

NORTH BAYSHORE FOR ALL

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USP 514 SUSTAINABLE DEVELOPMENT IN CITIES
SAN FRANCISCO STATE UNIVERSITY





ACKNOWLEDGEMENT & PROJECT TEAMS

North Bayshore for All is a critical analysis of the 2014 North Bayshore Precise Plan. This is the collective work of students of San Francisco State University. This Analysis was produced for the course entitled "Urban Studies and Planning 514: Sustainable Development." I wish to thank all the students for their substantial collective effort, and Martin Alkire of the City of Mountain View for inviting us to analyze the planning of the North Bayshore neighborhood. This has been a tremendous educational experience.

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CHAPTER 1

INTRODUCTION

Dr. Pietro Calogero, Course Instructor

North Bayshore for All: A Critical (But Supportive) Analysis of the 2014 North Bayshore Precise Plan

This document, *North Bayshore for All*, is a critical review of the North Bayshore Precise Plan of Mountain View, California. This document was collectively produced by San Francisco State University students, as the semester project for the Urban Studies and Planning course entitled “Sustainable Urban Development.” In May of 2015, the City of Mountain View will begin to revise the Plan to include housing. Our class decided to analyze the existing Precise Plan and propose ideas to promote sustainability.

The North Bayshore Precise Plan (NBPP) was adopted in December 2014. At the direction of the former City Council of Mountain View, the Plan contained no policy to introduce new housing to North Bayshore (DeBolt 2012). The omission of housing from the Plan was politically controversial within the city, because it disregarded the regional need for more housing, and the imbalance of jobs versus housing in Mountain View specifically (DeBolt 2014a). In the November 2014 election, the citizens of Mountain View elected a new City Council, who immediately directed the planning staff to revisit the NBPP and include housing in the plan—potentially a great deal of housing (DeBolt 2014b).

Here are a few of the policy recommendations included in this report:

- We recommend using Transferable Development Rights in the Gateway and Core areas of the Precise Plan to buy out most, if not all development in the Edge areas—particularly any parcels below an elevation of ten feet.
- We recommend *high density office development* as well as high-density residential development. For office-space, this means Floor-Area Ratios of at least 8.0, and *no maximum FAR*. We recommend allowing the full scope of proposed office development proposed by companies for North Bayshore—but built on relatively small land area along Highway 101.

1.1 INTRODUCTION (CONTINUED)

- ❖ To address the jobs-housing imbalance, we also recommend residential development at a minimum of 100 dwelling units per acre, in two building types:
 - 1) Five-storey buildings, where primary uses are retail on the ground floor and residential on the upper floors. However, substantial mixing of uses will be permitted by right.
 - 2) Luxury residential towers, typically 22 storeys high.
- ❖ We recommend retaining most of the buildings in the General area. As these office-buildings age, they will become increasingly affordable spaces for adaptive re-use to house artistic activities and small tech startup companies.
- ❖ We recommend developing a highly-detailed Community Benefits Agreement, and a Neighborhood Association, to invest the substantial impact fees that will be generated by intense development in the Gateway and Core areas. A large portion of the revenue shall go to housing subsidies; but in addition, we recommend investment in major arts programs and a “path-to-tech” educational program for enabling working-class residents of Mountain View to gain both the education and skills necessary to enter the high-tech workforce.
- ❖ To create a culturally rich, urbane, attractive neighborhood, We recommend zoning the entire North Bayshore district as an Arts and Entertainment District. This means businesses permitted to operate at all hours, by right; entertainment uses, by right; and minimal restrictions on land use in general.

Overall, we see this revision of the North Bayshore Precise Plan as an opportunity to begin a radical shift in American urban planning: to build a community that is both urbane and sustainable. Today, sustainability means ecological non-destructiveness, but also much more: it means ecological fecundity, through maximization of wildlife habitat and maximization of edible gardening; *and* it means social justice. The concept of sustainable development has always implied justice, in the sense that we need to pass on a viable Earth to our descendants; but in this document we embrace a much more explicit policy of maximization of affordable housing, and human investment in building the path to higher-income employment for working-class families in Mountain View.

