Developing Living Streets in Highland Park

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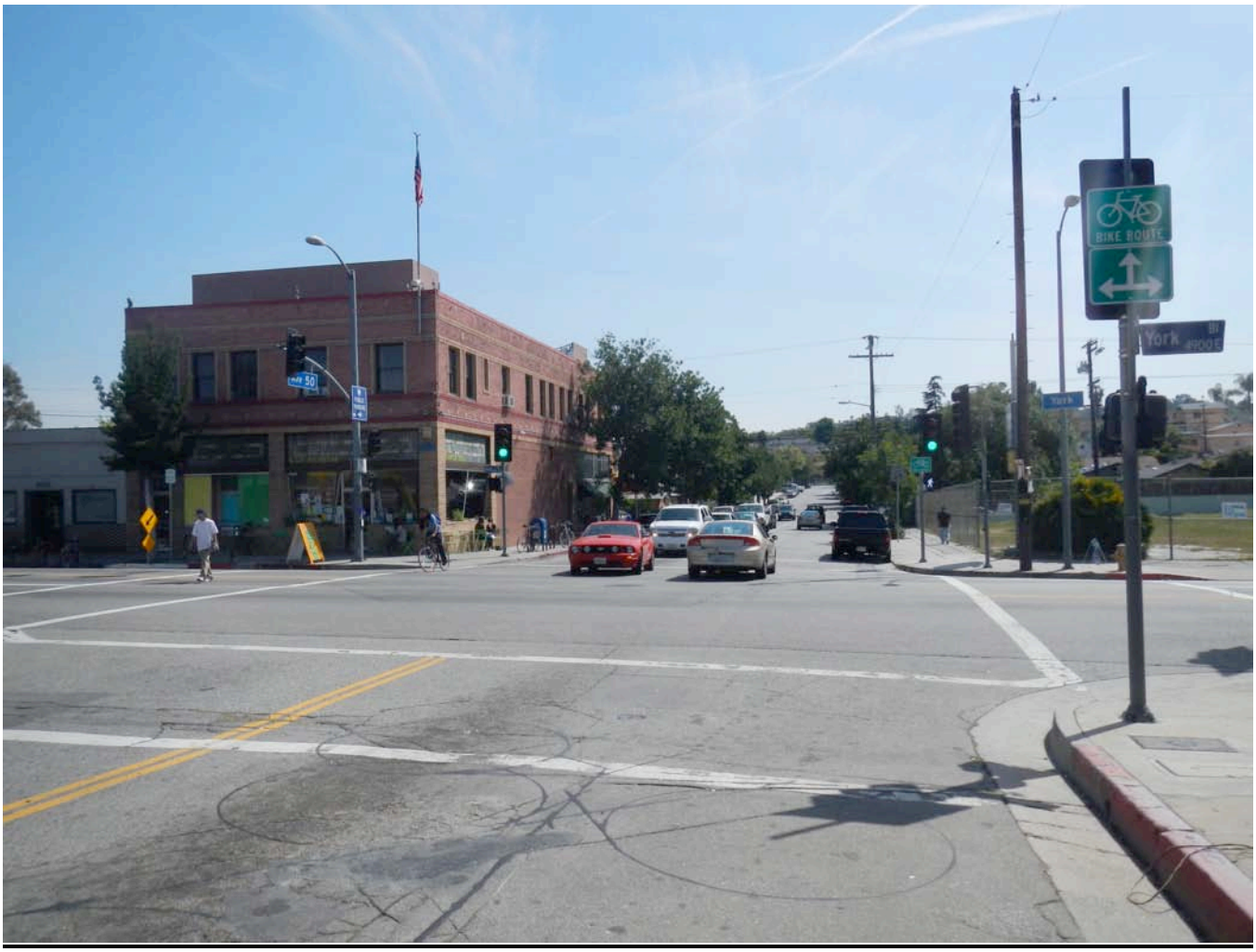

Intersection of Ave 50 and York Blvd

Executive summary

This report provides an overview of the Living Streets movement in urban design and planning, focusing on ways to implement particular Living Street features in Highland Park, Los Angeles. Specifically this project concentrates on developing bicycle infrastructure, reclaiming pedestrian spaces, and water management polices, on York Boulevard. Living Street design projects and policy measures are intended to improve neighborhoods, promote healthy communities, make cities more sustainable, and encourage people to reclaim public space by improving streetscape designs.

Using the "Model Design Manual For Living Streets", developed by Ryan Snyder and Associates, as a best practices reference guide, I highlight how Manhattan, New York, and Portland, Oregon have taken different approaches to developing premier Living Streets in America. In New York I emphasize how a strong leader in the Department of Transportation can create rapid change to make streets safer. In Portland, I reveal how the city employed bioswales to tackle pressing environmental issues, as well as how they developed a cohesive bicycle network that makes their streets some of the most pedestrian and biker friendly. Using the information from these case studies, I recommend ways that Los Angeles and Highland Park can create more friendly Living Streets.

My methodology includes comparative methods, interviews, primary source analysis, and direct and participant observation. My research focuses on gaining a better understanding of how components of Living Streets were implemented or used in different cities, and how these compare/contrast with the reference Manual, in order to apply them locally.

Interestingly, Los Angeles's lack of Living Street features is not due to funding shortages, but political unwillingness to reduce space dedicated to automobiles. My recommendations focus on working within this adverse environment to develop Living Streets in the local community.

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Introduction

The concept of Living Streets in urban planning and design has developed over the past few years and includes a vast array of design projects and policy measures intended to improve neighborhoods, promote healthy communities, make cities more sustainable, and encourage people to reclaim public space. Included in these features are bicycle lanes that reclaim space from cars; pedestrian spaces that better utilize public space to encourage interpersonal interactions; and making the streetscape ecosystem more natural, environmentally friendly, and aesthetically pleasing. My project focuses on pedestrian/biking infrastructure, and water management mechanisms that can be applied to Los Angeles. There are many other components of Living Streets which are described in detail in the "Model Design Manual for Living Streets" developed by Ryan Snyder and Associates.[1] In my project, I utilize this Manual as a "best practices" reference, as it is intended for cities, like Los Angeles, to use and adapt when designing Living Streets in their communities. A few cities have taken the lead in implementing components of Living Streets, yet Los Angeles lags far behind. Designing cities with Living Streets creates a more sustainable future, where citizens' health and happiness are the main focus, and waste and pollution are reduced.

As part of this project I am working with the Highland Park community and a group of urban planners to bring some of these components of living streets to York Boulevard, located in Highland Park, Los Angeles.[2] Currently, we are working on the design and planning of a street porch[3], pedestrian street lights, and in the near future intend on adding other components of Living Streets in the area. Yet there is no simple formula to designing a Living Street; each area poses unique challenges and advantages, making it important to work with the community to adapt plans to fit the local environment.

In order to highlight the different approaches to developing living streets, I travelled to a few cities across the country to understand how they adjust designs to fit their specific needs. Focusing mostly on Portland, Oregon and Manhattan, New York, I highlight some of these best practices, in an effort to figure out how to apply their methods to Los Angeles.

In Portland, OR, I focus on bioswales[5] and bike boulevards[6] (don't worry, all of these terms will be described in depth later). Creating a functional, natural, and pleasing streetscape ecosystem is essential to creating Living Streets. We need to redesign our cities to mimic nature and make them more efficient and sustainable. In Los Angeles, surface water runoff and its pollution are pressing issues, and a major source of funding to write and research the Model Design Manual came from groups concerned with ways to reduce negative impacts on the environment after it rains.[7] Portland's use of bioswales - natural features in the streetscape that capture surface water runoff - to achieve this goal was the main focus of my research there. Throughout Portland, communities have integrated indigenous plants into storm drainages to filter out pollutants and recycle water back into the surrounding environment. The positive results are obvious; Portland has a rich streetscape ecosystem that is beneficial for the environment and residents. Living Street designs like these have the ability to improve quality of life and solve serious environmental problems in cities simultaneously. Often these design features can be combined; bioswales can be incorporated into pedestrian plazas and along bike paths. It is not surprising, then, that Portland is also on the forefront of developing bicycle neighborhood networks, including bicycle boulevards[8], which have recently been adopted as official bicycle infrastructure policies by the Los Angeles Department Of Transportation (LADOT).[9] Portland serves as a stand out example of how Living Streets can improve communities and reduce our impact on nature. Both of these components of Living Streets are very important to the future of Los Angeles, and by researching and documenting them, I intend to find a practical way to incorporate them into our community.

Manhattan, New York is currently leading the country in developing safe, Living Streets, thanks in part to Janette Sadik-Khan, the current Commissioner of the New York City Department of Transportation[10] (NYCDOT). In New York, there are a number

of Living Street features I investigated, including protected bike paths, road diets[1] [11] , re-zoning of streets for pedestrian use only, and the High Line.[12] By encouraging people in urban spaces to reclaim public areas, promoting local economies, health, the environment, and an overall higher quality of life, New York has shown that shifting the focus away from vehicles and towards pedestrians is beneficial for a city in a variety of ways. By examining these key components of Living Streets, I believe we can develop a similar holistic approach in creating a more sustainable and pedestrian-friendly Los Angeles for tomorrow.

Understanding how other cities have stepped up to make their centers more enjoyable and friendly to pedestrians and cyclists is crucial for developing Living Street infrastructure in Los Angeles. While Los Angeles certainly lags behind other cities in its efforts to develop living streets, the city has begun making the shift in conscious that will be necessary for a sustainable future. Indeed, the first pedestrian plaza in the City was just finished, based on the New York model.[13] [14] I see improving bicycle infrastructure, carving out more public space, and improving the streetscape ecosystem as some of the most important aspects of this movement. This project focuses on ways to bring these designs into our local community, specifically along York Boulevard in Highland Park. The concept of living streets is not a panacea for every urban problem, but it does contribute to addressing such issues as the environment, health, and people's isolation from each other.

Personal Statement

My interest in Living Streets and reclaiming public space stems from my enthusiasm for urban cycling and the semester I spent abroad in Athens, Greece in the spring of 2011. Biking is an enormous part of my life; it is a healthy and fun way to travel and interact with the city. Growing up on the south side of Chicago, a relatively bike-friendly city, I came to appreciate biking as form of dialogue with the city. Unlike driving, you are constantly involved in your surroundings and communicating with the environment around you. My love for bikes has lead to me work in a bike shop, and advocate for bicycles in my free time by volunteering at bicycle cooperatives in various

[1] A road diet is when car lanes are removed to make room for LS features.

cities, and generally encouraging more people to bike. As I began to study Urban and Environmental Policy at Occidental College, I learned how to influence public policies to improve cities and make them more sustainable by encouraging biking and pedestrian activity.

By shifting away from the automobile and focusing on alternative forms of transportation – including public transit, bikes, and walking -- we can develop more sustainable, healthy, and enjoyable cities. It was not until I had the incredible opportunity to study abroad in Athens that I realized how important reclaiming public space was to the health and heart of a city. To Greeks, life is lived in the public sphere. Indeed, it was this social mentality that developed the original notion of democracy.

In Greece, I lived in the midst of political and economic turmoil, and witnessed the beginnings of the Occupy Movement in Syntagma Square in Athens. Although social media had an important role in the movement, from my experience, most organizing was done in public spaces, by people talking to each other and exchanging information and ideas. It was then that I realized how important the interactions that occur in public are to improving life in the city.

I was also crazy enough to bring my fixed gear bike[2] with me to this city that has absolutely no bike infrastructure, like bike lanes, parking, etc. Fortunately, I had the support of a close friend, Neofytos Sakellaridis Mangouras, who is on the Greek National Cycling Team to guide me through my journey. The solidarity between bicyclists in Athens stems from the adverse conditions we all face on the road. Because of this inclusive attitude among cyclists, I made many biker friends who showed me the city through a bike unique lens. This group calls themselves “Athens LOKAL” and their credo is “reclaim public space”.[15] It was in this environment that I began to develop my research: focusing on how reclaiming public space can be achieved through developing more pedestrian-friendly and bicycle-friendly infrastructure and ultimately creating Living Streets.

When I returned to Los Angeles to continue my studies, I started to concentrate on learning more about the movement to reclaim America’s streets and expand its

[2] A fixed-gear bicycle has a direct drive train, and no freewheel, meaning it cannot coast.

public spaces. I started working on campus at our “bike cage”, a bicycle share program that rents bikes out to students, helps repair their bikes, and leads workshops on the basics of cycling and repair. Since I first came to Occidental, the number of bikes visible in the quad and around campus has exploded. Currently it is difficult to find bike parking around the library – a testament to how much more comfortable students feel biking in the city because of the growing community centered on this activity. Encouraging alternative modes of transposition is a central component of Living Streets. Promoting biking through improved infrastructure is one of the most flexible and cost efficient strategies to reduce automobile usage and improve the environment.

Majoring in Urban and Environmental Policy has been an amazing experience because I can incorporate my love for these activates in my studies. Through one of my courses, I met an urban designer/planer architect, Steve Rasmussen Cancian, who is part of “Living Streets LA”. He leads the New York Visions Plan, a Highland Park community group focused on designing Living Streets on York Boulevard, and has provided me with additional guidance about the connection between living streets and reclaiming space. I decided that this topic, and working with this group to apply living street designs locally, would be the focus of my senior comprehensive research project. Creating Living Streets is the most feasible way to reclaim public space in America by making communities more accessible and inviting to people.

I feel extremely fortunate to have had the experiences that brought me to where I am today, and especially for the opportunity to work with the local community to improve our neighborhood. I believe these experiences equip me with the skills to analyze components of living streets and develop ways to apply them to Los Angeles. I applied to Occidental because I grew up in an urban environment and always had immense respect for the diversity and dialogue that living in a city cultivates. I see living streets as a creative and progressive way to improve our urban spaces and unite different groups of people together for the cause of health, fun, and a higher quality of life.

Methodology

My methodology includes comparative case studies, interviews, primary source analysis, and direct and participant observation. My research focuses on gaining a better understanding of how components of Living Streets were implemented or used in different cities, and how these compare/contrast with the reference Manual, in order to apply them locally.

I utilize comparative case studies between different cityscapes in relation to the best practices outlined in the “Model Design Manual for Living Streets”. Each city has its own challenges and advantages to implementing Living Streets components locally, and usually design features must be adapted to fit the local environment. Understanding these differences is important to developing relevant recommendations that fit with Los Angeles’ unique cityscape.

I also conducted formal and informal interviews with many different categories of people for this project, including community residents, planning experts, bicycle advocates, taxi drivers, cyclists, professionals, and business owners among others. Everyone in our society has to interact with the street in some way, so it is important to learn what different groups expect from their public spaces.

Furthermore, I analyzed primary source documents, such as the Los Angeles 2010 Bike Plan - the Los Angeles Department of Transportation’s (LADOT) policy document outlining the development of bicycle infrastructure for the next 25 years, and the Model Design Guide for Living Streets. It is important to understand on a deeper level some of the policy recommendations proposed in these documents. Analyzing the Bike Plan provided critical insights into the disparities between the city’s promises for adding bike lanes and their actual implementation.

In addition, I documented and noted specific features of these components, by taking pictures and writing detailed descriptions of each. A large part of my personal impressions are conveyed in this way. Often it was not possible to stop and take a picture of a feature while biking through the city. Instead I would write my thoughts down, focusing on my research

questions such as what was the quality of the infrastructure? Did I feel safe? How were other people using the space? I tried to answer these questions through the lens of a biker and pedestrian, and although subjective, it provides legitimate insights into the quality of the streetscape.

Each city or location posed its own obstacles for understanding how people use space and what they want from public spaces. In New York, as part of participant observation, I engaged people in conversations about specific aspects of the project. For instance, I spoke to taxi drivers about their impressions of the new bike lanes in Manhattan. I could not expect them to fill out my survey, but they were eager to express their discontents with the projects and bikers in general.

In Portland, I shadowed a group of bicycle couriers, which was an honor and a very rare experience in bicycle culture as the sub group of fixed-gear riders is often very exclusive and hostile towards outsiders. These rides, led by people whose lives and professions revolve around bicycles, provided me with the deepest insider views of the cityscape and its bike infrastructure

All of these methodological approaches, including my failures and successes, provided a comprehensive overview of what it means to be a pedestrian or biker in each of these very different cities, which contribute to my recommendations for changing the cityscape of Los Angeles.

Literature Review

The American landscape has changed drastically in its brief lifetime, shaped by the desire to keep moving and expanding, the United States has always been a nation fixated on movement and freedom. As the country urbanized, urban planners and designers developed cities around serious misconceptions, removing pedestrians from the streets and catering to the vehicle. In the post war period, rapid development of the national interstate system, coupled with ”urban renewal” strategies and government policies that incentivized suburbanization, was changing the American landscape at a rapid

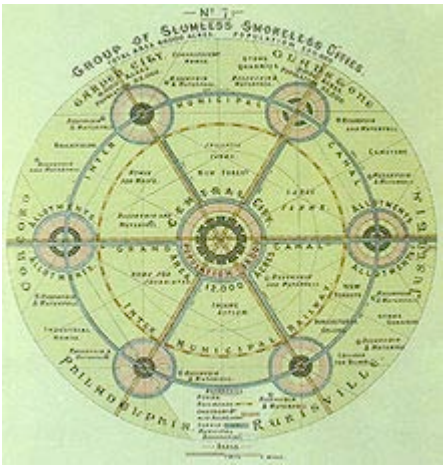
pace. By the 1960's the adverse effects of these practices manifested themselves in the decaying centers of most major American cities, such as New York City, Saint Louis, and Chicago. It took generations before planners and communities started to shift away from autocentric design models and demand that pedestrians be given priority. The Living Streets movement is the culmination of these efforts, and lays forth the ideology and design components to make cities more sustainable and people friendly.

The advent of the car had a profound impact on the design of American cities. By building highways through city centers, separating different uses (residential, commercial, etc), reducing density, and removing pedestrians from the street, planners succeeded in “dullifying” urban centers.[17] These beliefs characterized Modern planning, and were quickly adopted from coast to coast as the solution to urban ills. While cities historically developed over hundreds of years, shaped by the needs of the residents, urban planners saw American cities as inefficient, dirty and dangerous, and developed grand Utopian ideals of future metropolis.[18]

The major shift towards autocentric urban planning and design occurred after World War II, when this Modern approach to planning became the standard approach to shaping cities. At this point, the automobile was increasingly accessible to middle class families, and seemed a ready solution to the "problems" of city life. At last, the majority of Americans had the opportunity to own a car and a home with a white picket fence in the outlaying suburbs. By facilitating movement via automobiles, people did not have to be subjected to the dangers of the city, and could live in far away residential suburbs, commute to work, and never have to worry about the complications of city life. This daily migration was also facilitated by government policies, such as the Highway Trust fund[19] that guaranteed a steady stream of funding to support this kind of growth through subsidizing the cost of road construction and gas prices. Within a decade the negative impacts of these models were too clear, yet planners were not learning from their mistakes.

Then, in 1961, Jane Jacobs published her seminal text, *The Death and Life of Great American Cities*, criticizing these failed planning methods, and calling for a radically different approach to developing diverse and vibrant city centers. This work was in many was the first articulated description of the central tenants of the Living Streets movement. Jacobs foresaw a way to achieve many of the goals of Modernism - safety, easy transportation, a return to nature, good housing - through a radically different approach to planning. She refers to the previous approaches of urban planning as "Orthodox Planning", and explains how it is based around serious misconceptions. Her main argument is that “Orthodox Planning” neglects to learn from its mistakes, and is paternalistic in its methods, or top-down. Jacobs makes us stop and critically examine why some neighborhoods failed and why others thrived.

Modern or “Orthodox Planning” began with one Englishman’s vision. Ebenezer Howard was disgusted by the condition of cities in England, and envisioned the Garden City - a new type of living situation where the city and nature met. The Garden City was arranged in concentric circles, with industry and nature melding. Populations and density had a set limit, and if people were content with every aspect of their environment strictly regimented, the Garden City could be a paradise.[20] These experiments reflect how planners can get carried away with envisioning a beautiful futuristic urban center, but develop it in their minds without any practical foundation. Living streets attempts to achieve many of these goals, but focuses on catering to the desires and expectations of the local community. Historically, cities developed in response to the needs of their citizens, and are organized by the wisdom of generations. Yet the “ideal” Modernist cities neglected the human scale, and were dreamt up in the chambers of planners, typically affluent white males, without public input. The Garden City is the first manifestation of such an approach.

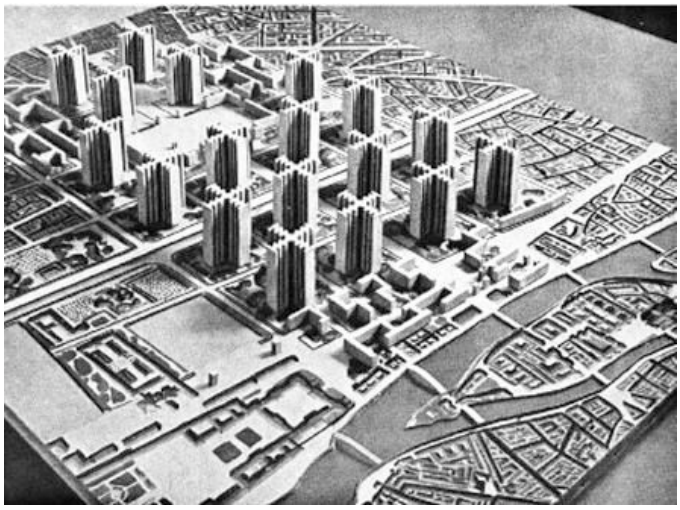


Howard's Garden City

Howard conceived the Garden City as a solution to city problems. This had devastating consequences; namely separating all uses and containing them in single-use zoning sectors. This developed the "Decentrist Movement"; an idea held by planners that separating different uses in cities, and thinning them out, was the best option. This also reflected the idea that streets are bad for people, and that houses should be turned away from them and focus on the interior life. Planners believed that the presence of many other people was at best a necessary evil, and that homes should preserve the illusion of isolated dwellings. This developed a culture dependant on the automobile to move between different areas of uses. Creating Living Streets attempts to undo many of the damages these ideas had on our built environment, as well as the social ramifications of such plans. Unfortunately in architecture and planning schools, congress, and local government, these notions were accepted as facts, and all future planning pursuits were centered on these misconceptions of density and zoning regulations.

The next major ideological shift was sparked by Le Corbusier, the Frenchman who devised a futuristic city plan with high-density skyscrapers connected through a complex network of multilayered highways stretching into the sky. He called this vision of ultra-dense skyscrapers within a park the Radiant City.[21] While his vision sharply contrasted with the Garden City in its high-density urban dwellings, it was merely an extension of Howard's original

goal, separating land uses and designing a contrived and regimented built environment.



Conceptualization of Le Corbusier's Radiant City

It is not hard to imagine why planners at this time were so enthusiastic about designing cities around the automobile; the car emerged in this period as a solution to the dirty and inefficient horse drawn buggy. This new machine enabled fast movement over great distances, and seemed to provide an easy answer to the problems of living in a crowded city by allowing easy movement from suburbs in to the center. Policies that favored highways and major thoroughfares designed for cars quickly began to take precedent over the pedestrian, and cities began ignoring the human scale.[22] This transition was accelerated by the automotive industry's personal interests. Car companies used their considerable political power to apply pressure on city governments to transition from streetcars to busses.[23] These mistakes still impact us today; and Los Angeles stands as a smoggy testament to the results of this car dominated culture.

