaged?".

Moreover, it seems like every day there are new digital tools to analyze conditions and develop solutions being developed. The ability to collect, process, and communicate data, evaluate options, all with expanding community engagement has grown exponentially over the last few years. The next generation of planners should not only utilize, but play a role in developing these tools.

FOCUS. *Any final thoughts for our students?*

Be bold.

Theses and Professional Projects Abstracts
Master of City and Regional Planning
City and Regional Planning Department, Cal Poly San Luis Obispo

For fulfilment of the MCRP degree, the CRP department offers the student a choice between a final comprehensive planning studio, a thesis, or a professional project. The following abstracts represent master's theses and projects approved during the 2014/2015 academic year. The complete works are available from Cal Poly's Kennedy Library at http://digitalcommons.calpoly.edu/theses.

Using Archived Transit Data to Analyze the Effect of Rainfall on Transit Performance at the Route Level.

Nicholas F. Bleich

An investigation on the effect of rainfall on transit performance measured at the route level in the Puget Sound region of Washington State. Transit agencies are required to report certain performance metrics to the Federal Transit Administration (FTA), but performance measures can also be used to evaluate service and provide customers with information regarding the transit system. Using a three-year sample of archived automatic vehicle location (AVL) and hydrologic data the relationships between ridership, travel time, delay, and rainfall were investigated. The analysis of daily ridership and rainfall resulted in no statistically significant results, however, the results are supported by the existing research in this field. There was a generally negative trend in ridership with respect to rainfall. The analysis of delay and rainfall shows that the impact of rainfall on delay is more complex than assumed. The delay during dry trips was different than the delay during light and moderate rain, but during heavy rain the statistical difference disappeared. These results, implications for transit operators, and future research opportunities are discussed.

http://digitalcommons.calpoly.edu/theses/1396

Investigating the Correlation between Freeway Service Levels and Freeway Service Patrol Assists.

Nora Chin

The Bay Area Metropolitan Transportation Commission's (MTC) Freeway Service Patrol's highway motorist response service is reporting a reduction in their service levels. We analyze the relationship between the reduction in the Bay Area Freeway Service Patrol's (FSP) motorist assists and changes in vehicle miles traveled (VMT), California Highway Patrol (CHP) reported incidents, and cover research on the impact of new and old vehicle fleet turnover. VMT and CHP incidents have differential effects on FSP assists. Although incidents occurring on freeways with high traffic flows tend to cause more congestion, the trend in local VMT along Bay Area freeway corridors does not share a strong correlation with FSP assists. By analyzing VMT, CHP reported in-

cidents and research around new vehicle fleet turnover affecting FSP assisted-incidents, Metropolitan Transportation Commission staff can systematically improve the FSP operational model; strategize ways to improve service on needier freeway corridors, while reducing unnecessary service in other regions.

http://digitalcommons.calpoly.edu/theses/1453/

Measuring the Influence of Components on Pedestrian Route Choice in Activated Alleys.

Samuel Hirsher Gross

This thesis explores how cities have integrated formal planning into improving public space starting from an investigation of how the potential that design has to renovate narrow streets and alleys. An assessment of various plans and programs, identifies the common themes and components used by planners, architects, and engineers to improve the pedestrian urban environment. Based on this information, a pilot study was created to measure the influence of the most common components on pedestrian route choice. The results are compared to the information gathered from the assessed plans and programs. Suggestions for expanding the pilot study and other recommendations are presented.

http://digitalcommons.calpoly.edu/theses/1460/

The City of Milpitas Historic Gateway: Background Report and Design Guidelines.

Jaime Marie Jaramillo

The goal of this professional project report is to contribute to the City of Milpitas, CA planning process with recommendations for a gateway development at the city's historic core. The study draws on several sources for place-making as well as on a throrough SWOT analysis. The city's proximity to the Silicon Valley suggests a strong potential to accommodate a walkable attractive gateway-related development with hotels, restaurants, a convention center and related land-uses. Recommendations are provided as design guidelines.

http://digitalcommons.calpoly.edu/theses/1468/

Bicycle Tourism Plan for Economic Development: A Template for Rural Agricultural Towns and a Case Study for the City of Winters, CA.

Marisa Rene Lee

Bicycling for tourism is healthy, non-invasive, environmentally responsible, and economically sustainable. It allows freedom, mobility, and sightseeing potential that is not made possible by other modes of transit. The increasing popularity of bicycle tourism, among domestic and international travelers, have a great potential to bring positive economic impacts to local communities, particulary to rural and agricultural communities who do not normally experience the benefits of tourism. Infrastructure projects to this effect, such as development of a town or regional trail system, wayfinding features, or other resources come with benefits for visitors and locals in the form of recreation, public health, mobility, and access to food, drink, amenities, scenic areas, jobs and commerce. Through careful planning of the touristic components of the destination, rural communities can achieve multifaceted economic benefits of diverse and versatile tourism amenities.

http://digitalcommons.calpoly.edu/theses/1383/

Utility Scale Solar Projects in California: An Initial Survey.