1.2 TOWARDS A GREAT TRANSITION: URBAN SUSTAINABILITY

Climate change, wildlife habitat destruction, and rising social inequality are interrelated issues on a global scale. However the most effective scale at which we can address these issues is the local. In the United States this is especially true because the *Euclid v. Ambler* Supreme Court decision of 1926 granted overwhelmingly strong local control over land use planning. Climate change needs to be addressed through reduction in output of greenhouse gases, and therefore most especially in the reduction of vehicle miles traveled. Wildlife habitat needs to be restored through a shift to much more selective patterns of urban development. Social inequality needs to be addressed through access to both housing and jobs. The North Bayshore neighborhood in Mountain View is extraordinary, because it is a site where we can address all three of these critical issues *simultaneously*.

The existing 2014 NBPP already begins this process by recommending that areas near the shoreline be designated as “sending” areas for development towards the Core Area of the Plan. We strongly agree with the restoration and expansion of habitat for burrowing owls, egrets, and wetland species more generally. And we believe that in the southern portion of North Bayshore—south of Charleston—there is room and opportunity for creating jobs, (relatively) affordable housing, retail, and education together.

In some ways, this *North Bayshore for All* report is a radical proposal. But at this moment *all* our big choices are radical, especially in relation to climate impacts (Klein 2014). We became aware of the climatic consequences of carbon-emissions in the 1960s, and *made the radical choice not to act on the evidence for fifty years*. Mountain View understands this well. Here is the opening paragraph of the Mountain View Greenhouse Gas Reduction Program:

Greenhouse gas (GHG) emissions and resulting climate change impacts are considered a major global challenge for the 21st century. These impacts range from reducing snow pack in the Sierra Nevada affecting water supplies, to a rising sea level threatening cities along the coast and San Francisco Bay, to decreasing air quality harming public health. Both at the global and local levels, we are starting to experience shifts in climate patterns and increased frequency of extreme weather events. (AECOM 2012, p. 1-1)

1.2 TOWARDS A GREAT TRANSITION (CONTINUED)

Since this was published, two more years of intensifying drought have affirmed this argument. With a 95% degree of confidence, the Intergovernmental Panel on Climate Change is convinced that our current lifestyle choices are now causing the catastrophic climate changes we are witnessing (IPCC 2014). Changing our lifestyles to drastically reduce the carbon-emissions of every household may feel like a radical choice, but actually it is *less* radical than consequences of maintaining the status quo.

When I began studying planning in 1992, the question was: Can we design dense urban environments to be attractive enough to promote a voluntary shift towards walking and biking, and away from motorized commuting? By 1992, American planners were painfully aware of our role in triggering climate change through auto-dependent urban sprawl. But we also knew how to design urban environments to reverse those impacts. The question was, could we proactively “sell” sustainability on a voluntary basis? I am the last generation of planner that will be educated that way, because we have missed the window of opportunity for being proactive. Now we must *react* to climate change and point out the injustices being visited upon living organisms, including the 95% of the human population that is poorer than the residents of Mountain View. At this point, any urban plan that permits—let alone encourages—increased fuel consumption is ethically indefensible. Instead, we must ask a different question: **How do we sustain economic development as we plan for a massive decline in carbon-use?**

1.2 TOWARDS A GREAT TRANSITION (CONTINUED)

The people and government of Mountain View have taken a leading role in pushing for dramatic innovations in urban policy. This was true two decades ago with the development of The Crossings neighborhood, where the materials of a former shopping center on the site were ground up and re-used as construction material, in an early act of waste-stream diversion. And it is true now with the Sea-Level Rise Study and the entire 2030 General Plan. Here is the opening statement of the current General Plan of the city:

Mountain View's General Plan vision was developed by the community in 2008 as part of the General Plan Visioning Process. This core vision represents the community's ideal future:

In 2030, the City of Mountain View embraces sustainable living and provides for the needs of all residents. It is a place that values its diversity, balances preservation with innovation and provides quality education. The community supports a lively Downtown, vibrant neighborhoods and a healthy economy.

—Mountain View 2030 General Plan, p.4

We therefore consider our work in the Sustainable Urban Development course to be entirely consistent with the vision and values of Mountain View, even if our conclusions and policy recommendations diverge significantly from the current 2014 Precise Plan.

North Bayshore is only one part of one city within the San Francisco Bay Area. But it represents far more: the possibility of shifting urban planning towards a fundamentally new practice of city-building in the United States. To paraphrase Karl Polanyi (1944), we can call this **the Great Transition**: city building that is sustainable in terms of economic wealth, ecological fecundity, and social justice.