Le Corbusier's vision was also influential in developing high-density urban public housing projects across the country. These massive structures, separated by "green spaces" and adjacent highways, were shaped in the likeness of the Radiant City. There is no question today that these projects, once hailed as major social and engineering accomplishments, were horrific

failures because they consolidated and perpetuated poverty. Most of these projects, such as Pruit-Igoe in St. Louis had no long term plan for upkeep and maintenance after being built, and were dismantled after becoming derelict and overrun with crime.[25]

Jacobs' influential work had profound effects on Urban Planning and Design programs across the country. People began to realize that her recommendations were valid alternatives, and studies across the world began to develop a solid body of work, including more quantitative methods, to influence policy that favors the development of Living Street ideas.

Paradigm Shift

More recently, the idea of Living Streets has developed, based largely off the basic tenants of Jacobs' seminal text. The idea of Living Streets is broadly defined as design components in the streetscape intended to improve sustainability, encourage healthy behavior, and promote pedestrian activity. While specific groups have different definitions of the term, these ideas are at the center of the movement. My definition is drawn from "Model Design Manual for Living Streets", produced by Ryan Snyder and Associates. This Manual lays out the ideology of the Living Streets movement, and specific ways to implement designs. This project was funded in part by the County of Los Angeles Public Health Department, who recognized the correlation between improved streetscape and improved health. The Manual was created for other cities to use in developing Living Streets locally.

The Model Design Manual was written over a two-day period by national experts in Living Streets concepts.[3] The Manual is funded by the Department of Health and Human Services through the Los Angeles County Department of Public Health and the UCLA Luskin Center for Innovation. The Department of Health invested in this project because they understand that creating pedestrian friendly streets improves public health by promoting activity. The Luskin Center was more concerned with water management policies, as they recognized the lack of a holistic approach to water management in the City. The Manual seeks to address all users and modes, in an effort to design balanced

[3] See appendix for contributors

streets that accommodate cars, cyclists, pedestrians and transit users. The Manual also incorporates features to make streets lively, appealing, economically successful and environmentally sustainable.[26]

The Manual was designed so that cities can update their current practices, adopting parts or the entire Manual, to suit their needs. It is intended for three groups of users, 1) municipalities who lack the funding to develop their own Manuals, 2) municipalities interested in developing living streets, and 3) planners, designers and engineers searching for the tools to develop Living Streets within their local framework.[27]

Plenty of qualitative data has been produced on the correlations between improved street design and increase in pedestrian activity or biking. The current, seemingly more objective, approaches lend credit to what Jacobs theorized, and have more power to influence policy. Governments now realize the importance of Living Streets for successful communities, and have supported projects, such as the Model Design Manual, across the country to improve health and sustainability.

Impact of Quantifiable Data

Planners and designers now have the tools and desire to study many of the arguments posed by Jacobs, such as parking rates, how design features influence behavior, biking rates, automobile flow rates, and impacts on local businesses - the list is nearly endless. New York city has made extensive use of such data to gain public support for Living Street projects. NYCDOT placed trackers inside of every taxi to monitor their movements and how they impact traffic. Using this data helped them measure how traffic flow was affected after changes in street designs.[29] What they have found, counter intuitively, is that reducing car lanes usually reduces travel time. This data provides clout for further implementation of Living Street features, and encourages people to reevaluate their assumptions surrounding these issues. Free parking is also seen as one of the largest issues facing urban centers. Some of its negative impacts are that it reduces incentives to take public transportation, wastes valuable space and gas, and causes congestion.[30] Finding ways to reduce minimum parking requirements, and adjusting parking rates are easy policy changes that can

quickly transform a downtown. Technology that helps us measure these impacts has been instrumental in influencing public policies that support Living Streets.

Goals of Living Streets

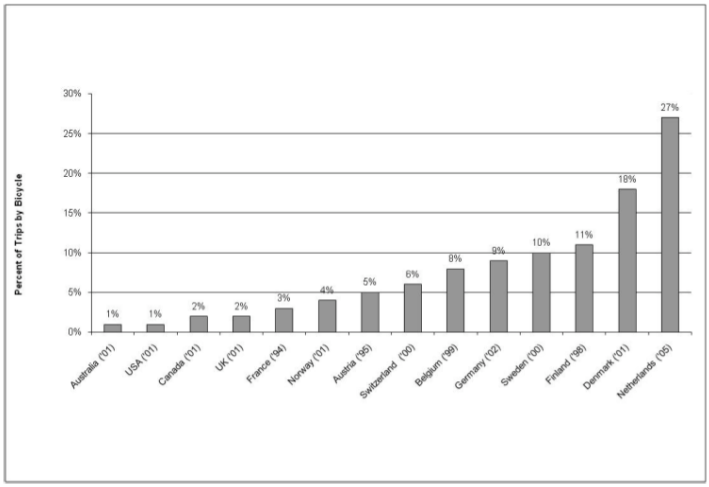
Making the Streetscape More Accessible Through Improved Design

Perhaps the ultimate goal of Living Streets is to make the streetscape more inviting and accessible to all kinds of people. By encouraging people to occupy space in the streets, neighborhoods become friendlier, safer, promote local economic activity, and make alternative transportation options more appealing. There are many ways to achieve this goal, some of the most basic include creating clean, safe, and walkable sidewalks; navigable intersections and crosswalks; and better crosswalk marking and signals, among others. The level of detail provided in the Manual for each feature can be extremely refined, and is not worth detailing in this section. I will, however, expand on a few of these design features that make the streetscape more accessible. Many of these sections overlap, which stresses the necessity of a holistic approach to creating Living Streets.

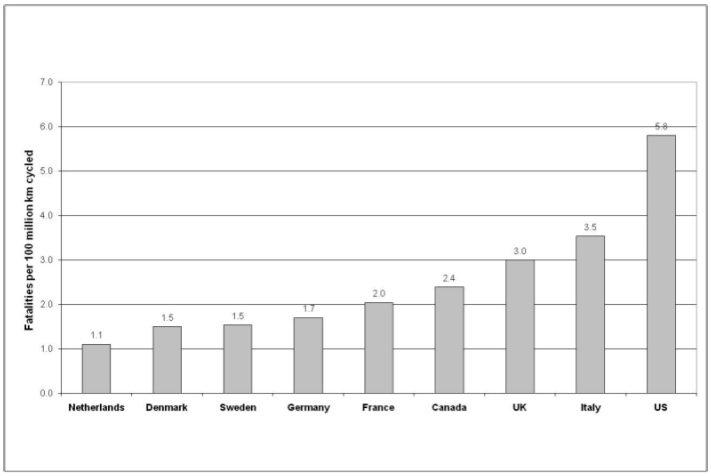
Increase Biking

One of the best ways to improve the street is to accommodate other forms of transportation. We have come to let cars dominate the road, making streets intimidating and unappealing to people in Los Angeles. Expanding bicycle infrastructure is one of the most cost effective ways to make streets more accessible. We now understand the direct connection between safe biking infrastructure and higher biking rates - and their tendency to make cities more livable. Most people do not bike because they feel it is unsafe.[31] Making people feel safe on a bike in a city is the best way to increase cycling rates. Rather than improving conditions along backbone networks[32], planners should focus on developing “Neighborhood Networks” or “Bike Boulevards”.[33] “Neighborhood Networks” give priority to bikes on local streets

by reducing the speed limit and painting large "sharrows"[5] in the street, making people of all ages feel safe. By focusing on developing a bike network within a neighborhood, you can get people to make most local trips by bike. Once these neighborhood networks have been developed and good cycling habits form, different neighborhoods can be linked[34]. Pucher and Buehler show how this approach has succeeded in increasing bike rates in cities across the world.[35] Minneapolis, MN, has recently claimed the title as most biked city in the country by instituting progressive policy measures, such as the development of the Midtown Greenway.[36] Facilitating local trips by bike has helped reduce sprawl in the country and create tighter communities.

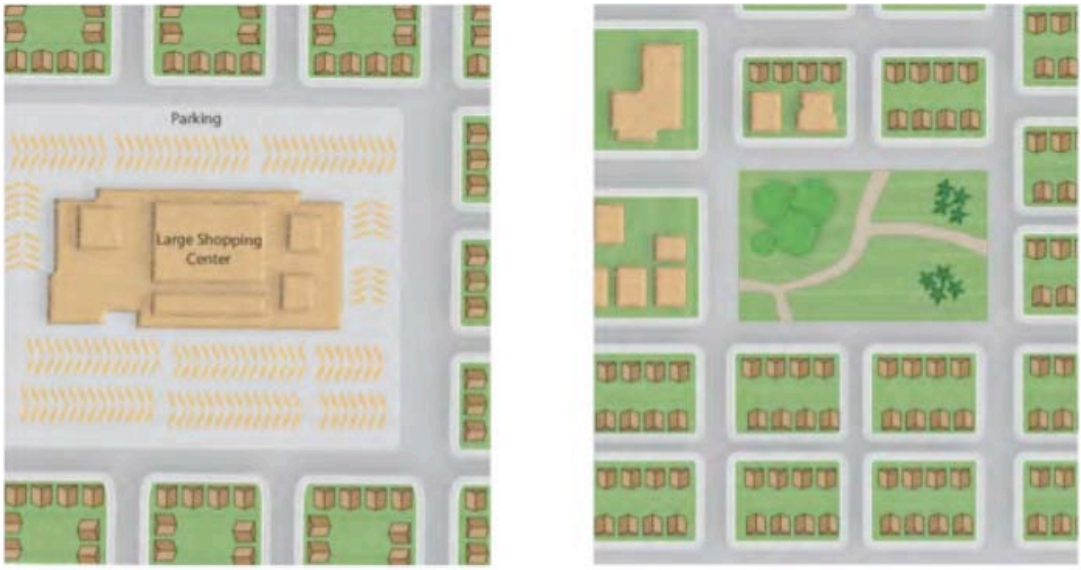


These two graphs show the direct correlation between safety and biking rates. America has the most cycling fatalities, but makes the some of the lowest trips by bike.



[5] "Sharrows" are painted designs on the road to remind drivers to share the road with bikes.

Reducing Sprawl



Conversion of shopping center to a neighborhood (Credit: Michele Weisbart)

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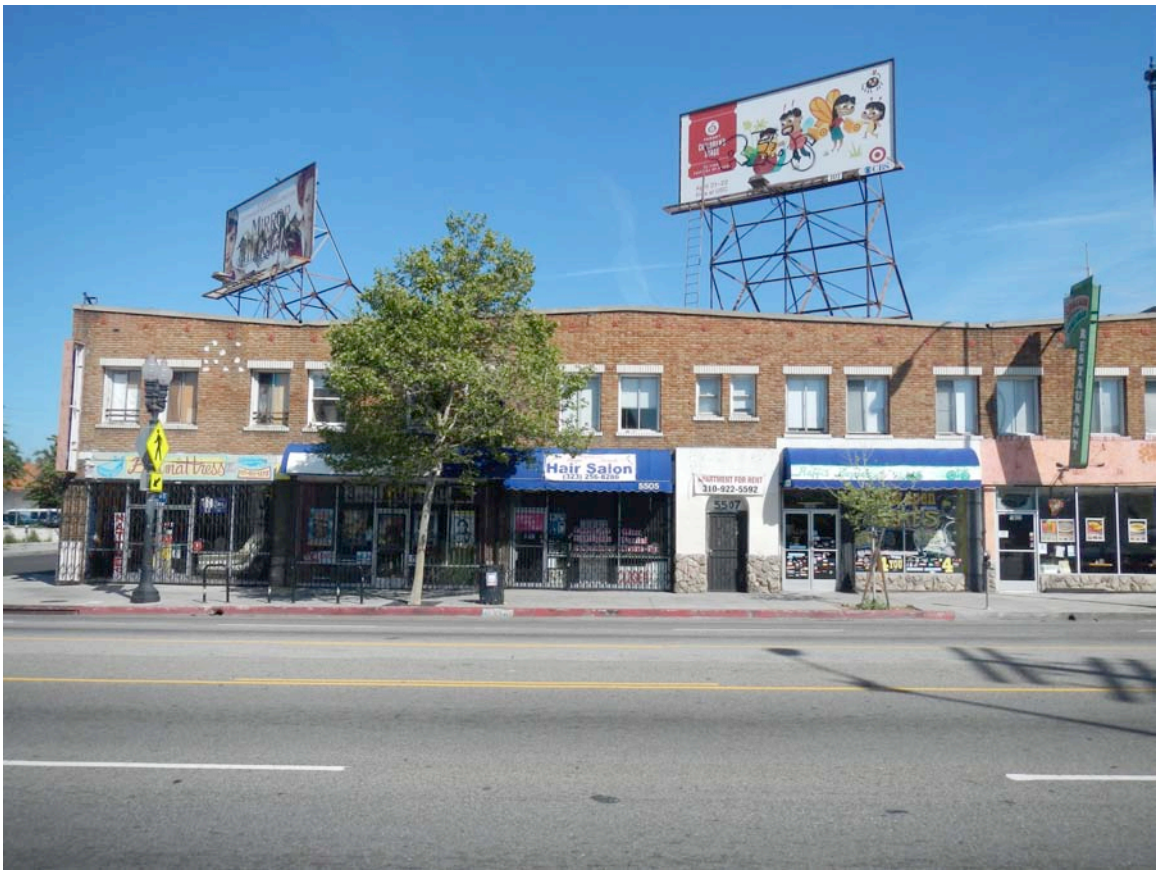
A shift in consciousness has occurred, and many planners and communities are making serious efforts to improve cities and specifically reduce sprawl. Sprawl is hard to define, but is typically characterized by the exurban development of low-density, single-use zoning requirements, forcing travel through highways. Sprawl is one of the most damaging and lasting effects of Modern planning theory and the post World War II economic boom. Low-density, single family residents located far away from workplaces are terrible for the environment. For Angelinos the consequences are understood far too well. Most suburbs can be thought of as the antithesis of Living Streets; they necessitate cars, isolate neighbors, and privatize space among plenty of other negative qualities. Many strategies have been developed to retrofit suburban communities with parts of Living Streets; connecting cul-de-sacs, defining public/private space, developing boulevards, and building public spaces, are some methods to improve them.[38] The Manual dedicates an entire chapter to retrofitting suburbia. Fortunately, recent Census data clearly reflects that Americans are returning to urban centers and leaving suburbs. This can be attributed to many factors, such as the burst of the housing bubble, job loss,

and rising gas prices.[39] [40] A good way to reduce transportation costs is to allow for a variety of land uses near your home.

Promoting Mixed Land Use Zoning



My apartment building, with a mattress store, DVD rental store, hair salon, Raffi's Bike Shop, and Cinnamon Vegetarian Restaurant beneath

Urban planners now understand the importance of mixed-use zoning regulations in shaping vibrant communities. Planners used to believe that separating life, work, and play, was favorable over having everything intermingled. Modern and Decentrist planners believed mixed-use zoning was unfavorable because it would cause congestion, invite poor uses, and look bad. The truth is actually the opposite, and it is now well understood that mixed-use zoning is a critical component of vibrant neighborhoods and more sustainable cities. Separating different activities led to the dominance of the automobile as a means of moving between them. The repercussions of these ideas quickly manifested themselves as "urban blight", crumbling downtown

centers, enormous public housing projects, and slum conditions in cities like New York and Chicago.

Providing residents of a neighborhood with access to diverse array of businesses and activities within a 1.25 mile radius[41] is more sustainable, healthy, and economically beneficial. Encouraging good density, focusing on the pedestrian scale, and making most trips feasible by walking or biking are primary goals of Living Streets design. Besides being more functional, density also promotes interpersonal interactions that make life more interesting. One of the best places to meet new people is on the street.

Streetscape Ecosystem

Streets are comprised of many systems, transportation systems, social systems, and economic systems. While we often forget this when living in a city, the streetscape is also an ecosystem. As the Model Design Manual states, "The idea of a streetscape ecosystem is to mimic nature, building reciprocal relationships within an interconnected system to sustainably enhance the local environment, its resources, the community, and the local economy"[42]. There is also a hierarchy to these systems. The most essential is water management, as water is the critical component to other healthy systems. There are a variety of design features that promote good water management, and these are addressed in more detail later. Other levels in the streetscape ecosystem include urban forestry such as street trees and landscaping, and manmade features such as benches and lighting. When implementing these features there are many things that should be considered, such as making sure to use indigenous vegetation.

Most streetscape ecosystem features serve practical as well as aesthetic purposes. Adding trees to the streetscape "will yield $48 to $62 in average annual net benefits over 40 years with costs factored in"[43] by reducing energy costs for heating and cooling. Providing seating options for pedestrians can also boost the local economy. Building a rich streetscape ecosystem creates Living Streets that are more enjoyable for people to walk around, shop, hang out, eat, meet friends and explore the city.

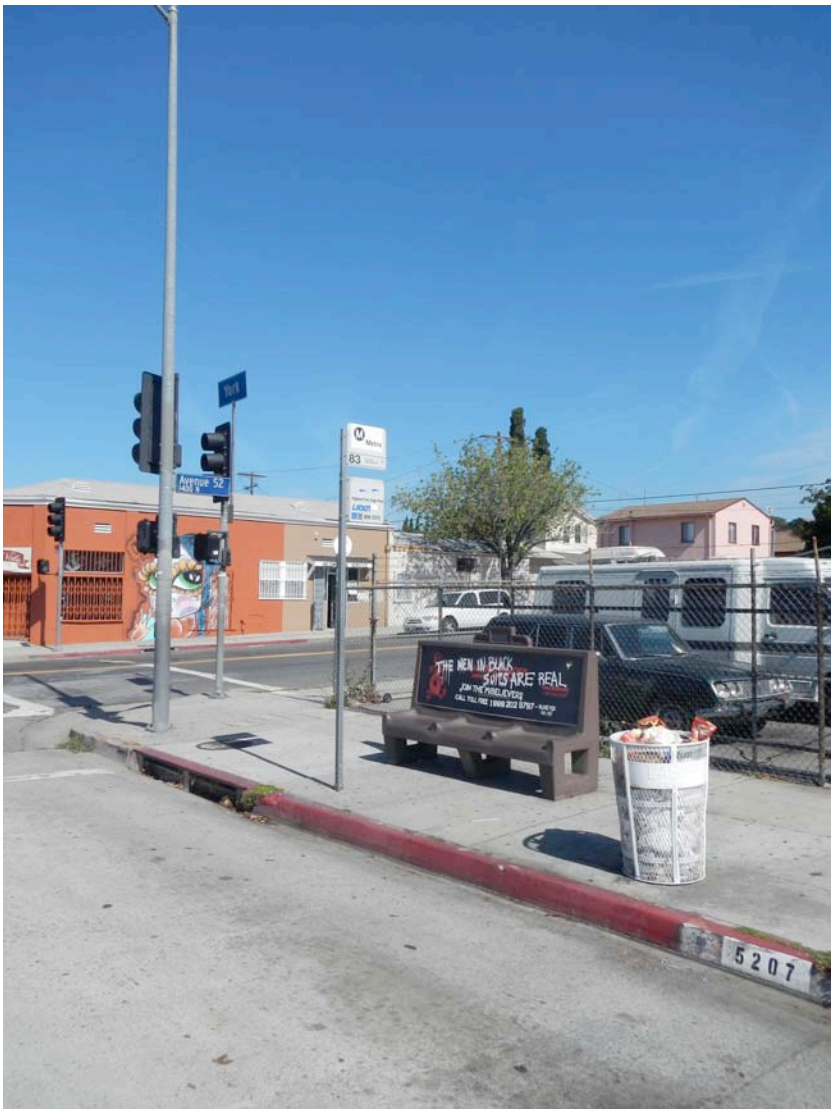
Pedestrian Spaces

Pedestrian Plaza in New York City

Making public space that is inviting to pedestrians, by reclaiming it from cars or through improved design, is vitally important to building Living Streets. Creating spaces that people feel comfortable relaxing in is often more difficult than most expect. Since the emergence of Modern planning, building pedestrian friendly spaces has been neglected. Most cities focus on removing pedestrians from the street, by making isolated pedestrian plazas inside building courtyards, constructing raised pedestrian walkways, and finding other clever devices to reduce their interference on the street. Living Streets focus on bringing people back into the streets by making streets more alluring, through improving seating options, more green space and better designed public spaces. Various techniques to achieve these goals are explained

throughout this project. Some of the best areas to encourage this behavior are around transit nodes.

Transit Accommodations



Minimal transit accommodations at York and Ave 52

Public transit is the only transportation option for many people; it is their access to jobs, school, shopping, recreation, and other daily functions. Except for subways and rail lines on exclusive rights-of-way, most transit uses streets. For transit to provide optimal service, streets must accommodate transit vehicles and have well designed stations. Transit connects passengers to destinations and is an integral component of

shaping future growth into a more sustainable form. Making streets transit-friendly, so that people feel comfortable walking or biking to hubs, is crucial to encouraging people to use alternative transportation. This can be accomplished with simple design features, such as shaded bus stops, comfortable seating, clear signage, and safer stops. A helpful technology that many cities are taking advantage of is transponders that can relay arrival information to stations, making wait times less uncertain. The combination of simple design and technology has enormous potential to make transit accommodations more appealing to pedestrians[44]. In order to make mass transit more appealing, we need to reduce incentives to driving by reducing cars' priority on streets.

Traffic Calming

Vision for traffic calming feature

The best way to create Living Streets is to reduce the presence and force of automobiles. After pedestrians were removed from the street and cars granted dominion, roads grew larger and larger, enabling cars to move faster and faster, making it increasingly dangerous for peds. Traffic calming is an

excellent way to change this; traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users[45]. Some design features that accomplish this are reducing lanes widths, building long continuous medians, medians with refuges, and road diets among other things. Changing the built environment is the best way to influence drivers' behavior; forcing them to slow down and yield to pedestrians is the best way to make the street safer for non-motorized users. In order to make these controversial changes to the streetscape, it is absolutely necessary to build community support.

Community Engagement

One of the most important lessons planners and communities have learned from the failures of Modern planning is the necessity to include locals in the planning process. There are many advantages to involving the community; it reduces opposition to plans, it can empower people, and usually locals have a unique understanding of the cultural, political, and geographic forces that shape their neighborhood. The Manual acknowledges this, and provides useful tools to help planners involve the community. Most importantly, the Manual stresses the importance of developing a community's social capital: "A community with a high level of social capital is characterized by a culture of neighbors knowing each other, interest and participation in local politics, high rates of volunteerism, and diversity in social connections. These characteristics foster a sense of community, engender trust, enhance innovative problem solving, and increase the likelihood that stakeholders will support financial investments in community projects" [46]. The quality and success of Living Streets ultimately depends on the degree that the local community is invested in developing them.

Creating Living Streets

People across America are beginning to understand how important Living Streets are to healthy and successful communities. The shift can easily be seen in the drastic change in city's planning policies. New York, under the

direction of Janette Sadik-Khan, has made some of the most progressive changes yet. New York is slowly transforming into a truly healthy and livable city. Turning Times Square into a pedestrian friendly seating area, creating the Highline[6], imposing road diets, and building protected bike lanes are just some of the new features of Living Streets that can be seen in New York. These major accomplishments were made in small increments. Once people saw how beneficial they were for the community, it was easy to make the changes permanent. Los Angeles has taken few steps towards developing a healthier city, but recently adopted their 2010 Bike Plan, promising to build 632 new miles of bike lanes in the next 7 years.[47]

One theory for the gaining popularity of this Living Streets movement is tied to the recession and young urban cyclists. When driving a car became too expensive, youth across the country turned to bicycles as an affordable transportation alternative[48]. The growing number of bikers interacting with the streets made people realize the terrible conditions of our cities, and motivated them to improve the streetscape[49].