Meaghan Mroz-Barrett

The lack of a comprehensive database for photovoltaic utility-scale solar power projects, those with a generation capacity of greater than 50 MW, hinders the ability of researchers and policy makers to examine the state of solar development in California. This research seeks to fill this gap in understanding by creating a database of proposed and developed projects in order to examine trends in proposals, process time, approvals, and construction starts. Existing literature was evaluated to determine potential factors for project success in approval and construction. The project database was developed through publicly available data and extensive internet searches of planning documents, industry releases, and articles on existing and proposed projects. The completed database, containing eighty projects, was analyzed to provide an initial look at the overall state of solar project development in California. The analysis indicates that, while California has a high amount of proposed projects and generation capacity, many projects do not reach the end of the public approval process and fewer still enter construction and operation.

http://digitalcommons.calpoly.edu/theses/1430/

Evaluating Urban Design Strategies for Climate Change Adaptation in Los Angeles.

Kerby Andrew Olsen

With the negative impacts of greenhouse gasses (GHGs) increased temperatures may be especially acute in mid-latitude cities that currently enjoy a mild climate, such as Los Angeles (LA), which are projected to warm to a point that will significantly affect human health and well being. This study evaluates six urban design strategies for reducing temperatures and therefore adapting to increased heat in LA: cool roofs, cool pavements, solar panels, tree planting, structural shading and green roofs. The methods include a cost-effectiveness analysis, key stakeholder interviews, and case studies from other cities in the US. Findings indicate that cool roofs are the most cost-effective strategy for urban heat island mitigation, with cool pavements and tree planting also cost-effective. Findings from stakeholder interviews indicate that political feasibility is high for all strategies except structural shading, which was thought to be costly and difficult to implement. However, significant political barriers were also identified for tree planting and green roofs. Findings from four case studies indicate that climate adaptation policies should emphasize co-benefits, include flexible design standards, and provide financial or performance-based incentives for property owners or developers. Specific recommendations for implementing climate adaptation measures are provided for urban planners, policy makers, urban designers and architects in Los Angeles.

http://digitalcommons.calpoly.edu/theses/1427/

California Coastal Commission Lower Cost Overnight Visitor-Service Accommodations Mitigation.

David Pierucci

Section 30213 of California Coastal Act requires the California Coastal Commission ("CCC") to protect, encourage, and, where feasible, provide for lower cost overnight visitor accommodations ("LCOVA") along the State's coast. As mitigation measure consistent with this charge, the CCC imposes a $30,000 fee for 25 percent for rooms of new hotel developments determined to be higher cost (the "$30,000/25% fee"), in-lieu of LCOVA facility provision. Generally, the CCC applies this fee in two circumstances: (1) As an ad hoc fee for developers upon CCC review of coastal development permit ("CDP") applications, and (2) as a legislatively imposed fee to be adopted by coastal jurisdictions upon CCC review of a local coastal program ("LCP") or related policy. This paper explores the policy and legal implications of the $30,000/25% fee. The findings of this paper show that the $30,000/25% fee likely fails the applicable Federal California legal tests governing monetary exactions.

URL: http://digitalcommons.calpoly.edu/theses/1417

Does Scenic Make Cents?

Sara Ann Sanders

The stretch of California Route One (Highway 1) from the City of San Luis Obispo to the Monterey County line is one of the most scenic drives in the United States. A destination in its own right, the San Luis Obispo North Coast Scenic Byway is federally designated as an All-American Road, the highest scenic designation of any road or highway in the nation. Although federal funding for the preservation and enhancement of these roads

was removed in 2012, the San Luis Obispo Council of Governments (SLOCOG) continues to recognize the importance of the corridor in attracting valuable tourism revenue and commissioned an update and economic analysis through this master's project. It was found that visitor spending in the byway region increased by 23% from over $500 million in 2006 to almost $656 million in 2012 when visitor spending associated with scenic recognition and enhancement projects along the corridor was about $217,000 in direct revenue. As a result of this research, outreach, and data analysis, this project did conclude that being scenic does make "cents."

http://digitalcommons.calpoly.edu/theses/1361/

Barriers to Implementation of a Health, Hygiene and Sanitation Program: Chennai, India.

Kelsey A. Steffen

The societal and environmental conditions in India, as in many other developing countries, stand as barriers to facilitate changes in sanitation behavior. Efforts made to improve hygiene have faced opposing forces including major gaps between the supply and demand of sanitation. This thesis focuses on a pilot program conducted in Chennai, India over the summer of 2014. This program was designed to teach school children safe sanitation and hygienic habits by providing a guiding tool to teachers. The study analyzed qualitative observational data collected over the seven-week pilot program period to identify the barriers to implementation. The results indicate that the school administration was the greatest barrier to implementation in this case study. The results also highlight the contextual sensitivity of each of the barriers and their relationships to one another. The findings suggest that depending on the context of implementation of a health, hygiene, and sanitation program these barriers may be re-ordered in hierarchy to work towards achieving sustainable programs.