While this may be true, in Los Angeles, most cyclists are migrant or low-income workers who rely on their bike as their primary mode of transportation. These groups are already marginalized, and usually do not feel comfortable asserting themselves in the street. Also, they are unprepared for legal repercussions that bikers face as targets of police[50]. Making the streets a friendlier place for all types of bikers is important to making the city a more just and equitable place. It is important to encourage sustainable behavior across all level and classes of society. Living Streets should not be seen as the exclusive right of affluent areas to improve their property values, but as a means of improvement and regeneration for all areas. Creating Living Streets can help reduce some of the problems the world faces as we continue to urbanize.

[6] See appendix for details.

Sustainable Development Through Living Streets

Looking towards the future, developing Living Streets can help address some of the serious issues we will face, including water scarcity, loss of natural resources, and environmental change. As the entire world continues to rapidly urbanize, creating more sustainable cities will be the only way to accommodate our exploding population. Focusing on improving public infrastructure, reducing energy consumption and greenhouse gasses, especially by shifting away from the automobile, is not only important but absolutely necessary for the survival of our race. If we do not make serious changes to way we live, we will perish with the changing climate. Furthermore, the world's population is increasingly concentrated in urban centers in slum conditions[51]. Supporting Living Streets can help alleviate the problems associated with this type of development.

There is plenty of quantifiable research that reveals how much our carbon footprint is reduced by living in dense, walkable urban areas rich in public transportation options.[52] Developing living streets supports a bottom up approach that can ultimately save of us form the perils of over expansion.

While planners made serious mistakes in the past, we have now developed the tools to create functional and vibrant cities. By examining the key components of Living Streets, I believe we can develop a holistic approach in creating a more sustainable and pedestrian-friendly Los Angeles for tomorrow. In the following sections I will detail specific design features, highlighting best practices, which are important to developing successful Living Streets.

Examples of Living Street Design Elements:

There are a variety of design elements and terms that are used in planning and design when discussing Living Streets that are important to be familiar with. This section outlines the different elements and types of infrastructure, using the Model Design Manual's best practices recommendations. In this section I examine more closely the three components this project focuses on: bicycle infrastructure, water

management mechanisms, and ways to reclaim pedestrian spaces, ending with the Manual's measures of success for evaluating Living Streets. The next section analyzes the Los Angeles 2010 Bicycle Plan (2010 Bike Plan), the guiding policy document intended to create a more bike-friendly LA. Understanding these policies recommendations is critical to working with local government to create Living Streets.

The Model Street Design Manual: A Guide Developing to Living Streets

Providing a comprehensive overview of this document is beyond the realm of this paper, so I will focus on sections related to Bicycle infrastructure, reclaiming pedestrian space, and Best water Management Policies (BMP).

In the introduction the Model Design manual justifies its existence by comparing it to current engineering Manuals that set the standard for how streets are shaped in California. Unfortunately, these technical Manuals do not create streets that are safe for pedestrians or cyclists, but their rules must be followed. The Model Design Manual seeks to work within these existing frameworks to develop living streets. Research shows that areas that develop Living Street designs have been found to improve economic activity, which is another valid reason to follow their recommendations. Furthermore, The Manual focuses on providing recommendations that maximize benefits and minimize costs of designs. Making it easy and affordable to implement living street designs is integral for widespread implementation.

This Manual provides grand visions for developing a more integrated and healthy city. The Manual identifies these benchmarks and performance measures to evaluate the quality of Living Street designs Whether developing living streets can accomplish all these goals is unclear, but it certainly cannot make streets worse.

Benchmarks

- Every street and neighborhood is comfortable to walk and bicycle in.
- Every child can walk or bike to school safely.
- Seniors, children, and disabled people can cross all streets safely and comfortably.
- An active way of life is available to all.

- There are zero traffic fatalities.
- No unfiltered streetwater flows into local waterways or the ocean.
- Retail streets become one of the most popular destinations for tourists in the country.

Performance Measures

- Street fatalities and injuries decrease for all age groups.
- The number of trips by walking, cycling, and transit increases.
- Vehicle travel is reduced.
- Prevailing speeds of vehicles on local streets decrease.
- Streetwater runoff is reduced.
- Water quality in rivers and the ocean improves.
- Retail sales and tourism increase.
- Resident satisfaction increases.[53]

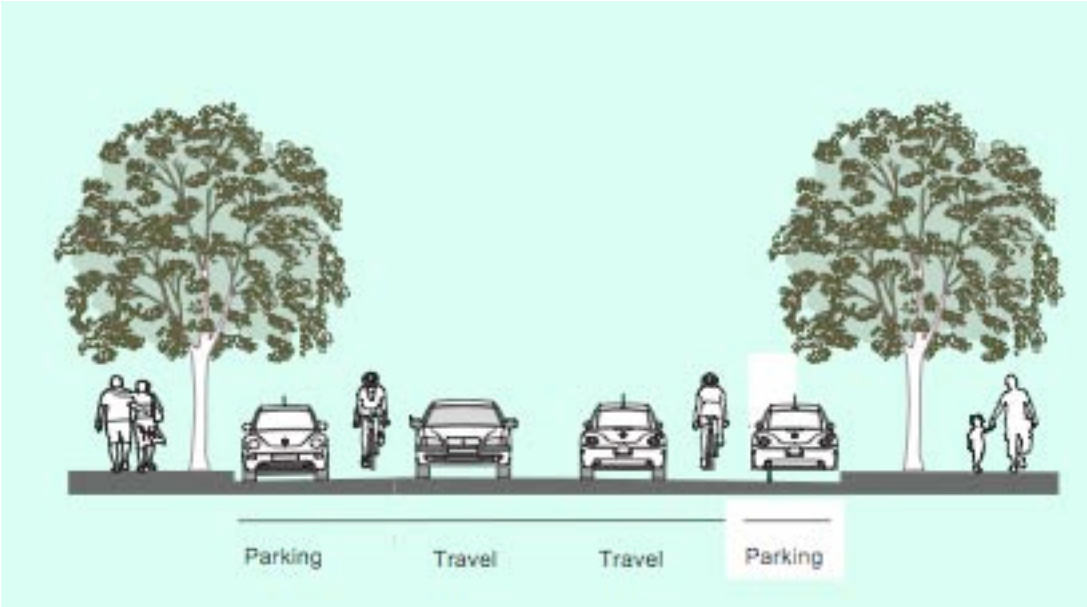
Finally, the Model Design Manual recognizes the importance of community involvement in the design process and proposes a wide array of techniques and recommendations for developing and sustaining community input. Next I examine what it takes to develop successful infrastructure for bicycles, pedestrian spaces, and water management features.

Bike Infrastructure

Painted bike path in downtown LA

There are many different kinds of bike paths and lanes that can be built, each has a specific use and ideal location, and they all vary in cost and effectiveness. Generally, bike infrastructure is inexpensive and easy to implement, yet it is lacking in many areas because it can be politically contentious. Usually, these components are organized in to three classes; each will be explained with their accompanying ideal design specifications. Then I will explain how these work together to create the three different types of Bicycle Networks. Building a comprehensive network of bicycle lanes is essential to make riders feel safe and enabling all kinds of people to use their bikes.

Class I: Shared Roadways



Shared Roadway

The first class of bike routes are Shared Roadways. These are the cheapest and least safe bicycle infrastructure. A good example are “Sharrows”, which are simply bicycles painted on the street with a chevron over them. These are best suited for low traffic, residential streets, and can help identify “Bicycle Greenways”. They provide little to no protection for bikers, and are particularly useless if drivers are expected to yield to bikers using Sharrows in the same space as car traffic.

In order to make Shared Roadways inviting to bikers there needs to be highly visible features such as Sharrows, perhaps requiring Centerline removal, and Wide Curb Lanes. The Manual explains the ideal setting and best designs for each of these features. Centerline removal entails painting over the lane dividers on low traffic streets to give priority bicycles by forcing drivers to yield. Wide curb lanes redistribute space on the street to give more room to bikes[54]. When riding, a 4 foot wide lane vs. 7 foot wide lane is the difference between being “doored”[7] and safely passing; understanding the

[7] Getting “doored” in bike lingo occurs when a street-side driver/passenger opens their door into the bike lane, hitting oncoming cyclists.

ideal measurements for these designs is important to creating truly safe routes for riders.

Class II: Bicycle Lanes

Bike Lane

The next level of infrastructure is Bicycle Lanes, which are marked by actual painted strips that create a lane and safe space for bicyclists. They can vary in width, with the smallest being three feet wide, and the largest around seven[55]. The larger the lane the better, as the likelihood of being "doored" decreases with increased space. Bike Lanes can be next to traffic, or separated by obstacles such as planters or parked cars. They can run at-grade with traffic or be raised slightly above it. The further removed from traffic the safer- and more expensive- they are. Bike lanes help inform drivers that bikers are a presence on the road, and their existence helps protect and direct bikers on their route.

Building protected lanes almost always requires taking space away from cars, usually through a road diet. A "Road Diet" is when streets are repainted to remove a lane for cars to make room for bike lanes[56]. Road diets are not particularly expensive either, yet they require reclaiming space from vehicles, which many traffic engineers are hesitant to carry out.

The Manual's ideal measurements for bike lane width changes with the setting, depending if they are installed on two-way streets, one-way streets, or contraflow lanes on one-way streets. Furthermore it highlights best practice designs for Bike Lanes that are shared with Bus Lanes, buffered bike lanes, and raised bike lanes. It also briefly discusses cycle tracks, raised tracks that are not near roads, which are less relevant to Los Angeles. [57]

Class III: Bicycle Paths

The last, and most expensive level of bicycle infrastructure are Bicycle Paths. These are separated paths that do not take space away cars, but require building separate infrastructure. These are the easiest to implement in most areas, such as Los Angeles, because they do not impact traffic. Bicycle paths take many forms, but are usually used for recreation as opposed to commuting. In Los Angeles the largest network of bicycle paths are along the Los Angeles River. In the 2010 Bike Plan, these paths are referred to as the "Green Bikeway Network".

Design specifications for bicycle paths are highly dependant on location. It may be that they require bridges or other linkages to be built to create a continuous path. These features can be expensive and must be evaluated for optimal design.

Bicycle Networks

As mentioned above, Green Bikeway Networks constitute paths that are mostly intended for recreation. Some local examples are the river path and beach bike paths. They comprise the smallest portion of bike infrastructure in Los Angeles. Although they are important to any comprehensive network, they do little to encourage daily biking activities.[58]

The other types of networks planned in the Los Angeles 2010 Bicycle plan are Neighborhood Networks and the Backbone Network. Neighborhood Networks aim to create a cohesive bike lane network in neighborhoods to increase trips within a community. Since most trips made by car are under three miles, neighborhood networks are intended to replace these short trips with biking. Developing neighborhood networks is the most effective way to increase ridership. Making people feel comfortable riding a bike around their neighborhood can give them the confidence to extend their bike trips to other parts of city. Safety is the primary obstacle that prohibits people from biking. In cities like Los Angeles that are outright hostile towards bikes, building the confidence in all types of people to ride is the only way to boost ridership.

According to Model Design Manual, successful Bicycle Boulevards that constitute Neighborhood Networks include Direct and continuous streets, Traffic diverters at major intersections, Mini traffic circles instead of 4 way stops, Traffic calming devices, and Wayfinding signs so bikers can easily navigate streets. At high-speed intersections it is important to include bicycle specific Traffic light Signals, Roundabouts and Median refuges, also known as pedestrian oasis.[59]

Bike friendly streets (BFS) are lower volume residential local and collector streets and comprise the majority of the roadways included in the Neighborhood Bikeway Network. A Bicycle-Friendly Street shall be defined as a Local and/or Collector Street that includes at least two traffic-calming engineering treatments in addition to signage and shared lane markings.[60] [61]

BFS in a Neighborhood network

Backbone Networks are developed along major commuter routes, usually heavily trafficked arteries, to link neighborhoods and distant sections of the city. Backbone networks are important to any network, as they enable faster commutes. However, backbone routes are typically very intimidating to ride on because of the heavy traffic volume and close proximity to cars. Focusing on backbone routes does little to boost ridership rates, and although necessary, should be subordinate to developing neighborhood networks.

Bikeway Design Specifications:

The Manual guide puts forth a comprehensive list of bicycle design features that are intended to make streets safer, livelier and more sustainable. Not only does it outline the ideological benefits of these features, but provides actual measurements and designs that have been found to be most effective. Most of these design features have been recognized and are now included by the LA 2010 Bike Plan.

Some of the more important recommendations in this section focus creating safer intersections for cyclists. This include clear bikeway markings around turning lanes, Separate traffic signal lights for bicycles, and Bike Boxes where bikers can gather near the intersection in front of cars. [64]

The next section shows how colored pavement treatments can be used to increase visibility for bikers on shared roadway lanes. Coloring in bike lanes with green

paint is a common solution, yet understanding what paint works best for different environments is important. Los Angeles experimented with green paint on the Spring Street bike lanes that faded too easily; learning from these mistakes for future bike lanes is critical.[65]

This section also identifies wayfinding as a critical component of good bicycle infrastructure. Posting signs that direct bikers along bike paths improves safety and comfort. Good examples include “Bike Lane” signs, as well as listing directions and distances to nearby points of interest, such as museums or parks.

Wayfinding on the Hudson River Bike Path in New York

Finally, the Manual highlights the importance of safe Bicycle Parking. If people are unable to safely park their bike to a solid bicycle rack, they are less likely to make trips by bike.

The next section focuses on implementation of these ideas. They include directions on how to narrow car lanes to accommodate bicycle lanes (lower speeds safer), road diets, and parking removal. The benefits of these activities were discussed in the background section, but this Manual provides specific tools to accomplish them.

Bicycle Safety

Pulcher and Buehler show how establishing Neighborhood Networks has succeeded in increasing bike rates in cities across the world, from Portland to Amsterdam. Minneapolis, MN, has recently claimed the title as most biked city in the country by instituting progressive policy measures, such as the development of the Midtown Greenway.[66] The Midtown Greenway is a 7 mile separated bike path that cuts directly through the city, and is heavily used for both recreation and commuting. Since the city installed this feature, biking rates have skyrocketed.[67]

There are a number of ways to address the lack of these features in Los Angeles, either by changing behavior or the physical landscape. To begin with, any one who bikes should be familiar with the rules of the road, and how to clearly communicate to drivers what they are doing. Drivers also should be more aware and comfortable maneuvering around cyclists. Logically, if both groups bike more they will be more comfortable in these situations. Yet even an experienced biker who follows the rules of the road can struggle on streets that are inhospitable for bikes.

Changing the built environment is the best way to encourage people to bike in Los Angeles. Protected bike lanes always result in an increased ridership; even just painted lanes on the street make most people more comfortable. In Europe, cities like Amsterdam and Copenhagen have separated and raised Bike Paths on most major streets. While fewer cities in America implement these features of Living Streets design, at-grade protected Bike Paths are effective as well.

While I am willing and able to ride on any kind of road - even highways – I am part of a fringe group that comprises less than one per cent of the total biking population in the US. Most peoples' desire to ride is dependant on the quality of infrastructure. Every one I spoke to or rode with in any city expressed the same sentiments - they felt unsafe when we were not in Bike Lanes, and if they were not with me, they would not have made the trip. Bike Lanes are not just a physical feature, but also an ideological safety device notifying drivers that bikers are present to reduce crashes.

It is important to make the distinction between bike accidents and crashes - it is hard to consider many events "accidents" when one can fairly accurately predict the number of incidents per year.[68] These are not accidents, but failures of the current

system to accommodate bikes and cars on the same roads. Most crashes occur when cars turn left or right and do not see bikes on their inside or outside - these are known in the bike world notoriously as “left and right hooks”. Surprisingly, the lowest percent of crash rate is bikers being hit from behind, which is a comforting statistic to tell amature riders who worry about what they cannot see behind them.

New York has done a good job of adapting their infrastructure to be more compatible with the demands of their unique cityscape. New York has addressed this problem creatively by installing bike lanes on the left-most side of most major streets. In most cities they are found on the right side of traffic. On some of my first rides through the city I was battling through traffic wishing there was a bike lane before realizing it was on the left side! This prevents cars- taxis especially - from right hooking bikers as they make more frequent right turns. Left turns usually require more space, or are controlled by traffic signaling lights, reducing the chance of riders being left-hooked. By also providing separate signaling lights for cars and bikes, the possibility of being hooked is greatly diminished. Almost every time I rode unprotected in Manhattan I was nearly right hooked, yet while in the protected bikes lanes (such as 1st/2nd Avenues) I was safe. These features have helped encourage groups to ride that were previously afraid, especially women.

One of the largest pools of future cyclists are women. Currently, men outnumber women bicyclists two to one. Researchers postulate that women’s greater aversion to danger[69], concern for personal security and fear of motor vehicles keeps them from riding on streets without bicycle facilities. Women’s disproportionate responsibility for child care and household chores makes a disconnected bicycle network an infeasible means of transportation for many women.[70] [71] [72] In addition to improved infrastructure, bicycle advocates believe that more women will begin bicycling with improved bicycle parking, bicycle equipment for women and educational and outreach efforts that will change the “traditionally male dominated” bicycle community. Attracting more women to bicycling is an important goal of developing Living Streets, as women are considered an ‘indicator species’ for bike-friendly cities.[74] Current research purports that as more female bicyclists ride more frequently, their communities become more bikeable.[75]

Understanding the differences in bicycle infrastructure and designs are important if communities are to develop the most effective bicycle networks possible. One of the many advantages of riding a bike is that you can easily communicate with people and the environment around you. Riding your bike to a local café or park is a great way to relax and engage with your surroundings. A great way to get people to bike is if there are more interesting destinations nearby to ride to.

Reclaiming Pedestrian Spaces

A key aspect of Living Streets are reclaimed pedestrian spaces. There are many types of spaces that can be dedicated for pedestrian use, including squares, plazas, outdoor cafes, parks, parking spaces, really anywhere people are willing to sit down and take over. One of the main goals of the Living Streets movement is to reclaim space from cars and streets and make the streetscape more inviting for pedestrian activity. There are also numerous ways this can be accomplished, from low–cost DIY approaches such as local residents building street furniture, to multi-million projects that require federal funding. The most successful techniques to reclaiming public space for pedestrians have been accomplished through pilot projects, as exemplified by New York City's Department of Transportation. Using temporary, low cost features, the city was able to initiate a massive project to make the streets more comfortable and safe for people. In my project I focus on Pedestrian Street Porches - seating areas that are situated in the street in the place of car parking.

There is no particular section in the design manual that outlines best practices to reclaiming public space for pedestrians, as this is the overarching theme. Instead examples are spread throughout the entire Manual, creating an exhaustive guide to almost all possible ideas and designs.

Street furnishings in the street environment add vitality to the pedestrian experience and recognize the importance of the pedestrian to the fabric of a vibrant urban environment. Street furnishings encourage use of the street by pedestrians and provide a more comfortable environment for non-motorized travel. They provide a functional service to the user and provide uniformity to the urban design. Street

furnishings include benches and seating, bollards, flower stands, kiosks, news racks, public art, sidewalk restrooms, signs, refuse receptacles, parking meters, and other elements.

Street furnishings achieve improved vitality in many ways:

- They make walking, bicycling, and public transit more inviting.
- They improve the street economy and common city prosperity.
- They enhance public space and create a place for social interaction.

Placement of street furnishings should be provided:

- At concentrations of pedestrian activity (nodes, gathering areas)
- On streets with pedestrian-oriented destinations. Pedestrians may gather or linger and enjoy the public space.

Site furnishing placement should follow these criteria:

- Street furnishings are secondary to the layout of street trees and light standards as street trees and light standards develop a street rhythm and pattern.
- Site furnishings should be placed in relation to these elements sensitive to the vehicular flow and pedestrian use of these elements. Careful consideration to the placement provides ease of recognition and use. [76]

All site furnishing must be accessible per Public Rights-of-Way Accessibility Guidelines (PROWAG) and other city regulations. Also, Cities should strive to include sustainable materials for street furnishings[77]. Below are some examples of designs that fulfill these benchmarks.

<u>Examples of Reclaimed Spaces:</u>

Street Porches, as mentioned above, are seating areas that take the place of car parking in the street, and are typically 5 x 15 feet wide**.** Designs for these features vary widely, and are usually creatively built with various materials[78]. Areas such as the San Francisco Mission have widely implemented them, and people can be seen at all times of day taking advantage of these spaces usually devoted to cars. These are often more

contentious projects to undertake because they actively reclaim space from vehicles, which many cities are hesitant to carry out. While isolated street porches are beneficial, people can still feel unsafe sitting so close to traffic and parking cars. Although they are usually buffered on the traffic facing side by bike lanes, it is more inviting if there are multiple street porches in a neighborhood.

Street Porch in NYC [79]

Pedestrian Plazas are public areas, sometimes former street intersections, which have been reclaimed for pedestrian use. Typically, they include seating and shade features that make the space more inviting for people to gather around. Many cities have redesigned their streets to accommodate for such spaces. New York has aggressively reorganized spaces dedicated to cars to create pedestrian plazas throughout the city. Another beneficial aspect is that they typically calm traffic, making it more efficient for drivers, and safer to walk for pedestrians.

Pedestrian plaza nestled between two streets in New York City

Pedestrian streets are another example of reclaiming space from cars for people. Sometimes streets are completely closed off to cars and filled with chairs and cafes where people can sit and enjoy themselves, perhaps even buy something. These are more fitting in dense areas, where the space between buildings is small, creating a more intimate space. A good compromise many cities make is to close of streets only for special events such as farmers markets or at certain times of day like weekends.

There are many other types of pedestrian spaces and activities that can be encouraged to develop living streets. These are just a few examples; in Athens, Greece, residents of Exarhia, a traditionally revolutionary neighborhood, took over an underused parking lot and transformed it into a large public park. They met with strong opposition from police, and after withstanding multiple violent skirmishes, eventually succeeded in reclaiming the space. While such tactics and behavior are not replicable here in the United States, it serves as an example of what can be accomplished if pedestrians demand more space for themselves and are willing to fight for it. A good way to

encourage people to occupy a space is to make it visually pleasing, through good design, as well as by incorporating natural features. These natural features should serve practical as well as aesthetic purposes, the next section describes such features.

Improving Water Management Through Enhancing Streetscape Ecosystems

Bioswales on private properties in Portland

Access to safe drinking water is an increasingly pressing issue in the modern world, and as the world continues to urbanize we must be more aware and responsible with our water management policies. Los Angeles is in a particularly difficult position because of its desert local. The lack of water in the city puts it at high risk for burning, and historically poor environmental regulations have contaminated the ground water, rivers, and ocean. At the same time, the winter rainy season usually causes massive flooding, and is the reason the River is now boxed in concrete. Dealing with this issue in a comprehensive manner is a main goal of developing Living Streets in the city.

Responsible water management is essential for a sustainable future in the City. The idea is to mimic nature, building reciprocal relationships within an interconnected system to sustainably enhance the local environment, its resources, the community, and the local economy.[80]

The most relevant form of water management in Los Angeles is street water management. Streets are constructed waterways, diverting water from its natural path and disconnecting the hydrologic cycle. Traditional design has focused on speedy removal of water from the street and disposal of it as waste in storm drains and sewers. This section provides tools to reclaim streetwater as a resource and allow it to nourish trees and soils on its path to ground or surface water. In Los Angeles, different approaches are necessary at different times of year. In the rainy winter season, surface rainwater runoff is the main concern, while in the dry summer period, dealing with polluted manmade water runoff is more important.

The Model street Manual provides these Principles of streetwater management:

- Use the conventional storm drain system as the overflow approach, not the primary system to manage street water.
- Harvest, use, and/or store stormwater as close to its source as possible.
- Use on-site non-potable water sources for irrigation before any imported water source.
- Select tools that mimic natural processes.
- Maximize street water management by integrating it into the myriad design elements in the public right-of-way.
- Show the water flow.[81]

<u>Bioretention</u>

The Manual defines bioretension as: A stormwater management process that cleans stormwater by mimicking natural soil filtration processes as water flows through a bioretention Best Management Practice (BMP).[82] It incorporates mulch, soil pores, microbes, and vegetation to reduce and remove sediment and pollutants from

stormwater. Bioretention is designed to slow, spread, and, to some extent, infiltrate water. Each component of the bioretention BMP is designed to assist in retaining water, evapotranspiration, and adsorption of pollutants into the soil matrix. As runoff passes through the vegetation and soil, the combined effects of filtration, absorption, adsorption, and biological uptake of plants remove pollutants.

For areas with low permeability or other soil constraints, bioretention can be designed as a flow-through system with a barrier protecting streetwater from native soils. Bioretention areas can be designed with an underdrain system that directs the treated runoff to infiltration areas, cisterns, or the storm drain system, or may treat the water exclusively through surface flow[83]. Listed below are some tools that can achieve this goal.

BMP Tools:

Swales

Swales

Vegetated Buffer Strips

Rain garden in an urban landscape (Credit: Kevin Robert Perry)

Rain Garden

Infiltration Trenches and Dry Wells

Permeable paving

Planters

 [84]

Screens

In Los Angeles, BMP can be accomplished through the introduction of Bioswales – bioretention design features that incorporate local vegetation to recapture surface water into the local environment, helping filter out toxins and preventing downstream pollution. Again, design and implementation varies widely according to the local environment. Bioswales can be incorporated into curbside storm drainages, or in peoples' backyards. They can serve as beautiful design features, or simply as functional water drains. Bioretention components are also highly variable depending on the climate and available native vegetation. In Los Angeles, such bioretention mechanisms are an important part of improving our water management policies, and serve as low cost alternatives to building more storm drains.

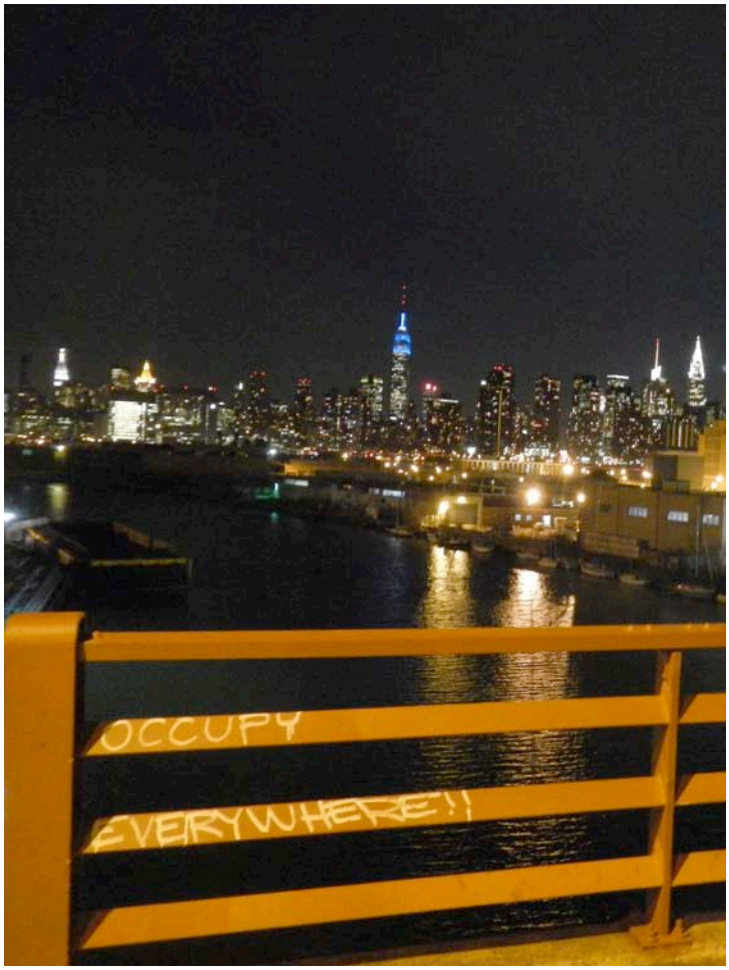
Overall the Model Design Manual is an extremely useful document that enables any group to understand and implement components of living streets. The fact that is "open source" makes it practical for widespread use. Not only does it lay out the ideology behind the movement, it also details best practices for designs. These examples are drawn from a variety of sources across the county. The next section takes a closer look at how these features have been implemented in New York City and Portland, Oregon.

Case Studies: New York and Portland

Examples of Living Streets can be found in cities across the world, but only a handful of urban American communities are engaged in the movement. In my research I traveled to two American cities to determine "best practices" for designs, focusing on

aspects that are important to develop in Los Angeles. These case studies include bioswales for the management of water runoff in Portland, as well as the cohesive bicycle networks that often accompany these designs. I also examine the multitude of Living Streets projects in Manhattan, New York, such as the 1st and 2nd Ave protected bike lanes, and the people responsible for initiating this change. I chose these cities because they are leading the country in implementing these progressive ideas. In Portland, local government has found creative ways to deal with water management issues by encouraging civic engagement. In New York strong leadership has taken the lead in making safer streets. Los Angeles must recognize and synthesize these approaches to create a better streetscape environment.

New York City



Manhattan as seen from the Pulaski Bridge

Example of Street with Protected Bike Lanes. Notice Pedestrians using the oasis.

The New York City Department of Transportation (NYCDOT) has taken the lead in our country in developing more sustainable, Living Streets, by restricting automobile use and giving this space back to pedestrians. New York is the most populated city in our country, and the image that it conjures in our collective conscious is one of non-stop movement of vehicles, goods, and people at all times of day. There are particular approaches that have facilitated the transition towards friendlier streets; namely the support of Mayor Bloomberg and the decision to begin temporary Living Streets pilot projects to demonstrate their effectiveness before spending large amounts of money to complete them.

New York has shown that this fast-paced way of life is not incompatible with developing Living Streets, and that in fact the two contribute to the health and success

of the city. Over the last decade New York has made enormous progress in creating safer and more appealing spaces for pedestrians and bicyclists. Some major projects that stand out are the waterfront rehabilitation projects, the Highline in Chelsea, prohibiting vehicles in Times Square, and the First and Second Avenue protected bike lanes, among many others. If New York, more specifically Manhattan, the biggest, busiest city in the country can "sacrifice" this space for people and still be successful, then it should be no problem for other cities to follow suit.

Today, biking through Manhattan no longer entails risking your life- the improved infrastructure makes the streets accessible to many more people. As we know, safety, or lack there of, is the main reason people choose not bike. New York has made major moves to change this, by installing protected bike lanes on major thoroughfares (1st/2nd Ave) along all bridges, and waterfronts to encourage people to safely commute or accomplish daily activities within a 3 miles radius by bike. My personal experiences reflect how successful these efforts have been. Form where I stayed in Brooklyn under the Williamsburg Bridge, I was able to easily commute to Manhattan to conduct research. Once there, I was able to follow the bike path signs to my destinations without being lost or afraid of being run over.

Yet this was not always how the city was organized. New York was really the first megalopolis in our country; and hundreds of thousands of immigrants filtered through it on the way to the attaining the American dream. Many of these opportunists stayed in the city and made it their home, contributing to the diverse and colorful environment that is the city today.

At this time, before the advent of the car, people lived their lives in the streets. Markets, vendors, businesses - indeed all facets of life - were acted out in the space that is now given to cars. Children could be seen playing in the streets, always under the watchful eye of some one from the neighborhood. As automobiles become more accessible to the general public, these areas were paved over and dedicated to cars. Life for the pedestrian was much more confined after this, and eventually the streets were no longer considered a suitable place for people to gather.

The city grew and changed over time, but experienced its most rapid metamorphosis under the control of Robert Moses, one of the most powerful and

controversial unelected officials in modern American history. While he is credited with many of the major planning accomplishments of the 20th century in New York, such as the numerous bridges and highways that now link the city, he never considered the impact his decisions had on local communities. Moses destroyed and displaced countless communities to create his vision of a New York accessible by car. In every respect he characterizes the problems with Modern planning.

Contemporary planning, envisioned by Jane Jacobs, was formed in response to his totalitarian approach to city shaping. Eventually after years of political manipulation and coercion, he fell from power around 1968 and gave way to a new generation of planners.

Still, it would take generations of decay before New York would once again start to focus on the importance of pedestrians for a successful city. In the past few years, one character in particular has helped lead that change.

Picture taken from bike lane in Brooklyn

Profile: Janette Sadik-Khan

Rather than focusing on specific Living Street designs, this sections reveals how a determined and creative DOT can make friendlier streets despite opposition. Most of the improvements to the city's streetscape have been spearheaded by one enormous

personality – Janette Sadik-Khan. A combination of Jane Jacobs and Robert Moses, Sadik-Khan has taken the initiative to develop Living Streets throughout the city, often without regard to political backlash or community support. No single person has done more to create Living Streets than Sadik-Khan.

Still, it took many decades for New Yorkers to reclaim the streets for people. Arguably, this change was directed by Janette Sadik-Khan herself, and the movement was initially met with heavy opposition. Manhattan is one of the most dense and congested areas in the country, with some of the highest average traffic rates. The most difficult task planners faced was convincing business owners that reducing automobile usage would not hurt them financially. Rather than initiating big, expensive projects across the city that had little public support, the DOT developed a cheap and creative solution. Throughout the city, planners temporarily implemented ideas for increasing pedestrian spaces - reducing car lanes, sectioning off areas for pedestrian use, and installing bike lanes – by using low-cost movable materials such as traffic cones and plastic barricades. This gave people a chance to see how these ideas would actually impact the city, while still leaving the option to modify specific designs and plans[88].

Yet it was Sadik-Khan's combination of charm and ruthlessness that was able to get these projects done on a short time line. Often considered equal parts Robert Moses and Jane Jacobs, Sadik-Khan has pushed the limits of local government to achieve rapid change. The most important tool she used to accomplish this was the extensive use of quantitative data, tracking everything from traffic flow rates, to pedestrian sitting times, to sales in local businesses[89]. Building an extensive database of this information has helped Sadik-Khan combat opposition. If someone complains that reducing car parking will hurt local business, she has plenty of data to discredit that and silence them. That seems to be another distinguishing characteristic about Janette Sadik-Khan, she does not take criticism well, and usually its her way or no way at all. While perhaps not a savvy politician, she is truly a visionary and her work has made New York Streets safer than ever[90].

Another remarkable approach Sadik-Khan employs is to use existing resources to complete projects without using capital funds or outside funders. If she wants new

bike lanes painted, she uses extra paint left over form other projects around the city. Rather than going through local government to pay for a new pedestrian plaza, she approaches the local Business Improvement District and convinces them to cover the cost of materials and maintenance – using her convincing data to show how much it can improve the local economy. By overcoming funding and bureaucratic obstacles, Sadik-Khan has streamlined the process of creating safer streets – often at the cost of public support[91].

This novel approach worked marvelously, and eventually garnered more public support[92]. In fact, reducing traffic and redirecting certain bus routes actually proved to be more efficient. Skeptical business owners quickly realized these changes would not harm their businesses, and in many cases they attracted new customers on bikes and on foot. Not to say that every one in the city supports these changes; taxi drivers still strongly oppose them, especially protected bike lanes, as they make it more difficult to load and unload passengers. Yet the strife between bikers and cabbies is deep-seated, and often antagonistic.

Specifically this approach was used in Madison Square, where a dangerous intersection was converted into a pedestrian plaza. Most of the materials used were recycled or low-cost. Recovered stones from the old Williamsburg Bridge and plastic planters help protect the edges that lack curbs, and movable seating was chosen with input from the community[93].

Sadik-Khan highlights how an ambitious worker within the DOT can effect enormous change. Janette began her term dedicated to making streets safer by catering to pedestrians. Unfortunately there is no one as ambitious in LADOT, and the department overwhelmingly favors automobiles over pedestrians. We may have to wait fort next generation of city officials take control before LADOT exhibits such progressive behavior.

New York: Pedestrian Spaces

Pedestrian Plaza

Although I visited New York in the winter, I still found most reclaimed pedestrian spaces in use. Fortunately, the winter of 2011/2012 has been unseasonably warm, with temperatures as unusual as 50 degrees Fahrenheit in early January. The Highline in particular was heavily visited every time I went, as were most plazas, such as Madison Square. People were eager to take advantage of the pleasant weather - at this time last year New York suffered one of the largest blizzards in its recorded history.

Generally, the public has heavily supported pedestrian projects such as these, and New York residents are eager to take advantage of their improved built environment. Surprisingly, traffic rates have not been slowed by the reduction of lanes and increase in public space. This is the major advantage to first implementing these plans with low cost features; it makes it much easier determine the actual effects of the

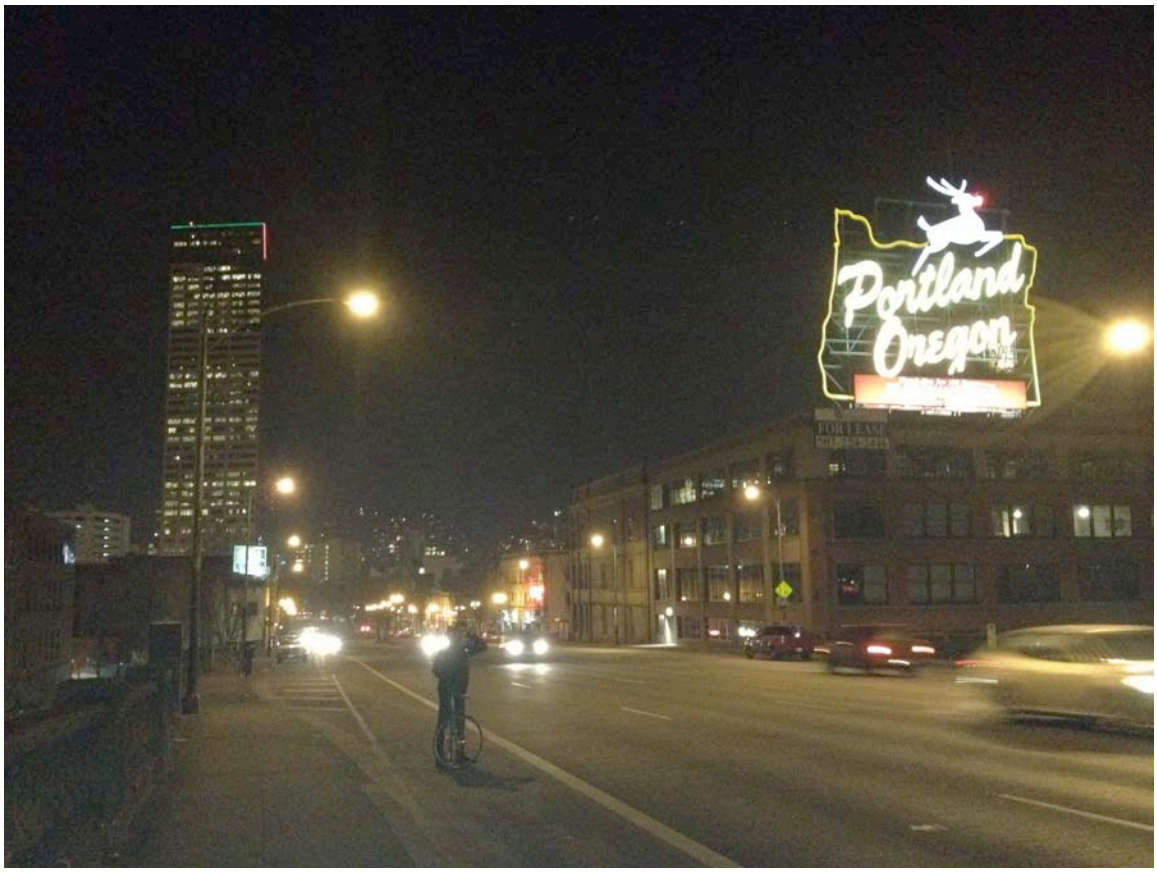
changes on the environment.

There are many places where Los Angeles could implement similar changes to the streetscape. Space is generally so poorly used here because of it abundance, yet our failure to reclaim public space in this city is due to politics, not funding or lack of space. Still, Los Angeles is making slow progress – just on March 4th, 202 the city opened its first New York Style pedestrian plaza that replaced car parking. The Sunset Triangle pedestrian plaza is the first such project that moves the city towards developing more Living Streets.

NYC conclusion

New York, perhaps more than any city, has been shaped by high profile personalities with ambitious goals and futuristic visions. While in the past it has suffered from poor planning, the city is beginning to see a massive improvement in its built environment facilitated by more political transparency and technology. With dedicated leaders committed to making the streets safer, the city has become a model for developing living streets.

Case Study: Portland



Me in a bike lane in Portland

Portland distinguishes itself from most American cities by its widespread bike infrastructure and pedestrian friendly green spaces, among many other unique qualities. Nestled in the Northwest at the confluence of two major rivers, with flourishing flora and fauna, it feels more like a giant garden than an urban center. Portland has some of the most bike-friendly streets and progressive water management policies in the country, and is on the forefront of developing Living Streets. While these projects are not limited to water management polices and bike infrastructure, I will focus on these aspects of Living streets in this section. Although Portland is much smaller than Los Angeles, there are still many lessons to be learned from “stump town”.

Portland has been extremely proactive in developing a more efficient water

management policy by widely implementing bioswales throughout the city.[9495] Portland can be considered a city of surface water runoff; positioned at the confluence of the Willamette and the Columbia Rivers, nearly all of Portland's water comes from these sources and the surrounding glacier melts. Portland's focus on water management was sparked when overwhelming amounts of surface water runoff would overflow their sewage system, causing tons of raw sewage being expelled into the Willamette River[96]. The city established a [water management policy council] to determine how to deal with the issue[97], and while a [multi-million dollar sewage pipe] extending under the Willamette was a priority, they began to tackle issue more immediately by installing bioswales throughout the city.

The only way this approach could have any significant impact for Portland was through widespread implementation. While the city began by installing these Living Street features on street corners and in public places, it was clear that private initiatives would have to be included. Portland achieved this by providing property tax break incentives to private homeowners who would install bioswales on their property[99]. This was an excellent way to encourage citizen involvement, and has been very successful.

Currently Portland boasts 700 bioswales, and plans to continue installing them throughout the city. Indeed, walking through the city one can spot these features in every neighborhood. Not only do these features serve an important purpose, but they are also aesthetically pleasing. There is no standard formula for a bioswales, and many people get creative by including colorful indigenous plants and imaginative designs. They can be found in backyards, cafes, and on the sides of highways, and add even more green to an already bursting city.

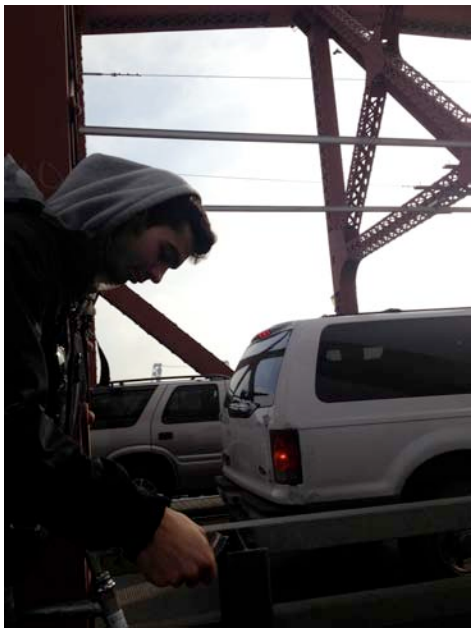
What will it take for Los Angeles to encourage such behavior? Pollutants from water runoff are a major issue for the local environment, especially the ocean. This once fertile valley has been destroyed by the channeling of the LA River and its tributaries; the groundwater is contaminated and any water that could be recycled is lost in the concrete maze that was once the river.

Portland: Bike Infrastructure

Portland has always been one of the most bike friendly cities in the country, which also distinguishes its streets as some of the most livable. This can be attributed to their tax structure, which dedicates significant funding to alternative transportation projects.[100] Portland held the title of most bike friendly city until recently being surpassed by Minneapolis. Still, the friendly attitude towards bikers is a noticeable difference, and defining quality of the city.

Part of the reason for the respect that drivers have for bikers comes from the extensive bike infrastructure throughout the city. Portland has been proactive in developing widespread neighborhood networks, and has some of the highest cyclist commuter rates in country.[101]

Portland is an interesting city because of its geographic location at confluence of the Willamette and Columbia rivers. As a result, the city is divided along the north-south course of the Willamette River. Getting from the East side to the West side requires crossing one of the many bridges that link the banks of the river. Not only does every bridge have separated pedestrian and bike lanes, but both banks of the river are lined by bike/ped paths.[102]



Me Commuting across the Willamette River

The city's focus on developing bike friendly streets has led to an overall improvement in the streetscape. Bioswales, pedestrian plazas, pocket parks, and numerous other components of Living Streets can be enjoyed throughout the city. Not to mention a new light rail system (the MAX)[103] and Transit Oriented Development (TOD) [9] in the burgeoning area East of the city.[104]

Portland is unique in many ways, making it difficult to apply these methods to other cities. In metropolises like Los Angeles where the tax base is much broader and the voters much more diverse, it is hard to emulate Portland's approach to bike infrastructure.

Regardless of these differences, the unique, enveloping, infrastructure that connects the city makes it a safe and enjoyable place for cyclists to ride and for pedestrians to walk. Portland serves as a great example of a how an involved and dedicated community can create extensive Living Streets

Portland conclusion

Portland is not only pioneering best practices in water management but has developed one of the most comprehensive bicycle networks in the country. The city has taken an integrated approach to dealing with its environmental issues and in developing alternative transportation options. This is mostly attributed to its unique tax structure and civically involved community. Portland is a great example of how creating living streets can make a city more enjoyable, sustainable, and successful.

Cross Comparison of NY/LA/PDX

The difference in attitudes towards biking in each city is reflective of their infrastructure. Portland was the most relaxed and friendly environment to bike in because of its extensive Bicycle Boulevard Network and generally high ridership rates. Once, while riding in Portland, a driver apologized for accidentally honking at me while passing! New York was much more aggressive, but all bicycle infrastructure was heavily used and trafficked. The difference between riding in Bike Lanes compared to riding in the street was stark. When you are out of the lanes in manhatten, you are on your own

[9] See Section on Los Angeles TOD

and have to battle through traffic to stay safe. Los Angeles stands out as the most difficult and dangerous to ride in because of its lack of space for bicycles and poor quality streets. In LA, drivers do not expect to have to share the road with bikers, and so are not looking for them. This alone makes it more dangerous than both cities, even though there is much more congestion in Manhattan. Bikers constitute the smallest percentage of commuter in Los Angeles, and get the least respect. By developing better infrastructure and making them more visible, safety and ridership will increase.