http://digitalcommons.calpoly.edu/theses/1457/

Conservation Through Limited Development: An Approach for Land Conservancies

Catherine Joy Tarone

The Land Conservancy of San Luis Obispo County is interested in determining the approach to take if it decides to pursue conservation and limited development as a strategy to preserve land. To put this in practice and still maintain its core values the Conservancy needs to develop intensely-collaborative conservation tools and inform itself about development, conservation, collaboration and financing, in order to meet multiple community needs. This thesis concludes that the most important decision that a conservancy must make when pursuing conservation and limiting development, is determining the level of involvement appropriate for its conservation mission, resources, expertise, and role in realizing project goals. Two case studies drawing upon telephone interviews with professionals provide a view of the contrasting

levels of involvement that each project's conservancy assumed. Since this work was requested by the Land Conservancy of San Luis Obispo County, it addresses some concerns and realities particular to the county; however, most recommendations are generally applicable to other land conservancies.

http://digitalcommons.calpoly.edu/theses/1364/

Understanding and Incentivizing Workforce Housing: A Professional Project for the City of San Luis Obispo.

Jennifer Wiseman

Adding workforce housing to the City of San Luis Obispo Zoning Regulation is a needed component to successfully begin, and promote, the development of housing to those making between 121 and 160% of the Area Median Income. This professional project provides initial step to the development of a workforce housing ordinance in the City of San Luis Obispo. It examines case studies of jurisdictions throughout the County and discusses the need for workforce housing in both an economic and health and safety need. Outreach was conducted with local stakeholders to understand barriers, opportunities and recommendations and how the city policy could benefit or harm the community. The thesis concludes with recommendations to overcome barriers for workforce housing in San Luis Obispo.
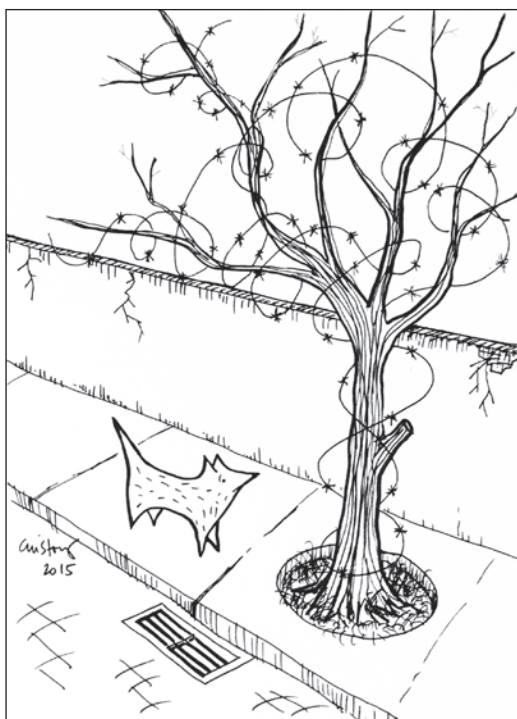
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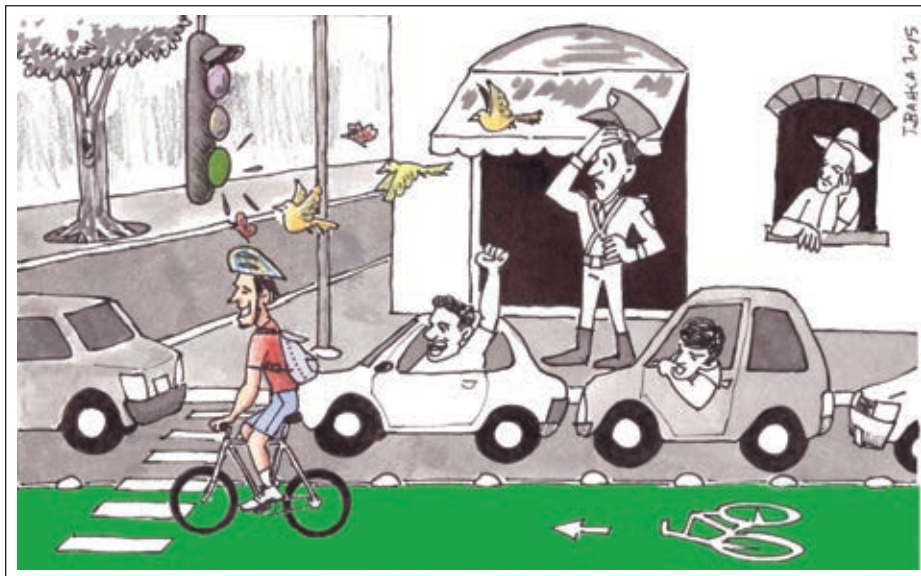
Green Light

by **Tarcisio Bahia**

Architect-urbanist, PhD; associate professor, Faculdade de Arquitetura e Urbanismo, Universidade Federal do Espirito Santo, Vitoria, Brazil.

Besides teaching Tarcisio has a professional practice dedicated to architecture, mobility, and design. He has collaborated with FOCUS several times.

See www.tarcisiobahia.net

Where Can I?

by **Cristovão Buarque**

Architect-urbanist, PhD; associate professor, Faculdade de Arquitetura e Urbanismo, Universidade Federal do Rio de Janeiro, Brazil.

Cristovão's cartoons depict acute critical observations of city life, political conflicts, and social contradictions.

Any Big Ideas?
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