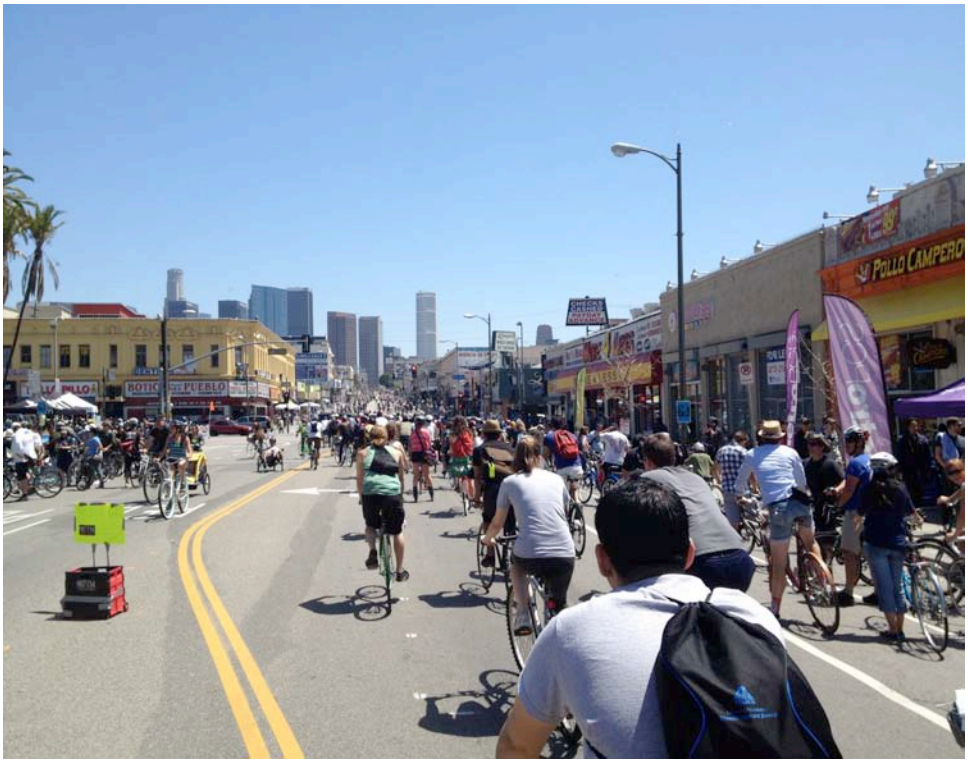
Case Studies Conclusion

Portland and New York have taken two very different approaches to creating Living Streets; while Portland has developed bicycle friendly streets and creative ways to deal with environmental problems through building a strong community and relying on tax revenue, New York reveals what a strong personality do to cut through bureaucratic red tape and quickly finish projects that make the street safer. Los Angeles needs to combine these approaches; by strengthening community involvement to put pressure on elected officials to push projects through completion as well as appointing more ambitious leaders in local government.

While Los Angeles is beginning the long process of retrofitting the streets to create more mass transit options, ridership will not increase unless Living Street components can be developed to lure people out of their homes and away from their cars. While improving the streetscape to make it more inviting, the city should focus on improving bioretention to mitigate environmental impact from water pollution, as Portland has, in combination with other projects, such as bicycle lanes and pedestrian spaces. All of these design features complement each other and work together to create Living Streets, and any successful Living Street project should combine these ideas. The next section highlights how Los Angeles is incorporating these ideas to make the shift towards a more sustainable future where residents do not have to rely on the car.

Los Angeles: moving towards Living Streets; background and Future

Changing LA from this…



…To this!

Los Angeles, the stereotypical Autopia - with its massive intertwining freeways and stretching boulevards - lags far behind other cities in the effort to develop Living Streets because of city department's reluctance to reduce space for cars. Furthermore, the channeling of the Los Angeles River and its tributaries into concrete "riverbeds" has solved the city's flooding problem at the expense of developing a rich natural resource. Bicycle and river advocates' efforts to reclaim these spaces for pedestrians have consistently been thwarted by the various city agenices since the 1970's[105]. These obstacles have made it very hard to create Living Streets in LA, as most efforts are met with heavy political opposition. Still, the development of the 2010 Bike Plan among other projects has raised awareness and started a shift towards developing more Livable Streets. Changing political opinions in local government by encouraging civic engagement in the Living Streets movement is the only way Los Angeles can create actual Living Streets.

Changing the streetscape in the city is a difficult undertaking. Not only does LA suffer from an overly influential DOT, but NIMBYism[106] (just consider the 710 freeway) and political pressure to support the automobile at all costs. This is not surprising, as Los Angeles was its most powerful and influential during the 1950s-70s, at a time when America was investing heavily in its highway infrastructure. This building boom supported many important industries; the automobile, rubber (for tires) and concrete industries all had vested interests in supporting this development. Consequently, Los Angeles was able to receive ample federal funding to facilitate building its extensive highway system.

For many, the freedom that this mobility provides is a major draw to Los Angeles, and planners, politician, and residents are resistant to changing this defining characteristic of the city. Unfortunately, this mentality is detrimental to the environment and economic vitality of the center, and is unsustainable in terms of growth and pollution.

Yet the car was not what Los Angeles was historically organized around. Reyner Banham elaborates how Los Angeles' transportation is a palimpsest of various modes

over time, and the automobile is only the third or fourth transportation diagram drawn on a map of earlier methods of moving through the city.[107]

The first roads belonged to the Camino Real, the Spanish military road that linked bases, and the missions, . Although it changed seasonally its basically followed the current route of Wilshire boulevard. At this time the city's borders were shaped by the various Ranchos. The edges of these Ranchos are what formed most of the major boulevards in the City today. As other modes of transportation developed, railways began to mature along these lines. These rail lines eventually became electric powered passenger cars that moved residents between the vastly separated spaces of the City. Finally, after cars replaced the electric lines, highways were built along these routes. [108] Now Los Angeles is in the process of redeveloping these old train routes that once linked the city so well.

Interestingly, and controversially, the notion that Los Angeles is a low-density sprawling metropolis where everyone can find a single-family home to live out their America Dream is a myth. The Los Angeles region (granted that it incorporates six counties) is the densest region in the country. Los Angeles has reached its capacity, and developers are increasingly engaging in in-filling, contributing to the densification of the city.[109]

It has been difficult to change public opinion and bring Los Angeles out of the 20th century to meet modern day requirements for successful cities. Plans to change zoning regulations in Hollywood to increase density have been met with serious public opposition[110]. Still, advocates and politicians have fought hard to win victories such as increasing public transit infrastructure through Light Rail[10] with the Gold Line; making modest efforts to develop bike infrastructure with the 2010 Bike Plan, and adopting New York-like pedestrian spaces with the new Sunset triangle plaza. While my project focuses on only three aspects of Living Streets, I'd like to briefly highlight some other interesting projects that are slowly helping to redefine the city and create Living Streets.

[10] See Los Angeles Light Rail Transit Section

Encouraging Alternative Transportation and Living Streets; Revealing a New LA

Los Angeles will never develop Living Streets without improving its public transportation infrastructure. Fortunately, Mayor Antonia Villaraigosa is committed to developing mass transit, and has initiated the largest scale transit project in the country. The major step to facilitating this development was the passing of Measure R in 2008, a local sales tax that dedicates revenue to transportation projects[111]. Also, Mayor Villaraigosa's 30/10 plan to build all transportation projects planned over the next 30 years in the next 10 has been instrumental in making this transition. Yet in the midst of a nationwide, particularly statewide, financial crisis, finding the money for these projects required considerable effort. Los Angeles was able to borrow money up front from the federal government to complete these projects using Measure R money as collateral[112]. This is currently extremely relevant as Democrats in Congress are pushing Speaker John Boehner to vote on the transportation bill without further delay. Republicans are aggressively trying to cut pedestrian and transportation funding, using it as leverage to push through projects such as Keystone XL pipeline.[113] [114] [115] Fortunately the Mayor is devoted to improving mass transit in the city, and has announced alternatives if this funding is unavailable. [116]

While a small portion of Measure R's 'local returns' (10-15%) can be devoted to pedestrian and bicycle projects[117], the city has lagged on developing these aspects of a modern city with these funds. By overlooking bikes and people, the city is not progressing away form the vehicle. Building more public transportation infrastructure alone is not enough to persuade people to shift away form the vehicle. We need more progressive polices that limit car use, such as restricting parking by doing away with "minimum" parking requirement[118], charging a congestion fee in the city center[119], and reducing overall car lanes.

If planners and politicians focus on developing Living Streets, the city will be more likely to benefit from increasing transportation options. There are a few places in the city that have taken charge to developing more livable streets, and car usage rates in the areas are significantly lower than other areas.[120] Below I highlight some progressive projects that are redefining Los Angeles.

Transit Oriented Development (TOD)

Transit Oriented Development in Hollywood

Los Angeles is making steps in the right direction towards becoming a more transit-oriented city. Developing communities around a variety of transit modes is a major component of Living Streets. Transit Oriented Development (TOD) is a major conduit to achieving these goals. TOD focuses on building a variety of uses around and near transit stations such as housing, retail, hotels, and restaurants. As of 2010, a $600 million joint TOD project was completed in Hollywood at the Hollywood and Vine redline Metro stop that incorporates the subway, W hotel, and private residences among other points of interests. The massive project includes hotel rooms, 143 condos, 375 apartments and ground floor retail space, all of it spanning over 2 million square feet. While there has been some criticism, such as lack of affordable units and bike parking, projects like this will help densify the city and address transportation issues.[121]

Light Rail Transit (LRT)

Highland Park Gold Line Station

Light Rail Transit (LRT) is a type of urban rail public transit system that is slower than heavy rail but faster than electric streetcars. LRT typically runs on private, at-grade Right-of-Ways (ROW), but can run with traffic or on separate infrastructure as well. Modern LRT is flexible, more energy efficient, and much less expensive than other rail systems, especially subway. In Los Angeles, the Gold Line is an excellent example of this effective transit system. The Gold Line now runs from Pasadena to East Los Angeles, after being was extended in 2009. Now the line's ridership increased to more than 34,000 daily boardings.[122] It has been so successful that it is currently being extended again throught the Foothill Extensions Project, and wuill follow the 210 east to Asuza. There are also longterm proposals to extend it further east. While Highland Park is linked to other areas of the city by bus, the Gold Line provides a quick and affordable route directly to downtown.

Bus Rapid Transit (BRT)

Orange Line BRT in the San Fernando Valley

Los Angeles is also experimenting with other forms of transportation to create more interesting Living Streets. BRT is a Public transportation systems that uses buses to provide faster, more efficient service than an ordinary bus lines. Los Angeles's new "Orange Line" busway, serving the San Fernando Valley, is perhaps the premier recent example of "BRT". The route runs about 14 miles from East-West across the valley almost entirely on a former railway Right-of-Way (ROW). BRT is favored by many quickly developing cities because of its flexibility and low cost[123]. The line, installed at a cost of $330 million, currently serves 13 stations, linking the western part of the San Fernando Valley with the North Hollywood Red Line rail rapid transit station. In many ways this BRT system is like Light Rail Transit (LRT) lines like the Gold Line[124]. Since it's opening, ridership rates have been much higher than expected. The success of this line makes a strong case for the implementation of BRT throughout the city,[125] [126] which will be a major step towards creating living streets.

Sunset Triangle Plaza

Sunset Triangle Plaza

The Sunset Triangle Plaza, LA's first street-to-plaza conversion, just opened in Silverlake at the intersection of Sunset Blvd. and Griffith Park Blvd. Rios Clementi Hale designed the plaza, while the group Streets For People organized the project. Sunset Triangle Plaza will be a pilot project for about a year. This section of Griffith Park is now closed to cars and painted with polka dots. The plaza also has trashcans and street furniture that will be taken in at night by local businesses. It is cordoned off by large heavy planters to keep cars out, while moveable bistro tables and umbrellas provide space to rest, relax and socialize. The green polka dot-painted street along with the native and drought tolerant plants contribute to the urban forestry.[137]

In a press release, LA City Planning Commission President Bill Roschen said, "The City Planning Commission wanted to find a way to quickly and cost effectively bring open space to Los Angeles. We modeled this initiative on the success we saw in New York City [i.e., in Times Square], and we hope it is a game-changer for how we transform under-used spaces into community assets." The project was paid for with funding from the Centers for Disease Control and Prevention via the LA County Department of Public Health.[138]

Los Angeles is unlike any other city in country, perhaps even the world. As historic center of the entertainment industry, dictating global popular culture, it holds a special place in our society. Mike Davis claims it is the least understood city. Its association with the car is well understood in American culture, but there is a side of Los Angels growing that most people do not know about. These examples illustrate how Los Angeles is making steps towards becoming less reliant on the automobile. While it may be a long time until people are willing to take space away from cars, we are beginning to see a massive change and some of the first indications of Living Streets.

Los Angeles 2010 Bike Plan; A Critical Examination of an Ambitious Plan

Overview

On March 1st, 2011, the City approved the 2010 Los Angeles Bicycle Plan, an ambitious document created collaboratively by the Department of City Planning, the Department of Transportation, bicycling advocacy groups, with help from other advocacy groups.[139] This plan is instrumental in creating Living Streets in our city, by promoting biking and creating safer streets for pedestrians. It also helps improve the

built environment that can incorporate other Living Streets designs such as bioretention features. The plan outlines a different Los Angeles, one that this is committed to developing alternative transportation. A more comprehensive bike network in LA will increase the safety of cyclists in the city, attract more bikers to the street, and create a safer and more sustainable city.

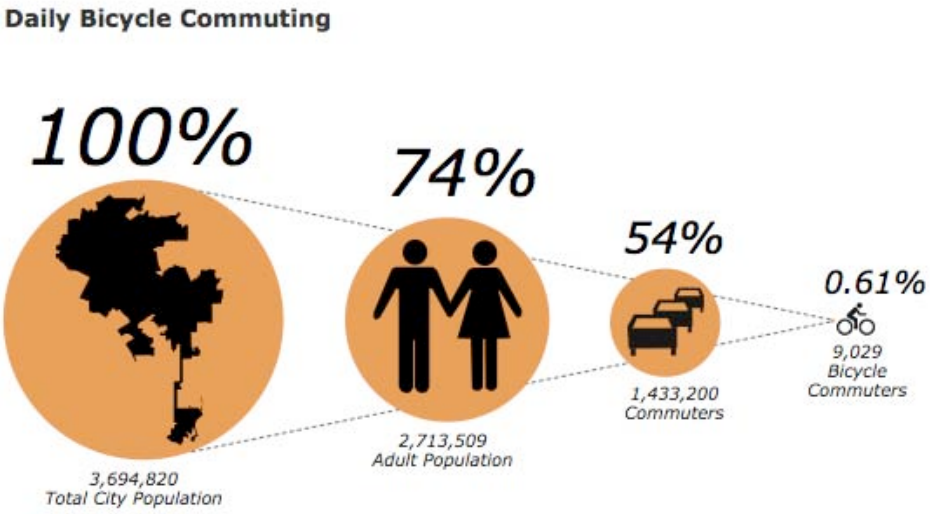
While the 2010 LA Bike Plan is undoubtedly an ambitious, multifaceted document, it has one clearly stated overarching goal, to make streets more bicycle-friendly for everyone.[140] This goal is a departure from the city's old approach to developing backbone networks, as historically the approach has been to create bicycle corridors along major arterials that access many of the city's more popular destinations.

The 2010 Plan aspires to build an ambitious 1,684-mile bikeway system while introducing a comprehensive collection of programs and policies. Among the elements of the 2010 Plan are several innovations in bicycle planning for Los Angeles such as a Citywide Bikeway System comprised of three bikeway networks, Bicycle Friendly Streets, and a multi-pronged implementation strategy.[141]

While this document puts forth a comprehensive program to making these changes, achieving them is much more difficult. The development of the document spurred heated debates between city planners and bicycle advocates in the city. Holding the city to these ambitious goals falls on this small group of advocates, and making sure it is achieved will require greater community involvement. For this reason it is important to be familiar with the 2010 Plan before making any recommendations to improving bicycle infrastructure in the city. Below I will provide an overview of the 2010 plan, while in my finding sections I present insiders' opinions of the document, and at the end of this paper I propose a set of recommendations to help hold the city accountable to the plan.

Ridership

Los Angeles has some off the lowest ridership rates in the country, due largely in part to the adverse street conditions. With over 300 sunny days a year and relatively flat terrain, Los Angeles has the potential for year round riding more than most American Cities.



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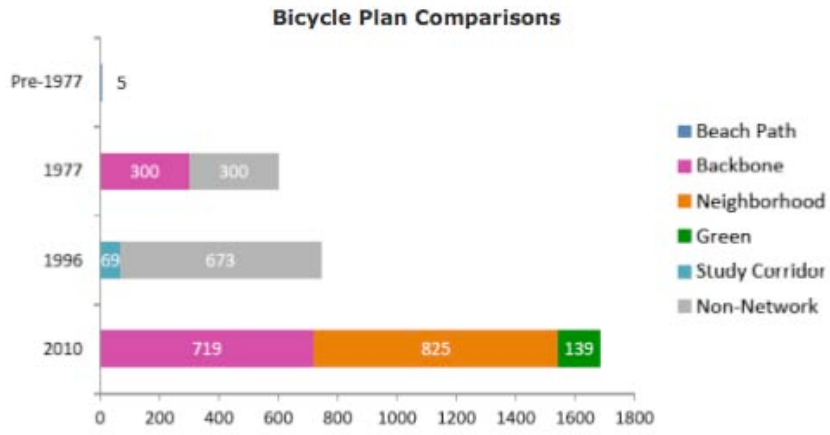
Infrastructure

The 2010 Bike Plan is a comprehensive update of the City's existing Bicycle Plan. The first Bicycle plan was established in 1977 and proposed a 600 mile Citywide System of bikeways, focusing an the development of a 300 mile backbone network. The previous Bicycle Plan was originally adopted by the City Council in 1996, and designated a total of 673 miles plus 69 miles of study corridors. This plan was re-

adopted in 2002 to update the document as required by the State of California's Bicycle Transportation Account (BTA), and re-adopted without additional changes in 2007.

The function of this document, as put forth is as follows: The 2010 Plan intended to be used by the City Council, the Mayor, the City Planning Commission, the Board of Transportation Commissioners, the Board of Public Works, the City's Bicycle Advisory Committee, other concerned governmental agencies, residents and property owners throughout the City, and private organizations concerned with urban planning, civic betterment, transportation and recreation. For City policymakers this 2010 Plan provides a reference to be used in connection with their actions on various City development matters as required by law; guidance for decisions regarding allocation of funding for bicycle projects and programs; and technical guidance for the development and implementation of facilities.[143]

Today the City has approximately 334 miles of bikeways. This includes a total of 49 miles of bicycle paths, 167 miles of bicycle lanes, and 119 miles of bicycle routes. Unfortunately this cannot begin to service a city of 464 square miles with 6,500 miles of roadways. Furthermore, current bicycle infrastructure is segmented and discontinuous, lacking a comprehensive network. The 2010 plan attempts to address this problem by focusing on connectivity and closing critical gaps. The Plan establishes three new bikeway networks: the Backbone, the Neighborhood Network, and the Green Network. Each has a distinctive character but together they work in concert to support a variety of bicyclists



The 719 mile Backbone Network, comprised primarily of bicycle lanes, will enable access to major business, retail, educational, and recreational centers via arterial roads. The Backbone consists of 124 miles of bicycle lanes and 64 miles of routes (52 of which will be converted to lanes over time). The 2010 Plan will add an additional 554 miles of lanes, 16 miles of routes, and 12 miles of bicycle friendly streets to complete the development of the 719 mile Backbone[144].

The 825 mile Neighborhood Network is comprised primarily of Bicycle-Friendly Streets, (on Local and Collector Streets) which are characterized by low traffic volumes and slower speeds. The Neighborhood Network will enable all bicycle riders, to access neighborhood facilities. Today the Neighborhood Network has a total of 98 miles: 43 miles are lanes, 51 miles are routes, and 4 bicycle friendly miles have been recently been added. An additional 34 miles of lanes, 47 miles of existing routes converting to lanes, 30 miles of routes, and 663 miles of bicycle friendly streets will be installed as a result of this Plan to bring the total network to 825 miles[145]

The 139 mile Green Network enhances access, through bicycle paths and shared use paths, to the City's green open spaces particularly river channels like the Los Angeles River. Enhanced access improves these spaces, bringing the public closer to them. This accelerates the public's appreciation of these spaces, and so, in the long term accelerates their enhancement.

Implementation

The Five-Year Implementation strategy focuses on building at least 200 miles on the Backbone and Neighborhood Networks every five years. Today these two networks include 285 of the overall existing system of 334 miles. While 285 miles may seem significant, the disconnected network makes it difficult to travel by bike; nonetheless these networks provide a good base for expansion. Over the 33 years between 1977 and 2010 the City built an average of 10.1 miles of street facilities per year. At that rate it would take 135 years to complete the Backbone and Neighborhood Networks.[146] With increased public and political support the 2010 Plan aims to build 200 miles every five years, hoping to complete the entire network within 35 years.

The first 200 miles will add to the existing 285, and be chosen based upon the Bicycle Funding Priority Grading System that focuses on developing lanes in areas that will not interfere with traffic. This unambitious approach to developing infrastructure will make it hard for the city to meet its self-imposed quota.

Funding

Understanding the various sources of funding outlined in the plan can help advocates fight to get more projects completed. As the DOT states, Backbone and Neighborhood Networks Completion of 200 miles every five years will continue to be dependent upon the ability for the City to identify and obtain funding and provide staffing to manage and implement each of the bikeways included in the Five Year-Implementation Strategy. Typically the City receives $7-10 million each year for bikeway projects, a portion of which is provided for the maintenance of existing facilities. Collectively, this would provide on average a total of $35-50 million within five years to be split between the design and construction of new facilities and the maintenance of existing bikeways.[147]

The funds generally come from a variety of sources including the Transportation Development Act, and such competitive grant sources as Metro's Call for Projects, the State's Bicycle Transportation Account, and Federal and State Safe Routes to Schools. The funds are typically tied to specific projects and/or pay for on-going maintenance, bicycle lane striping, and safety and education programs. In addition the City expects to

receive $1-1.5 million each year from the local Measure R funds for implementation of the 2010 Plan. 148

While the cost for each bikeway will vary, the table below [insert] provides basic planning level cost estimates for both capital and maintenance costs of the various bikeway classifications. These costs do not take into consideration any necessary environmental review or public outreach nor does it consider the removal of existing roadway striping, or extensive infrastructure improvements such as a bridge, signal, or underpass that may be required for a particular segment. Using these base costs, a minimum total cost using 2010 dollars for the build-out and maintenance of the entire system can be calculated. The price of building out the entire system without considering staffing needs is currently estimated at $235-427 million. The cost for all of the future bicycle lanes is estimated at $17-30 million. The estimated total cost for the future bicycle-friendly streets is $19.9-198 million and the estimated cost of the future bicycle routes totals $1.02 million. [149]

Facility Type	**Cost**
Capital Cost	**2010 $**
Bicycle Path (along flood control channel or rail corridor)	$2,640,000/mile
Bicycle Path (in park, short connector no crossings)	$500,000/mile
Bicycle Lanes (may include signage, striping, and pavement markings)	$28,000-50,000/mile
Bicycle Route (may include signage and pavement markings)	$20,000/mile
Bicycle Friendly Streets	$30-300,000/mile
At-Grade Crossing Improvements	$100,000/each
Grade Separated Crossing (Flood Control Channel)	$2-5,000,000/each
Grade Separated Crossing (Freeway)	$10,000,000/each
Maintenance Costs (Annual)	
Bicycle Path	$15,000 / mile
Bicycle Lanes / Bicycle Route	$5,000 / mile
Bicycle Friendly Streets	$10,000 / mile

Average cost of various bicycle infrastructure

Environmental Review Process

Environmental Justice advocates use the Environmental Impact Reviews (EIR) as a tool to safeguard communities from illegal business practices that can harm the environment, and generally EIRs have a positive association in the social justice world. Yet in LA, the environmental review process is a major barrier to rapid development of bicycle projects in the city.

Understanding the exact language that necessitates the review process is essential for advocates who want to quickly complete Living Streets projects in the city. While some of the future bicycle lanes are evaluated in the Mitigated Negative Declaration that is being conducted simultaneously with preparation of the 2010 Bicycle Plan, many future bicycle lanes will require addition analysis (particularly on traffic impacts) in accordance with the California Environmental Quality Act (CEQA).

The Bike Plan states that bike lanes that can be accommodated within the existing roadway width under existing traffic conditions, with no impacts to traffic capacity will require no additional environmental analysis. This is important to understand when advocated for new bike lanes. Yet lanes that cannot be accommodated in the current street width without potentially significantly impacting traffic and/or parking in the area will require further study.. However, it is important to emphasize that not all bikeway projects that require additional analysis will require a lengthy and costly full Environmental Impact Report (EIR). In many cases, the potential impacts may be less than significant, and may be analyzed through a Negative Declaration or Mitigated Negative Declaration, which are significantly less burdensome and expensive to prepare.[150] While a good portion of lanes can be painted without study, many important routes that will help develop a connected network will require an EIR. Understanding this is critical to developing long-term strategies for creating neighborhood networks.

Los Angeles' 2010 Bicycle Plan is a progressive document that can guide the city towards different future, where Angelinos do not have to rely on motor vehicles. The tremendously expanded bicycle network, and the comprehensive design of that network outlined in the plan, By creating cycling infrastructure that compliments other modes of transportation, Los Angeles will take another significant step toward developing a more inclusive alternative transportation network that serves the entire region of Southern California. Though it has a few notable weaknesses, the new bike plan addresses many of the concerns that prevented previous bike plans from being fully realized, and represents a safer and more inclusive future for cyclists in Los Angeles.

Developing Living Streets in Highland Park

Highland Park is a unique neighborhood nestled in North East Los Angeles with a diverse topography and community. The area has seen rapid change in recent years, but has maintained a strong sidewalk culture that distinguishes from most areas in the City. The following section explores neighborhood efforts to develop Living Streets, provides a brief history of the area, and outlines some of the difficulties in implementing these plans. Highland Park, more specifically York Boulevard, is a great example of how improving the streetscape can reinvigorate the local community.

York Boulevard Bike Lane Wayfinding

York Vision Plan

The York Vision Plan (YVP) is a community project to bring components of Living Streets to York Boulevard between Ave 50 and 56 in Highland Park. It was initiated by community members and local businesses, with funding assistance from local City Councilman Jose Huizar. Within the next few years, the group will be working with urban designer Steve Rasmussen Cancian, of Living Streets LA, to make York boulevard a center of pedestrian activity.[156]

In 2009, The YVP group attained $100,000 to begin the project. The money was provided through local Councilman Jose Huizar's discretionary fund. Initially, his idea was to develop a Master Plan for the area, but after contacting Steve Cancian, the community decided the funds would be better spent on implementing a series of affordable short-term projects. [157] Often communities develop ambitious Master Plans that go nowhere. The idea of tactical urbanism is to focus on quick implementation of affordable projects, and is particularly useful for projects like this that are just beginning, hoping to improve community support, and lacking serious funding. Tactical urbanism is especially attractive because it shows people that their efforts can create real change - and quickly.

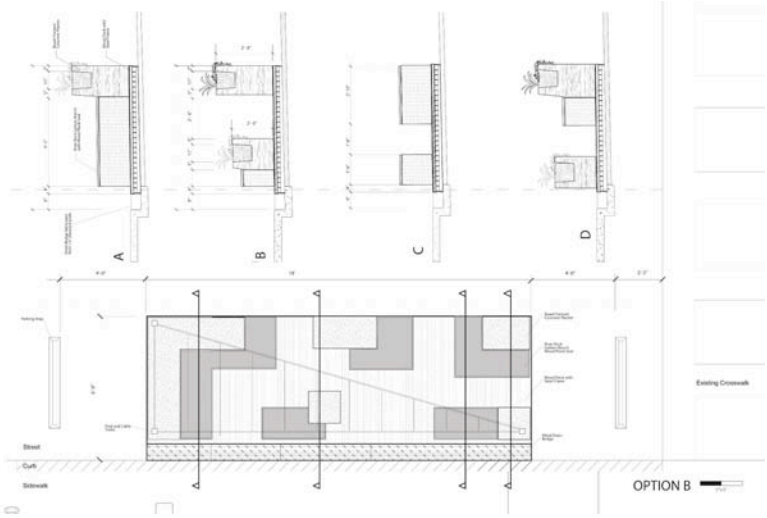
After the group decided to go in this direction, they allocated $50,000 to develop the Vision Plan, which would pay for the designers, meetings, and various city departments that are involved, such as Huizar's staff. The remaining $50,000 was dedicated to constructing the projects.[158] [159] Over the course of months, the group chose to begin their project by adding historic pedestrian street lamps to help brand the area which cost about $20,000, and create a pedestrian street porch which cost around $15,000. They also dedicated $7,500 to apply for state funding from Proposition 84 to develop the brown lot on the corner of Ave 50 and York Boulevard in to a Park.

The York Vision Plan reflects the needs and desires of a diverse community. Initial turnout was good, but as the project has continued it started to waver.[162] Recently, the project received substantial funding, sparking a renewed interest in the larger community. Group meetings I attended encompassed a wide range of ethnicities, ages, and interests. Yet local Business owners seem to be the most invested stakeholders which raises the question will this improvement plan serve the needs the

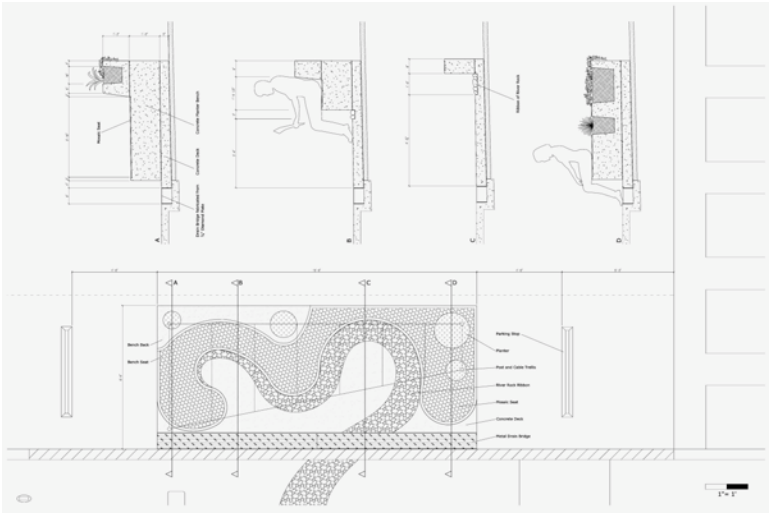
of the community or be a force of gentrification and displacement? While this remains to be seen, the YVP is making important progress in creating Living Streets in Highland Park,

As of May 2012, these three projects are already in progress. The Street Lamps have been purchased at around $3,000/light and are awaiting installment. The design of the lamps was voted on by the group, and reflect a more art-deco design. Yet before installation can begin, there must a vote where over 50% of property owners agree to pay the approximate $60 annual fee to power them. This $60 is divided between all properties, so it is not a serious obstacle to overcome. It should take about 6-8 months to meet all the City's requirements before they are put up. [163]

Two street porch designs were presented to the group and voted on, but no consensus could be reached. The planning meeting to decide its fate was mostly controlled by the local business owners, who preferred a mosaic design because they own an art gallery and want to be involved in making it. After the larger community gave their input a new design that reconciled the differences was announced, and will be installed within the next 8 months. Since this will be the first street porch in the city, it was deemed a "pilot project" by the planning department, which is part of the reason for the delay. It was expedited by the fact that Cathi Mulligan, owner of the Glass Studio, agreed to take responsibility for maintenance of the porch. [164] [165] [166]



Option A



Option B

Final Rendition of Future Street Porch

The final part of the project, to create a park, requires much greater effort and funding. The empty lot on the corner of Ave 50 and York was once a gas station - creating the possible threat of contamination. Last year planners met with city

surveyors, who deemed the lot uncontaminated. Once this was learned, the group committed the $7,500 to apply for federal funding to build the park. The chance of them being awarded this grant was less than 10%, but surprisingly, on April 18th 2012, they were chosen, and awarded $2.83 Million to purchase and develop the lot. This was a tremendous advancement, and has generated enormous excitement in the community. Huizar gave a speech in front of the park where members of YVP also spoke, and there was a good turnout. The announcement also generated considerable buzz in the LA urbanist blogosphere. Yet the future of the park is far from certain - while the owner of the lot has entered negotiations to sell, the group is still a long way from securing the property. It is also unclear if the owner of the lot will sell the land at a fair price to community, since he stands to make considerable economic gains by developing it himself as something else. Still, the potential is very exciting, and has revived widespread interest in the project throughout the community.

At this early stage of the project, design plans have not been seriously discussed with the community but this park is an ideal location to install bioswales. After bringing this up at the last meeting, there was not really an understanding of what bioswales are or their function, and thus little excitement around them. Others seemed hesitant because of the cost. In my recommendations I highlight potential options to improve naturally reduce water pollution, many of which are affordable. I believe if the benefits of green Living Street designs are better presented, there will be more community support.

The YVP has made enormous progress in a short period of time. The community has done a remarkable job of locating funding to make quick improvements and maintain interest. Within the next year, York Boulevard will be transformed in to a center of pedestrian activity. Yet the success of this project does raise concerns about gentrification. Gentrification and displacement are difficult issues to tackle; in the future I hope to focus on creating Living Streets without causing gentrification. For this project, a good way to slow the process of displacement is to sustain involvement of long time local residents, and make sure their voices are heard. Local businesses are driving this project, but that is not necessarily bad. The planners on the project have done a great job of keeping every one involved, which is why they have been so successful. While there may be unintended consequences to their achievements, most people are very

excited for the improved York Boulevard to take shape. Highland Park is on the forefront of creating Living Streets in Angeles, and the changes beginnings on York Boulevard may very well serve as a catalyst for the creation Living Streets throughout the City.

Brief History of Highland Park

In order to develop Living Streets in any area, it is important to understand the history and current culture of the community. Historic Highland Park, situated along the Arroyo Seco, is one of the oldest settled neighborhoods in Los Angeles being incorporated into the city of Los Angeles in 1895. The neighborhood has undergone serious demographic shifts since then, but maintains its unique character owing to the abundance of trees, winding roads, craftsman homes, and eclectic residents.[167] Highland Park has a rich cultural history; as one of Los Angeles' most unique and interesting neighborhood it is on the forefront of developing Living Streets in the City.

Highland Park has suffered from poor planning design projects over the curse of its history. The channeling of the Arroyo Seco drastically reshaped the area. Prior to this, the seasonal river would flood erratically, devastating homes and crops. As the city grew, so did the use of the Arroyo, and it served as one of the main water thoroughfares for the city. Engineers eventually channeled the river to control the devastating seasonal floods, forever changing the bucolic landscape and ushering in a new age of development. The rural appeal that drew many to the Highland Park area quickly changed, and new groups began to occupy the space.[168]

By the early 1900s, Highland Park was a well-established elderly white, upper middle class semi-suburb. That changed quickly after rail transit connected it to Pasadena and Los Angeles. Although the area used to boast an extensive streetcar system, it was eventually phased out by the 1960s. The development along York Boulevard is attributed to the Old streetcar Right-of-Way (ROW) that used to run along this corridor. Redeveloping these old ROWs with new transit modes has helped the area reemerge as a transit oriented neighborhood. Currently, the Metro Gold Line runs

along the former ROW of the streetcar system, and many bus routes help link it to surrounding areas. [169]

Another major planning project that shaped the area was the Arroyo Seco Parkway. Highland Park is an interesting case study for a highway's ability to facilitate urban sprawl. It was after the Parkway was completed that white flight struck the neighborhood, beginning a period of steady decline. [170]

This Arroyo Seco Parkway, also known as the Pasadena Freeway, or the 110, was built in 1940, and was the first freeway in the country. It was intended to be a recreational drive for the growing number of automobile owners to enjoy. Today it accommodates a much higher traffic volume than ever intended. Since was not built to today's safety standards and retains the notoriously dangerous entrance ramps, it remains one of the most perilous freeways nationally. Interestingly, the highway claimed an old ROW originally dedicated to a 7-mile long raised bike path.[171] Reduced traffic through the main commercial strip on Figueroa due to the nearby freeway, coupled with rapidly changing demographics, and increasing density, spurred a long period of decline.[172]

By the 1980s, many of the historic craftsman homes that characterized the neighborhood fell in to disrepair. The City had most of them razed, and provided enticing incentives for developers to build high-density apartment complexes in their places.[173] This made rent prices dramatically drop, providing the conditions for an influx of Central American immigrants. The rapidly changing demographics had a profound impact on the local environment, and Highland Park became a center of Latino cultural exploration and home to some of the most dangerous gangs in Los Angeles [174]

Currently, the area is still predominantly Latino, and has witnessed slow improvement since the 1990s. In recent years, rising rents in areas like Venice Beach and Silverlake that drew artists have pushed creative types into the Highland Park area. Many people already consider Highland Park to be a victim of gentrification.[175] [176] Yet these changes are not always bad; the changing landscape has attracted many new businesses whose owners are invested in improving the community. Many of the Living Streets projects have been led by this group.

Highland Park also boasts a strong sidewalk culture, and is linked by multiple forms of transit, including Metro Busses, Dash Busses, and the Gold Line. Major thoroughfares include York Boulevard, North Figueroa Street, and Ave 50. These three major streets basically comprise the triangular area that is Highland Park. Surprisingly, Highland Park claims the first bike corral to replace car parking in the entire city of Los Angeles. York Boulevard is an excellent example of how Living Streets designs can invigorate an area. There is a notable difference between Avenues 50 and 53, where traffic was reduced and bike lanes installed. In this area there is a variety of small shops and businesses, including two bars, street food, a pool hall, and is the chosen location for the coming pedestrian street porch. The willingness and excitement in the community to continue developing Living Streets and the neighborhood makes it an ideal starting point for Los Angeles to become a more healthy, sustainable, and fun city. [177]

Highland Park is a historically rich and diverse neighborhood. Its unique combination of urban grit and suburban comfort attracts many different people and cultures. Although it too had been previously negatively impacted by poor urban planning projects, the neighborhood is making a strong comeback. Highland Park distinguishes itself from other neighborhoods in Los Angeles by the community's sidewalk culture and willingness to develop Living Streets.

Funding for Bicycle and Pedestrian Projects in Los Angeles

A major facilitator to Highland Park's comeback was the introduction of bicycle lanes, which were won through hard fought battles. One may think that the absence of bicycle infrastructure and Living Street features in Los Angeles is due to a lack of funding during a statewide financial crisis. Yet in Los Angeles, building pedestrian spaces and improving bicycle infrastructure is not a matter of funding, but of politics - the city is simply unwilling to reduce space dedicated to automobiles. Indeed, Los Angeles is the stereotypical auto-centric megalopolis, not only in the mind of its residents, but of the city planners that shape it. The stubbornness of various City departments to reclaim space for pedestrians poses major barriers to developing living streets, throughout the city and within Highland Park.

Funding for pedestrian and bike projects comes mostly from the Los Angeles Department of Transportation (LADOT). LADOT is a multifaceted transportation organization with over 1,700 employees and an annual operating and capital budget of US$491 million (FY 2011-2012), which is focused mostly on automobiles.[178] Out of that, about $7-10 million dollars is dedicated annually to bicycle and pedestrian projects. This is ample funding to promote a variety of pedestrian and bike friendly projects, but much is wasted on bureaucratic red tape. As an example, the York Boulevard bicycle lane extension project to connect York and Figueroa St has been stalled because it may require removing a car lane.

There is also revenue dedicated to these projects derived from the local sales tax, Measure R. Every year, 10-15% of the total revenue from this tax is dedicated directly to the city through the Measure R Local Returns Policy for any transportation projects they want. Bicycle advocates pushed Mayor Villaraigosa to dedicate a portion of this funding to pedestrian and bike projects. Although he was criticized by other groups for dedicating too much money to these endeavors, bicycles and pedestrians account for nearly 14% of transportation trips, so it is proportional (pedestrians approximately 12.5%, bikers 1.5%).[179]

Statewide funding can be dedicated to these projects through the Bicycle Transportation Account (BTA) via programs like Safe Routes to School, and Non-motorized trails. Yet this accounts for only $7 million annually statewide, and Los Angeles does not usually tap in to this resource.[180]

There is also federal funding available through the Transportation Equality Act (TEA) that is distributed locally through a complicated application process. The TEA provides funding to local Metropolitan Planning Organizations (MPOs). In Los Angeles this is distributed to SCAG, and then further dispersed within the six counties. Although not truly an MPO, In LA the LAC Metro acts as one and controls the cash flow. This is the largest source of outside funding available for such projects, dolling out up to $10 million dollars every two years.

This funding is dispersed by Metro as part of Los Angeles County Transportation Improvement Program (TIP). A major part of TIP is the Metro Call For projects - a competitive process that distributes discretionary capital transportation funds to

regionally significant projects every two years.

Regrettably, federal funding comes with many restrictions such as intense environmental review processes and providing union wages among other limitations that are not necessarily bad but slow projects and makes them more expensive. Consequently, the city of LA will not use these funds for any projects under $1 million. Since bicycle infrastructure is so cheap, little of this money is ever used for such projects.[181]

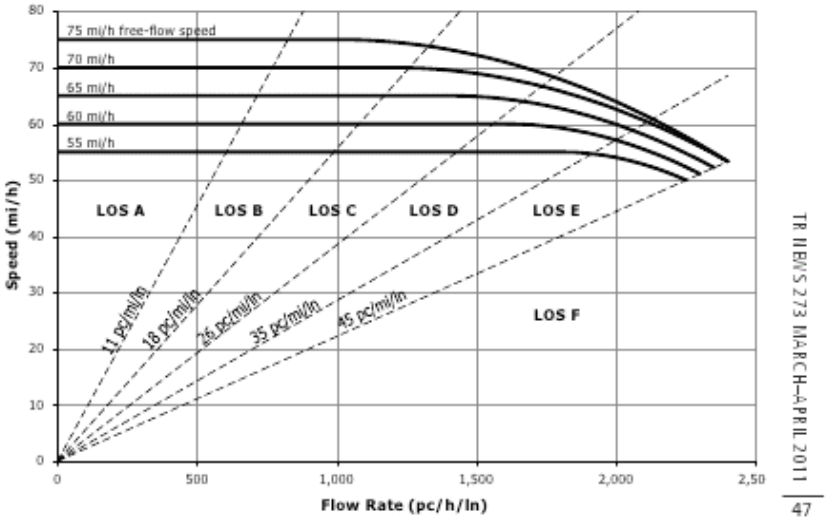
Fortunately, the proposed bicycle lane extensions in Highland Park do not require EIR or serious funding. While the immediate area of this neighborhood is not impacted by these funding restrictions, they are important to understand in order to push other citywide projects through to completion. Yet the biggest barrier to completing Living Street projects in Highland Park and greater LA is not funding as much as it is political resistance.

LA: Local Government; Structures and Influence

Traditionally, the Los Angeles Department of Transportation (LADOT) has shaped our streets through a top-down approach to planning. This method is out of line with the Living Streets movement that strives for community involvement and input. In LA, well-educated traffic engineers gather in rooms behind closed doors and design city streets and intersections with only cars in mind, neglecting public input and disregarding pedestrians, busses, or bikers. Most of their models for determining how to build streets were developed in the 1950s, and have not been updated or means tested. The most arcane of these principles that hinders development of Living streets, particularly installing bike lanes along Figueroa Ave in Highland Park, are Level Of Service (LOS) standards.

LOS standards measure the rate at which cars pass through intersections, and do not account for busses, bicycles or pedestrians. LOS is rated A-F; if a car can get from point A to B without stopping at an intersection, it is given an “A” LOS. If a car must wait an entire signal light cycle without making it through the intersection, it is given an “F” LOS.[182] Currently, the city is unwilling to complete any pedestrian or bicycle project

that downgrades LOS. This stubbornness reveals how difficult it will be to accomplish the goals of the 2010 Plan and develop Living Streets under the current regime.



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Graph showing criteria for LOS grading

The most frustrating challenge to adding more Bike Lanes is that under the current language, LADOT requires any project that may downgrade LOS or reclaim space from cars is subject to costly and timely Environmental Impact Reports (EIRs). Typically we think of EIRs as useful and important ways to prevent powerful stakeholders from committing environmental abuses, by subjecting large projects to a transparent process open to public input. However, LADOT has a perverse use of EIRs - to slow down bicycle and pedestrian projects by submitting them to this review process. EIRs typically cost considerable amounts of money and can take years to complete, wasting resources and making the cost of these projects artificially high. LADOT's rationale is that more cars stopping means more pollution. They prefer to constantly increase car infrastructure at the cost of the environment and society. If larger roads are built to accommodate faster moving vehicles, and less time is spent looking for parking, we have learned that this actually *increases* traffic, congestion and pollution. Even if the EIR shows that adding more car lanes is more environmentally damaging, LADOT can ignore these findings and continue car-specific projects by claiming “overriding consideration” are more important.

Cities such as New York have demonstrated that reducing car capacity and parking is the most efficient way to shift drivers to other modes of transportation, yet LADOT planners continue to use these outdated models, claiming that “This is LA” and devoting themselves to the car. Bicycle advocates are very familiar with these restrictions, and have had many battles over the language of the 2010 Bike Plan that limits future projects.

Battles Over 2010 Bike Plan

One of the biggest fights in approving the 2010 Bike Plan was over changing the language to allow for more projects to be completed. For Highland Park these means that it will be especially difficult to install bike lanes on North Figueroa Street. Originally, LADOT made two categories of projects; feasible and infeasible. If a project required taking space away from cars, or downgrading LOS, it was marked infeasible, and although technically “included” in the new bike plan, they were never intended to be completed. This was incredibly frustrating for bike advocates, because while the DOT claimed to include public input, they would lump most projects in the infeasible category, thereby “including” them but with no intentions of building anything. After months of fighting, advocates were able to change the language to feasible and “potential” projects. However any project that takes space away from cars or downgrades LOS still must complete an EIR.[184]

Now the battle is over making sure the city upholds their end of the deal. Our mayor has promised to build at least 40 miles / year, and at least 200 miles every five years. The total 1,684 miles of bike infrastructure proposed in the 2010 bike plan will be built incrementally in five-year segments. Unfortunately, the city has not been meeting their quota, and is still only working on the easiest projects to build. Even worse, LADOT has focused on painting “sharrows” instead of actual bike lanes. Sharrows, as mentioned earlier, are the least effective way to encourage people to bike and offer the least protection. It will take the constant vigilance of bike advocates in the city to hold the DOT to their promises.[185] Even with these current obstacles, there are ways to work within the system to create positive change and develop Living Streets in Highland Park and throughout Los Angeles.

Recent Victory: Bike Corrals in Highland Park

Bike Corral on York blvd

The bike corral outside of café-de-leche is the very first Living Street feature to take space away from cars in all of Los Angeles. The installation effort was lead by local business café-de-leche owner, Matt Shordorff, who recognized the need for additional safe bike parking in front of his cafe.[186] LADOT stated that the York Boulevard bike corral cost between $3,000 and $4,000. The corral removes one car parking space, replacing it with ten bike parking spaces. The community campaign for the bike corral included a diverse coalition of local stakeholders, including business owners, property owners, chamber of commerce, neighborhood council, nearby

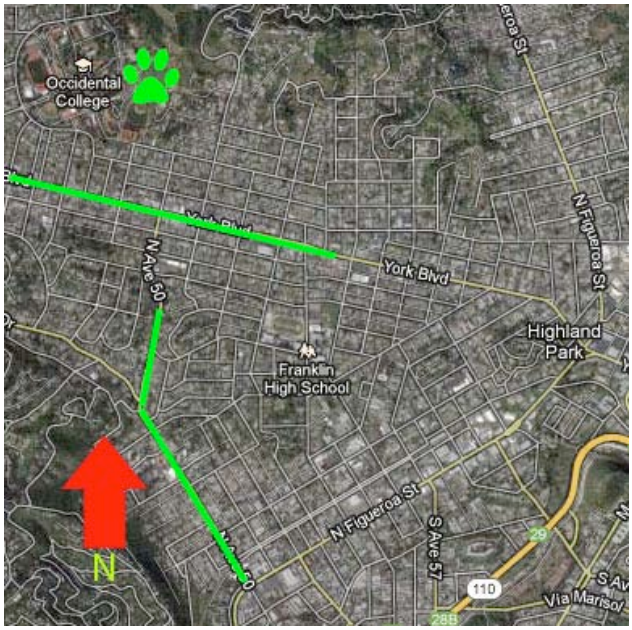
Occidental College community members, C.I.C.L.E., LACBC, the Bike Oven, and many others.[187] This feature highlights how a dedicated community can work with local government and the LADOT to improve the streetscape and bring Living Street features to the neighborhood. Located next to the York Boulevard bike lanes, the new bike corral provides a peek of a bike friendly future in Highland Park.

The impact of the bike corral can easily be seen when passing by the café; It is almost always in use. Since it was installed, the amount of bike visitors has undeniably increased, perhaps in part to take advantage of the discount offered to cyclists. At night, when the café closed, the bike corral is filled with patrons of Jonny's Bar or the neighboring York bar. In the next section I propose recommendations to bring more Living Street Features such as this to the neighborhood.

Recommendations for Developing Living Streets in Highland Park:

The following sections provide recommendations to develop the three Living Streets components of my project in Highland Park. While some are fiscally feasible, others are merely intended as ideas to improve the streetscape. All of these projects will need community involvement to be completed, and should be further developed with input from locals. I hope that these proposals will spark interest in the neighborhood to develop Living Streets and help distinguish Highland Park as a pedestrian oasis in a city dedicated to cars.

Recommendations to Improve Bike Infrastructure in Highland Park



Existing Bike Lanes in Highland Park.

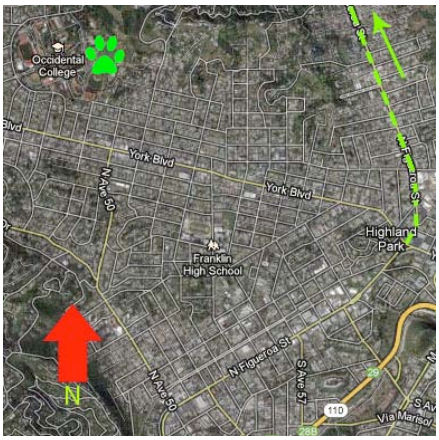
Recommendation: Installing Bike Lanes on Figueroa Street

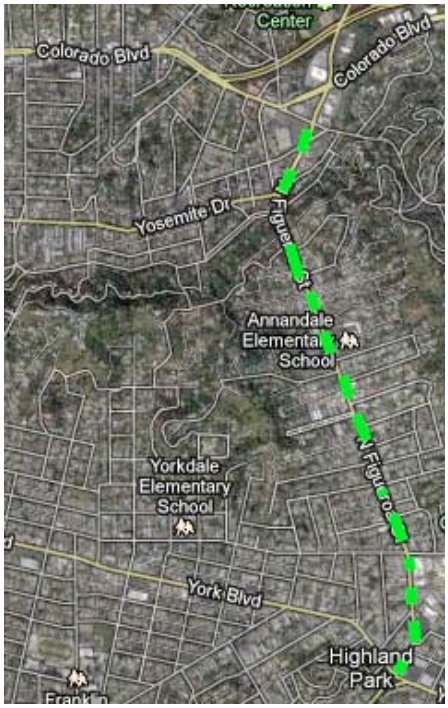
Improving the neighborhood network in Highland Park will be a long and difficult battle. Currently there are stretches of bike lanes on York Boulevard, and within this fiscal year it will be connected all the way from Eagle Rock Blvd to N Figueroa St.[188] However, Figueroa, a high traffic thoroughfare and Southern backbone of the neighborhood, has no bike lanes planned for its section that cuts through Highland Park. Since adding these lanes will require either a road diet or removing parking – likely downgrading LOS - the city will not consider adding bike lanes at the moment. Building well connected neighborhood networks must be a priority for the city if we are to increase ridership rates. By neglecting "Downtown" Highland Park - the area between Ave 50 and 60 - we cannot make a solid network, and the result will be more like the failed "backbone" plan of the 1970s. There are, however, a few options to forcing the city to support such contested projects.

There are two approaches that we can take to improve the streetscape and make it more friendly for bikers and pedestrians; organize residents and businesses, appeal to

DOT to run an EIR, wait a year, and see what happens, OR first focus on putting in lanes on less trafficked areas of Figueroa and then appeal to DOT to connect them to more contested areas. Joe Linton, an influential environmental and bicycle advocate in Los Angeles, suggests taking the second approach or the “pick low hanging fruit approach”.

<u>Option 1: Pick “the low hanging fruit”</u>

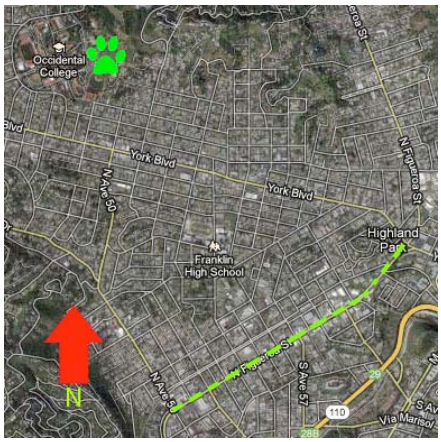


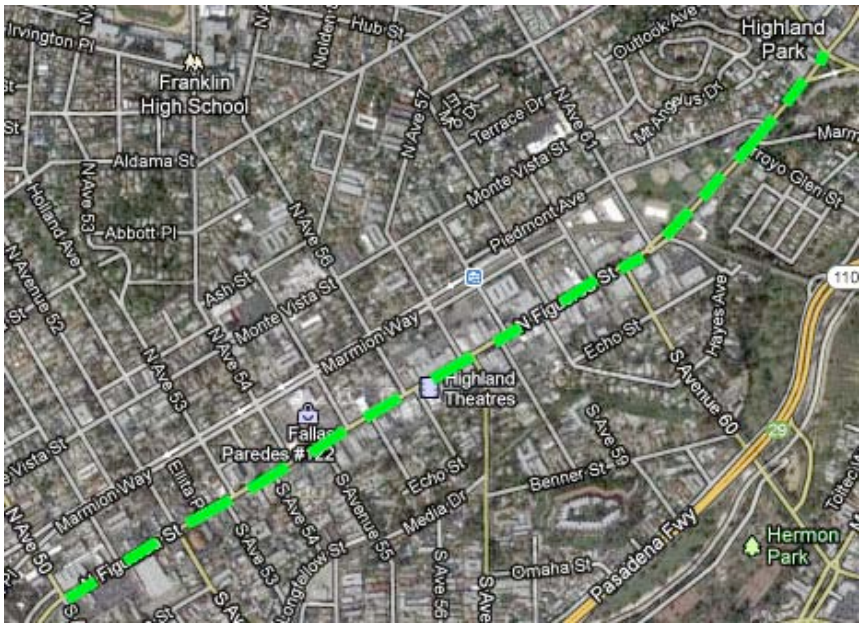


Low hanging fruit, Bike lanes
Between York and Colorado

The section of North Figueroa Street between York Boulevard and Colorado Boulevard is much less trafficked and has space to add bike lanes without reclaiming space from cars. If this section can quickly be painted with bike lanes, then later we can make the argument that the portion South of York Blvd should also be connected. LADOT will be more willing to study the section of Figueroa running through Downtown Highland Park if there are already portions with bike lanes and strong community support.

Option 2: build strong community support to pressure DOT from onset





Gain Strong Community Support to Fight for Fig Bike Lanes
In contested areas

Joseph Brae Ali, owner of the Flying Pigeon Bicycle Shop on Figueroa / ave 40, is opting for a different approach and rallying the community to take a more aggressive stance against DOT. His argument is that bike lanes should be painted where people and businesses need them most. Currently he is fighting to drastically change the streetscape in that area to make it friendlier for peds and bikers[189]. It will be a difficult task for him since that section of Figueroa is used by drivers to bypass traffic on the 110, and his proposed changes will definitely downgrade LOS.

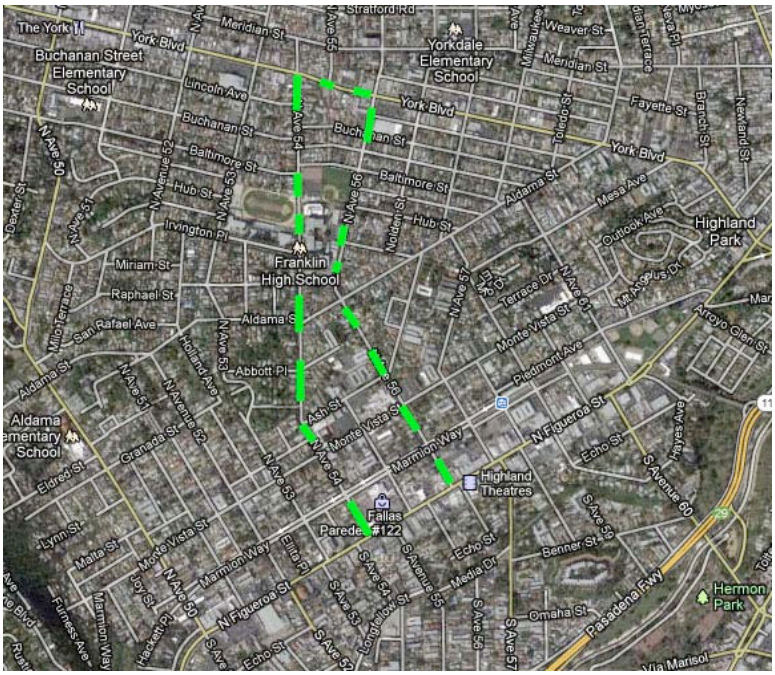
We need to combine both approaches, but it will be better to begin with what is feasible and work our way towards completing more contested projects. Initially focusing our attention on the portion of Figueroa between Colorado and York will at least produce bike lanes in the near future. Once this is completed we will need to begin organizing and seriously fighting with DOT if we want to see any more improvements in the neighborhood.

Fortunately, there is some hope – LADOT has changed their mind about what is "infeasible" on a few projects in the city, and implemented road diets on Spring Street downtown and on 7th street from downtown to Korea Town. Originally they were unwilling to initiate these projects, but after studying the area and finding LOS would not be downgraded, they went ahead with them[190]. Still, this would never have been completed if it were not for the overwhelming community support of the project. Regardless, these two projects comprise a mere 14 miles out of the approximate 200 miles promised in the 2010 bike plan over the next five years.

It is unfortunate and discouraging that LADOT is unwilling to take any space away from cars and holds on to outdated beliefs. Sadly, as bike advocates we must work within this system to make change and it may be years before any of these important contested projects are completed.

Recommendation: Link North and South Highland Park

Proposed Bicycle Friendly Street Bicycle Lane Additions



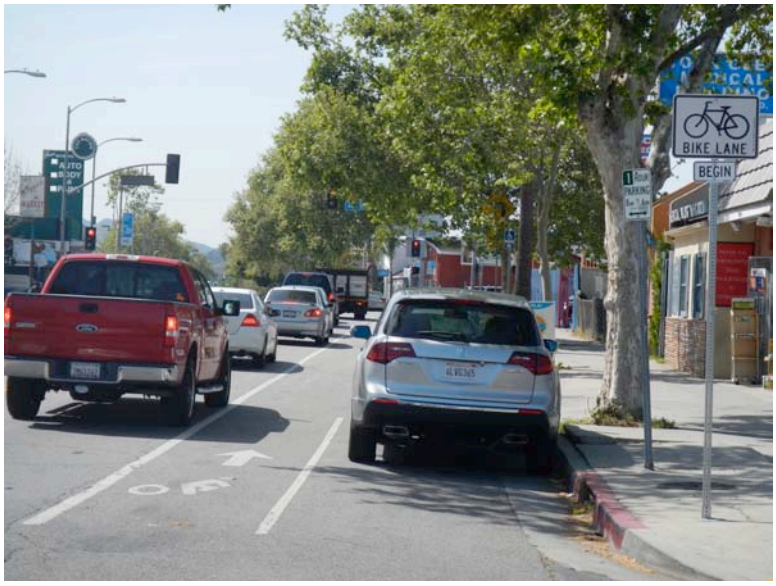
Proposed Bicycle Friendly Street Bicycle Lane Additions

In order to create a functional neighborhood bicycle network, there needs to be more connections between North and South Highland Park from York Blvd to Figueroa St. Currently, Ave 50 is the only such connection, and is heavily trafficked by commuters and buses. Painting bike lanes, or sharrows, on avenues 54 and 56 to link York Boulevard to Figueroa Boulevard will strengthen the network and provide more options for cyclists. These two roads that traverse the hill separating the south side of Highland Park from the North side are much easier and shorter to traverse than the current bike lane on Ave 50. Painting sharrows is a low cost option that can make many people's commute safer. Furthermore, both of these streets border Franklin High School, and would make many student's local commute less dangerous. This also provides the option to finance the project through Safe Routes to School funds if necessary.

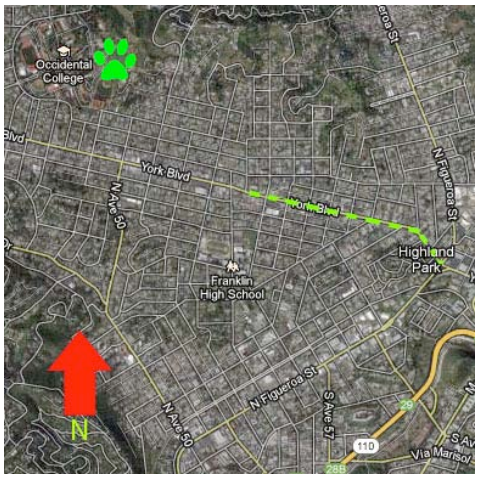
Recommendation: Lane Removal for York Boulevard Bicycle Lane Extension

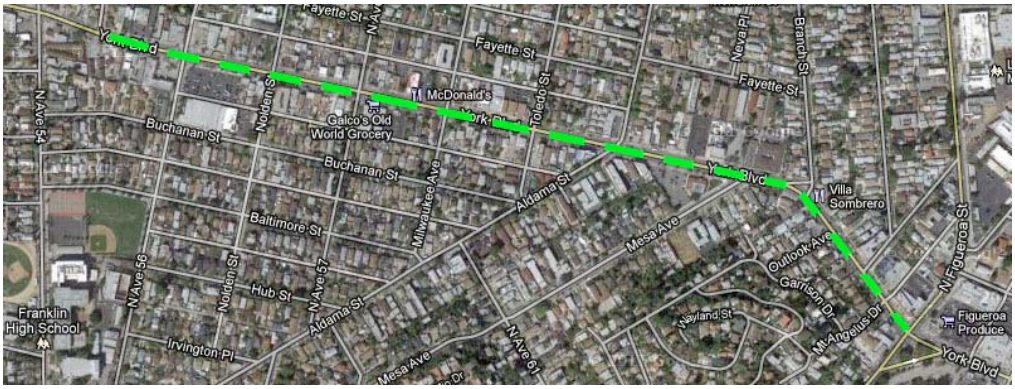
LADOT has already committed to extending the existing York Blvd Bicycle Lane 0.9 miles from Avenue 55 to North Figueroa Street. Currently the project is listed on the LADOT bicycle blog as "pending work order finalization, may require lane removal" with an estimated cost of $34,840.[191] I recommend that the community pressure LADOT to pursue the lane removal, which would slow traffic and make the street safer for bikers. The area between Ave 50 and 56 that received a road diet has experience an economic surge, I would argue that a road diet would have the same effect for the rest of the section. Strong Community support and involvement can apply the necessary pressure on LADOT to accomplish this.

End of York Blvd Bicycle Lane, Near Ave 56



Beginning of York Blvd Bicycle Lane, Near Ave 56





Future York Blvd Bike Lane Extension

Recommendation: Increase Bike Parking in Front of Businesses

While York boasts the first bike corral in Los Angeles, there are not many other places to safely lock up your bike along the Boulevard. Between Ave 50 and 52 there is an abundance of parking on both sides of the street. Yet from Ave 52 through Ave 56, there are few places to safely lock your bike.

- The north side of York between Ave 50-53 has many small business that would benefit from bike parking.
- The Super A grocery store has no place to park your bike. From experience I know it is actually very difficult to find a safe place for your bike that is out of the way of carts/cars.
- Across from super A are two restaurants that need bike parking. Both usually set up seating on the sidewalk, making it a friendly area for pedestrians.
- The two taco trucks, El Pique and La Estrella both lack parking. One corral in-between the two would benefit many customers who choose to sit.
- The NW corner of Ave 54/York has a few retailers where buike parking will be useful.
- In the strip mall of the SW corner of Ave 53/York there are many stores, and currently there is nowhere to park bikes.

Providing safe places to park your bike is obviously a good way to encourage people to patronize your business. It also shows support for the biking community. If these businesses simply appeal to LADOT through an online registration form, they can have bike parking installed directly outside of their location within a few months.

Vision of Highland Park with a Neighborhood Network

Recommendation: Track LADOT's Progress Through More Public Input

While the 2010 Bike Plan does outline its five year plan and occasionally update the LADOT's bike blog more vigilance from the public can help apply pressure to complete slated projects. In Chicago, various bike blogs actively track and monitor each proposed project on their websites. A similar approach can easily be started here by some of LA's bike blogs.[193] [194]

The majority of these recommendations are feasible, both fiscally and logistically. Focusing on gaining strong community support is the best means to accomplish these goals. In the time I have lived in Highland Park, I have seen biking explode as a means of recreation and transportation. Since I moved in to my apartment on Figueroa and Ave 55, a bicycle shop, Raffi's Bicycles, opened up beneath me. I have already established a relationship between Raffi's and the Occidental Bike Share program, and they are

supplying our next major order of bicycle parts. Developing these relationships and building on them to incorporate the larger community is well within the means of Occidental students, and can help transform the area into a biker's paradise.

Recommendations to Improve Water Management:

Creating environmentally sustainable streetscape ecosystems is a major part of the Living Streets movement. While I focus on bioretention through bioswales, this is only a minor part of creating a comprehensive streetscape ecosystem that includes urban forestry and other greening projects that reduce pollution and make the city more natural and functional. Currently Los Angeles' built environment is devoid of natural elements which has serious negative environmental impacts. The general absence of trees, parks, or comprehensive bike network and pedestrian facilities forces residents to engage in environmentally detrimental behavior, such as relying on automobiles to travel to green spaces. The lack of a comprehensive water management policy is particularly harmful. Creating Living streets can help address these issues, working from the ground up to help make the city more sustainable and simultaneously more inviting for low impact pedestrian activity.

Los Angeles can learn a lot from Portland's progressive approach to dealing with this issue, but there are many factors that make the two cities very different; namely Los Angeles is in a desert and surface water runoff is not a constant force. Yet the city itself can take initiative by installing bioswales in key locations that will reduce polluted runoff into the river. Rather than presenting an exhaustive list of locations throughout LA that would be beneficial to this cause, I will focus on York Boulevard, particularly the section between Ave 50 and 56.

Swales are inexpensive relative to traditional curb and gutter treatment or underground storm water systems. Costs vary widely depending on the materials used and location of the swale. For Los Angeles, the most costly component of adding bioswales is moving storm retention drains. Still, building bioswales is much cheaper than in-ground pipes and drains. Maintenance is required more frequently but is

considerably less costly than curb and gutter system maintenance. In a U.S. Army Corps of Engineers study from 2004, costs per square foot of bioswales were calculated at $0.50[195].

These various approaches to BMP highlight the difference between “end of pipe” solutions and “upstream” solutions. Most American cities have developed “end of pipe” solutions to address important issues such as sanitation, water management, transportation, etc. By distancing people from these issues and expending billions of tax dollars to deal with them, people are removed from their impact on their local environments. If these large systems fail, the results can be disastrous. “upstream” solutions encourage more community participation in addressing issues in the local environment. Although there may be more potential points of failure, the results are less damaging. Los Angeles’ current water reclamation program for the LA River is a good example of “end-of-pipe” solutions, while Portland’s widespread use of bioswales is a good example of “upstream” solutions. Currently, the City’s approach to dealing with river runoff pollution is to channel it through massive reclamation centers before expelling it into the ocean. While these reclamation plants are somewhat effective, they deal with the issue of water pollution at the last stage possible, or at the “end-of-pipe”. Portland’s approach to bioretention begins from the moment rainwater hits the ground, so that large-scale reclamation plants are unnecessary. This “upstream” approach is more effective and ultimately more cost efficient. Highland Park can lead the city in developing “upstream” BMP in key locations.

In order to develop more upstream solutions, bioswales can be implemented in neighborhoods like Highland Park. York Boulevard slopes downwards to the West from Ave 56 towards 50, and there are a few locations that could serve as pilots for a more comprehensive city-wide program. The most obvious place to incorporate this living street feature would be in the vacant lot on the corner of Ave 50 and York. Since there are currently plans to develop a park there, the bioswales can be incorporated into the built environment. The adjacent corner would also be a good location for a bioswale, and the two together would be more efficient. While one or two bioswales will have little to no effect on overall pollution, they will help raise awareness around the issue, and

can serve as a useful pilot project in los Angeles. The green rectangles symbolize possible locations for bioswales; exact costs and designs are not provided.

Recommendation: Integrate Bioswale to Potential Park on Ave 50 / York.

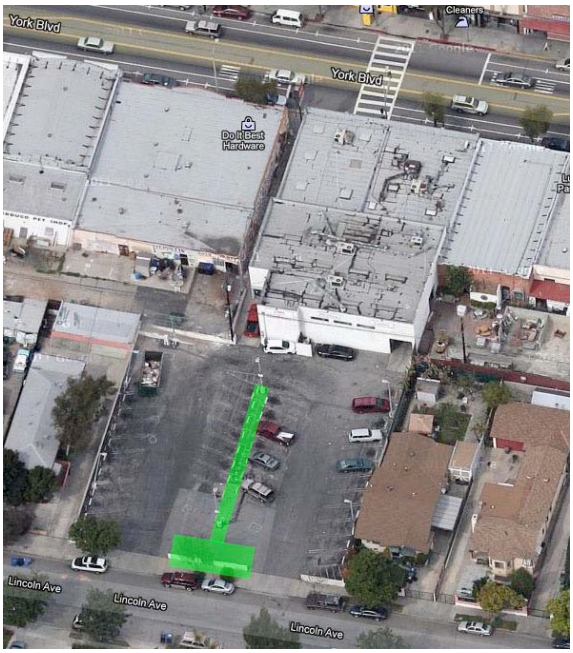
If the York Vision Project team is ablse to acquire the lot on the corner of avenue 50/York, a bioswale should be included in the landscaping design. Since it is also at a key location to capture surface water runoff, it should extend into the sidewalk or streetscape.

Bioswale in Future Park

Recommendation: Add Bioretention Features to Parking Lots

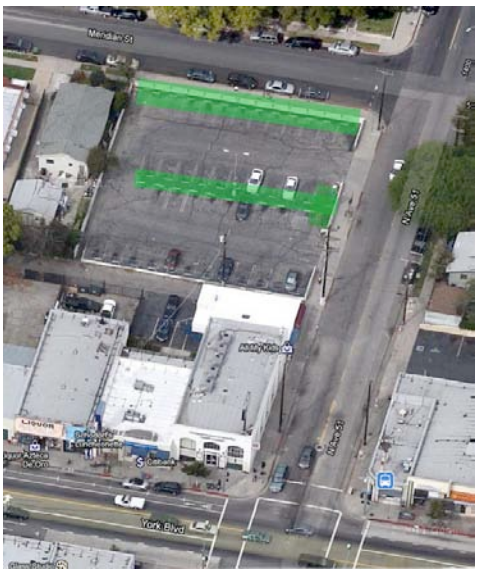
There are at least three parking lots that can be retrofitted to incorporate bioswales in the immediate area around York. Because of the City's minimum parking requirements, these proposals attempt to limit reducing parking while adding Living Street Designs.

The most used parking lot is located behind Do It Best hardware because it has an alley for easy ped access to York, but is only accessible by car from behind the store via Lincoln Street. This lot has plenty of space that can be better used to collect water runoff.



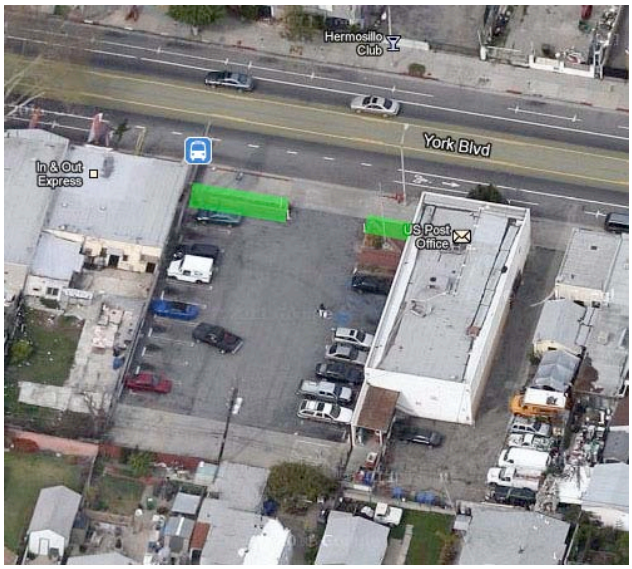
Do it Best Hardware Parking Lot Bioswale

Another large parking lot that serves park and ride transit riders is located on the corner of Ave 51 / Meridian. There are plenty of ways to incorporate bioswales in this location.



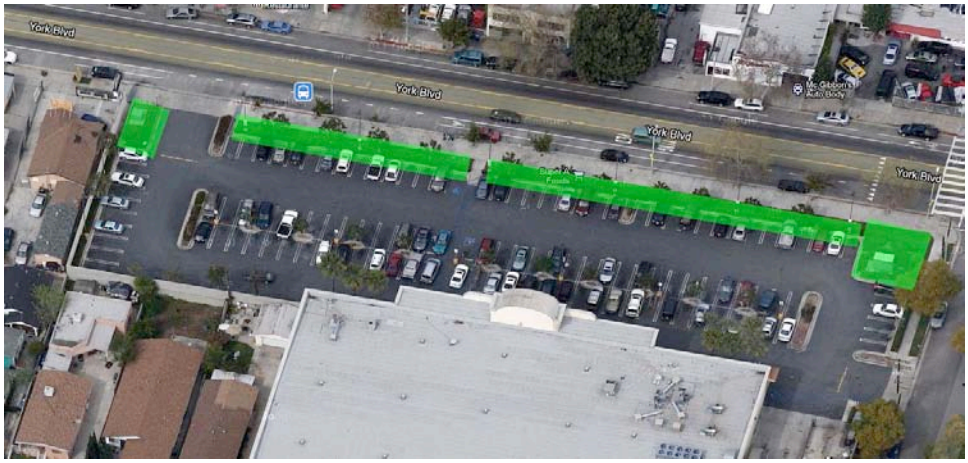
Meridian / Ave 51 Parking Lot Bioswale

The parking lot of the Post Office on Ave 51 and York can also benefit from bioswales.



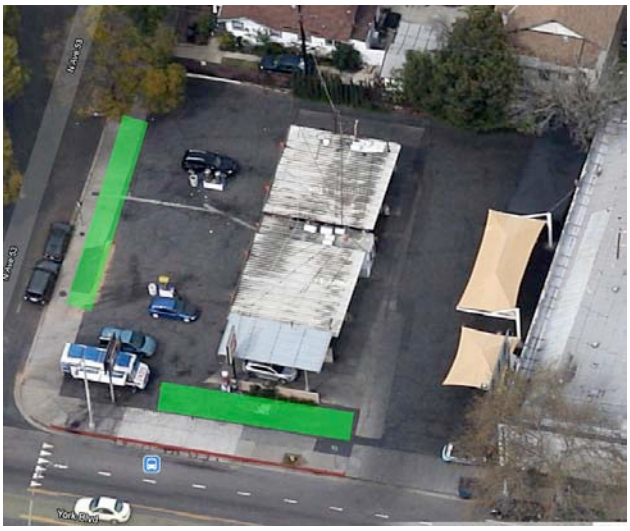
Highland Park Post Office Bioswale

Another potential parking lot in this area that can be retrofitted is the rather large lot in front of Super A. There is already a green strip of grass in front of the lot; if the wall separating the two is destroyed, the grass will absorb more water runoff.



Super A Bioswale

An area that would be excellent for bioretention features is in the car wash where the Taco Truck El Pique parks on Ave 53/York. Since there is constant water runoff from the car wash service that is full of chemicals, this area should be a priority to install bioswales along the curbs.



Possible locations for bioswale

Current drainage catch

The major issue associated with these features is cost – drainage catches are enormously expensive to move. Fortunately there are less expensive ways to retrofit our current system: installing other bioretention systems, in planters, on roofs, in parks, will help address the issue. The more bioretention features the city or locals install, the more likely people will be able to recognize and support them in their neighborhood.

While Portland encouraged private involvement through tax incentives, which really helped the project succeed, Los Angeles is not likely to follow this example. For most of the year surface water runoff is not a pressing issue on private residents, yet there are other ways to encourage responsible water management. Perhaps providing tax breaks for people who decide to landscape their homes with indigenous desert plants rather than waste water and chemicals growing grass can be a more effective tool. Increased visibility, understanding and responsibility will be the keys to developing better water management policies to help restore local waterways.

As water becomes increasingly scarce throughout the world, proactive water management polices must be developed and put into practice. Los Angeles already understands the importance of the issue, yet is doing very little to improve the situation. Bioswales and other progressive measures that help people reduce the amount of surface water run off and chemical pollutants must be a priority in future planning and design projects.

Reclaiming Space Recommendations

There are many places where Los Angeles can implement changes to the streetscape to make it friendlier for pedestrians and bikers. Space is generally so poorly used here because of it abundance, yet our failure to reclaim public space in this city is due to politics, not funding or lack of space. Still, Los Angeles is making slow but sure progress – in the past month the city opened its first New York Style pedestrian plaza that replaced car lanes. The success of these New York projects had a far reaching influence, and directly inspired LADOT to create a similar pilot program. The Sunset Triangle pedestrian Plaza, profiled earlier, is one the first projects that moves the City towards developing more Living Streets.

The word “reclaim” implies a degree of civic action. Although there are many obstacles to creating Living Streets in this city, the process can be expedited if people take initiative. Rather than relying on the city to finish more projects like Sunset

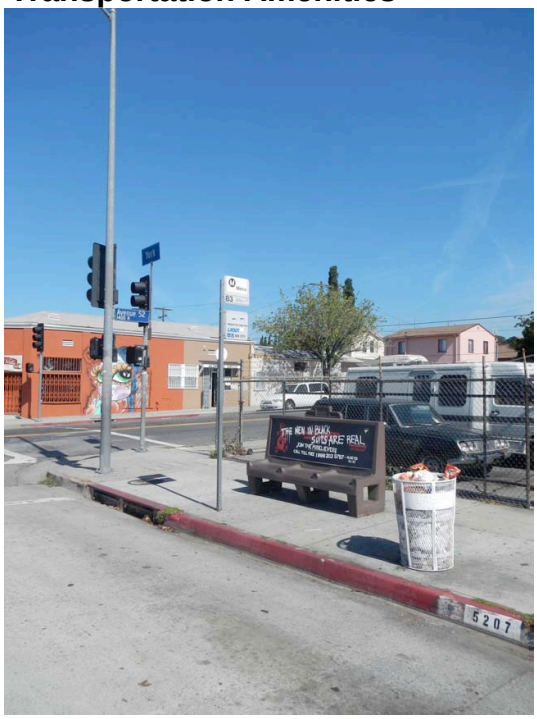
Triangle Ped Plaza, neighborhoods and communities can begin the process of improving their streets on their own.

There are many soft infrastructural changes communities can initiate for themselves, such as placing tables in the sidewalks outside of local cafes, building planters, street furniture, or bicycle parking. While these features may not be sponsored by the city, but showing a communal desire for such projects can help persuade the city to support them.

Recommendation: Improve Sidewalks

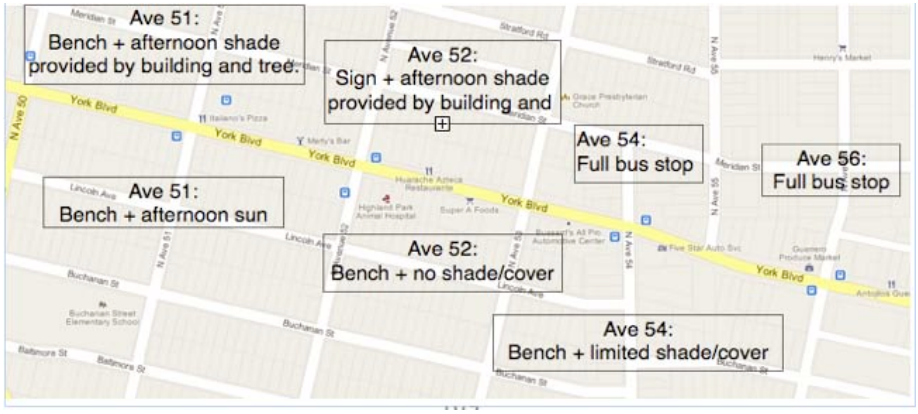
As stated above, safe, clean and walkable sidewalks are a major component of Living Streets. While Los Angeles is currently struggling to maintain its sidewalks throughout the city - and has proposed a variety of options to deal with this issue, ranging from pay-as-you-go, to federal stimulus money - there are areas on York that need to be addressed, such as just west of the Post Office where a tree is uprooting the cement.

Recommendation: Better Transportation Amenities



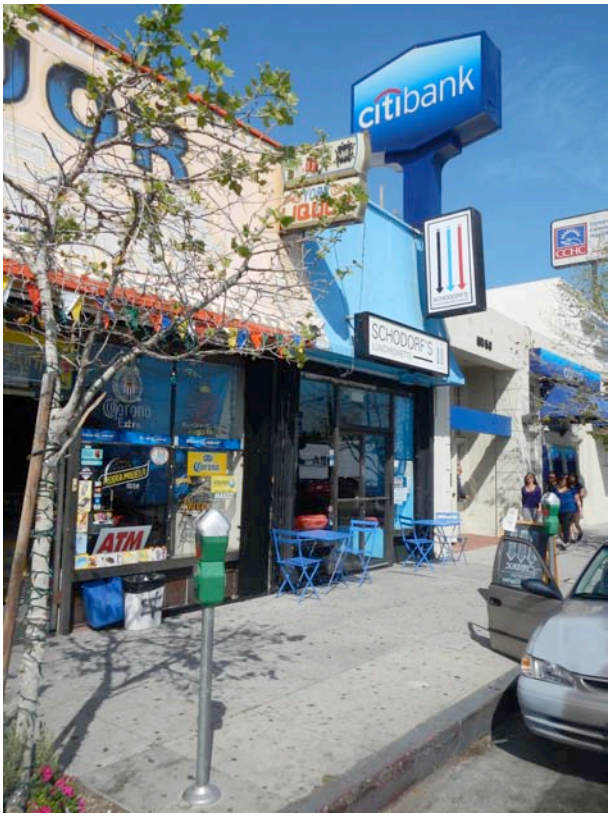
Poor transportation amenities on York / Ave 50

Many Bus stops, including metro and DASH*, busses do not have shade or seating. While this does not discourage the local residents who rely on these busses to commute, it does discourage most occidental college from using the bus or even knowing it exists.

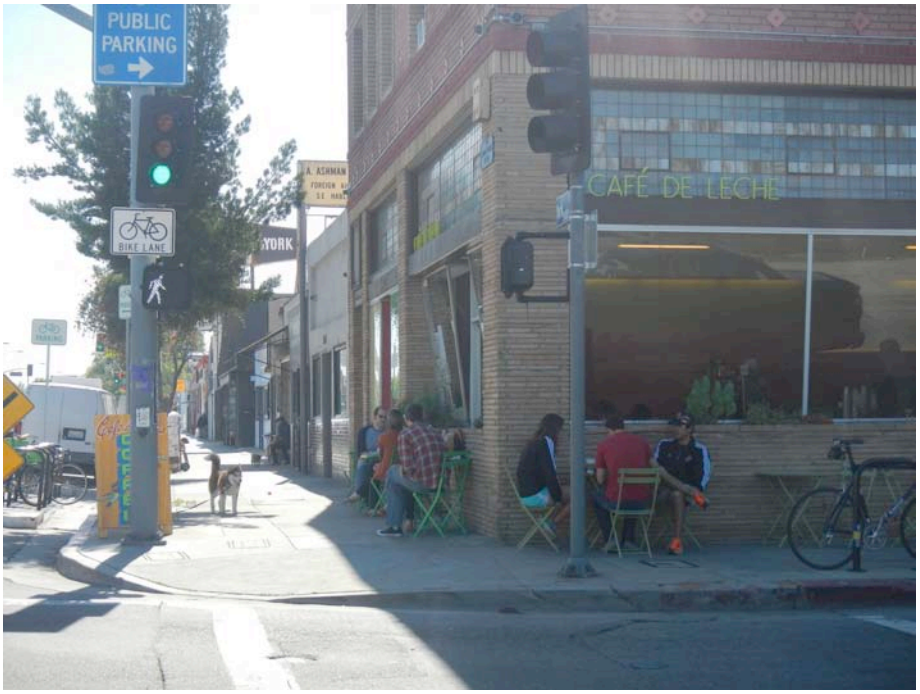


Areas that can improve transportation amenities

Recommendation: Encourage Businesses to Occupy Sidewalks



Examples of local businesses occupying sidewalk space



The best way to create living streets that are pedestrian friendly is for the community and local businesses to occupy sidewalks and the street – not to wait for the city to begin such projects. Like in New York, businesses can work together to take responsibility for public street furniture. Some of the most successful Living Streets projects are low cost DIY designs carried out by the community. The area of York Boulevard between Ave 50 – 56 has many examples of such activity. A great time to visit York Boulevard to experience its vitality is during Second Saturday NELA art walk, when food trucks, live bands, and a large biker community take over the streets. On these nights, it is clear why York is a leader in the Living Streets movement. Yet even on an average day one can see local businesses, such as Schodorfs' deli or café-de-leche pictured above, carving out pedestrian spaces in the streetscape. If more people and businesses engage in this behavior, the street will continue to develop and become even more inviting for people to walk around.

Recommendation: Expand Green Spaces

Example of a local business “greening” the streetscape

You cannot have a living street without creating more green spaces. In the last YVP meeting, the community expressed serious interest in improving urban forestry along the boulevard. Developing the park on Ave 50 / York will be an enormous improvement to the landscape of Highland Park, but its future is uncertain. If the owner backs out of negations, there should be efforts to organize the community to put pressure on him. At this point it is too early to predict what will happen.

There are currently plans to add more trees of different varieties to York, and perhaps even start a community garden, but in the mean time businesses can help make the street greener with low cost alternatives. Listed below are potential locations where green features can be placed.

Ave 50-51:

South side: There are some trees, also empty tree wells outside the York, Verdugo and 5028 where trees could possibly be planted. There is a falling tree on the corner of Ave 51.

Ave 51-52:

There are a good amount of trees on both sides closer to Ave 51, second half of block could use more trees on both sides. There are empty wells on both sides closer to Ave 52.

Empty Tree Well in front of HPK

Ave 52-53:

There are a lot of trees outside Super A, and two empty tree wells. There is also an empty well on the corner of Ave 52. There are also a bunch of trees on the north side of the street.

Ave 53-54:

There are some trees, but both sides could use more trees. There are empty tree wells on both sides of the street.

Ave 54-56:

More trees closer to Ave 55; empty wells on both sides closer to Ave 54.

All of these recommendations should be proposed to the community to before any action is taken to complete them. They serve as a good starting point to spark interest, and can certainly be elaborated on with more local input. Focusing on the development of these three complimentary aspects of Living Streets can help Highland Park emerge as the premier pedestrian friendly neighborhood in the City.

Conclusion:

Living Streets can help address the needs of a changing America to make cities more sustainable, healthy, safe, and fun. Since the 1950's US cities have been shaped around serious misconceptions, but there is a growing movement across the country that is working to change this.

There are many approaches to creating friendlier streets that are not dominated by automobiles. Some of the best ways are to increase bicycle infrastructure, reclaim space for pedestrians, and facilitate better water management. There are many different designs for these features, and it should be up to the local community to choose what fits their needs best. Many groups, like Ryan Snyder and associates, are creating a comprehensive framework that can better inform these decisions. Because of such work, there is a growing awareness and national understanding of the benefits of Living Streets.

The three most important Living Street designs are bicycle networks, better pedestrian spaces, and more green features that improve the environment. Creating a linked bicycle network throughout neighborhoods can greatly reduce trips made by car, and encourage all types of people to bike. Reducing the space dedicated to cars is a great way to make people feel comfortable occupying the street. Encouraging people in urban spaces to reclaim public area promotes local economies, health, the environment, and an overall higher quality of life. Making the streetscape aesthetically pleasing and functional will also support people to spend more time in public. Creating a functional, natural, and pleasing streetscape ecosystem is essential to creating Living Streets. We need to redesign our cities to mimic nature and make them more efficient and sustainable, and creating Living Streets is an excellent way to make this change.

Cities like New York and Portland set good examples that Los Angeles can learn from; strong leaders, progressive tax structures that support alternative modes of transportation, and a commitment to making the cityscape more sustainable can help redefine LA. In New York, leaders like Janette Sadik-Khan have helped develop tools and approaches that can expedite this transformation. Using quantitative data,

bypassing bureaucratic red-tap, and rallying communities around projects are innovations that are now being implemented across the country, including LA. In Portland, local government made the commitment to improve their water management through a more holistic approach. Using natural features to reduce water runoff pollution, and encouraging residents to be involved in the process has helped them create a rich streetscape ecosystem that is encouraging to bikers and pedestrians.

Los Angeles is currently engaged in a variety of projects that are helping redefine the City, and reduce dependence on the automobile. One of the key aspects to these infrastructural improvements is the new 2010 Bike Plan. Although it has its shortcomings, it provides a solid framework for advocates to work with. Within in the next few years more neighborhoods will have a comprehensive bicycle network that frees them from their cars. Over the next 30 years LA will become largely accessible by bike. These changes must be encouraged by implementing more progressive policies that discourage car use. As communities begin to realize they do not need their cars, they will use alternate modes of transit and accelerate the creation of Living Streets.

Historic Highland Park is leading the City on this journey. The York Vision Plan is showing LA how a community can quickly and affordably create massive changes. Highland Park is already widely recognized for its sidewalk culture and unique character – also as the first place in the city to replace car parking with a bike corral. Many of my recommendations are already well in progress; future efforts should focus on building a stronger neighborhood bicycle network and incorporating natural water management features in the streetscape. In the coming months York Boulevard will be home to a variety of Living Street designs, most excitingly the first street porch in all of LA. The York Vision Plan stands out as a model example of how communities can rally to create Living Streets and improve their local environment.

Los Angeles is beginning the slow process of a drastic change; we can expedite this transformation by building strong community support around Living Streets projects to pressure local government to fulfill their promises. Finally Los Angeles is making the transition from an autocentric suburban growth model to a more transit-oriented metropolis. While some criticize these changes, there is a growing recognition of the benefits of Living Streets across LA. I encourage you to go outside and be a part of the

movement. Creating Living Streets is the best way Los Angeles can reduce its environmental impact, promote the health and safety of its citizens, and make the city more enjoyable to explore without a car.

Glossary

Bicycle Boulevard – A street that gives priority to bikes over cars, usually marked with sharrows.

Bicycle Boxes – Painted green boxes near crosswalks, where bikers can safely wait for the light to change in front of vehicles.

Bicycle Corral – Bicycle parking design that accommodates space for many bikes and take away car parking.

Bicycle Paths – Bike paths separated from traffic, usually requiring separate infrastructure.

Bicycle Lanes – Painted strips in the road that cyclists can use alongside vehicles in the street.

Bioretention - The ability of Living Street features to use natural means to recycle and filter surface water runoff.

Bioswale – Landscape elements designed to remove pollution from surface runoff water.

Bus Rapid Transit (BRT) – Public transportation systems using buses to provide faster, more efficient service than an ordinary bus line.

Ebenezer Howard – Englishman who pioneered Modern planning methods through his idea of the Garden.

Fixed Gear Bicycle – A Bicycle with a direct drive train system, without a freewheel. Totally badass.

Garden City – Ebenezer Howard's utopian city plan.

Jane Jacobs – Polemic urban activist and author of *Death and Life of Great American Cities.*

Janette Sadik-Khan – Current Commissioner of New York City Department of Transportation.

LADOT – Los Angeles Department of Transportation.

LeCorbusier – famous Modernist urban planner.

Light Rail Transit (LRT) - Type of urban rail public transit system that is slower than heavy rail but fast than electric streetcars. LRT typically runs on private, at-grade Right-of-Ways (ROW), but can run with traffic or on separate infrastructure as well

Living Streets LA – Design firm that focuses on creating Living Streets in LA.

Measure R – the Los Angeles country sales tax that dedicates funding to transportation projects.

Midtown Greenway – 7-mile bike path in Minneapolis that has helped increase biking rates.

Modern Planning – Movement in planning that is responsible for shaping cities around the car.

Neighborhood Networks – Bicycle lanes that form a cohesive network of travel within neighborhoods.

NIMBY – Abbreviation for “Not In My BackYard” ; in los angels this attitude blocks many public transit projects.

NYCDOT – New York City Department of Transportation

Pedestrian Oasis – An added median in large streets that provide safe spaces for pedestrians to wait while crossing.

Pedestrian Plaza – Public seating areas for pedestrians that are usually reclaimed from cars or intersections.

Protected Bicycle Paths – Bicycle lanes that have an additional layer of protection between cyclists and cars.

Radiant City – Futuristic skyscraper city imagined by le Corbusier, influential in the development of public housing projects throughout America.

Road Diets – Removal of car lanes to install Living Street features, usually to add bicycle lanes.

Sharrows – Painted bicycles with a chevron above, indicating to motorists that bicycles are sharing the road

Steve Cancian – Urban designer and member of LivingStreetsLA, helping develop Living Streets on York

Street Porch – Pedestrian seating area in the street that reclaims parking spaces from vehicles.

Tactical Urbanism – Focus on accomplishing quick, affordable improvements in the streetscapeq.

Transit Oriented Development (TOD) – Development that incorporates a variety of mixed uses, such as housing retail and recreation, with transportation options.

Urban Forestry – Natural, green, design features in the streetscape.

York Vision Plan - Highland Park community plan that is working to develop York as a Living Streets.

[1]Snyder Associates, Ryan. *Model Design Manual for Living Streets*. Rep. Los Angeles: Department of Health and Human Services,
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