1.3 SOCIAL JUSTICE IN PLANNING

There are many dimensions to Sustainable Urban Development. The people and government of Mountain View have shown both a strong understanding of, and a strong commitment to addressing the issues of climate change and habitat restoration. We have therefore focused most of this study on addressing two other dimensions of sustainability: economic viability and social justice. It might seem surprising that a group of SF State students would advocate for high-rise office development and the inclusion of high-rise luxury housing in a plan for sustainability. But as we weighed the many factors that go into sustainable urban development, we could not ignore the fact that high-value new development can do three things: 1) buy out inappropriate development in ecologically sensitive areas; 2) subsidize housing; and 3) fund the education of working-class adults and their children towards higher-income jobs. In fact, the high densities in this proposal are *not* the most radical aspect of *North Bayshore for All*. The most radical aspect of our proposal is to plan for an *integrated, desegregated* urban environment—a repudiation of eighty years of American planning which has promoted segregation of land uses, segregation of classes, and segregation of races. Planning a new, socially-integrated neighborhood is the opposite of gentrification. The question that has come to dominate our Urban Sustainability course is, **How do we plan for urbane, desegregated, socially integrated urban neighborhoods with the tools currently available to planners?**

The Google Bus has become one of the most visible symbols of the controversy over gentrification in San Francisco. However the long-range, multi-scale perspective of planning reveals a very different understanding of this issue. Tech firms (including Google) are not waiting for the incredibly slow expansion regional transit to reach Silicon Valley. By the late 1990s, the economic engine of the Bay Area had shifted away from San Francisco. But our Bay Area Rapid Transit system still has a radial focus on San Francisco's downtown, and no direct connection to western Santa Clara County. The tech-buses are a sensible way to provide employees with an alternative to automobile commuting, and the tech workers who use these buses should be praised for embracing this program. But an even better solution will be to design "a little bit of the Mission District" in Mountain View, so that tech workers don't have to commute to San Francisco on a daily basis.

1.3 SOCIAL JUSTICE IN PLANNING (CONTINUED)

The influx of tech workers to the Mission District is an expression of market preference. What is it they prefer about the Mission? To what degree can planners bring these same qualities to Mountain View, so that tech workers can enjoy the same urban amenities—the same urbanity—without expending the energy needed to travel daily back and forth to San Francisco? We believe that density, diversity, and “a bit of grit” are three of the key dimensions that are needed to make North Bayshore attractive to people who have the capacity to choose to live wherever they want in the Bay Area.

The first step was to study the actual density that tech workers prefer. The most attractive part of the Mission District at this point is Census Tract 207, bounded by 17th, 22nd, Valencia, and Dolores Streets. According to the Census’ American Community Survey 2013 data, this tract has an overall population density of 41.15 people per acre, and an overall (gross) unit density of 20.66 per acre. Since about half of the land area in the tract is taken up by public rights-of-way and open space, this means that only about half of the land area is private parcels, in which case the *net* building density is about 42 units per acre.

The ratio of population-density to unit-density in Tract 207 reveals one of the problems with gentrification: wealthier people use more space, in the form of single occupants in the same flat that used to house whole families. If the building-density is held constant (as it is in the Mission), then overall population-density goes down. In Tract 207, the occupant-density is down to 1.99 per unit. In contrast to Tract 207, the nearby Census Tract 229.01, extending from 23rd to Cesar Chavez Streets, is in an earlier stage of gentrification and displacement of poorer families. Average unit occupancy in Tract 229.01 is currently 2.92 (Census, 2013).

1.3 SOCIAL JUSTICE IN PLANNING (CONTINUED)

The choice of tech workers to move into the Mission might seem like a paradox. There are many upper-class neighborhoods in San Francisco where existing and new luxury housing would be welcome and uncontroversial. However this apparent contradiction should be understood as a very strong market preference: tech workers, as people who could choose to live in a wide variety of locations, *prefer* to live in the Mission. Whereas poorer residents may see them as gentrifiers and a threat, the tech workers actually *want* to live in a place which is racially, culturally, and economically diverse. This expressed market preference should guide the design of housing development policy in North Bayshore. One reason to provide ample affordable family housing in North Bayshore is for the sake of social justice. But a radically different reason is because such a policy may also be necessary to produce a neighborhood that is attractive to the higher-salary workers who will finance the development of the district.

This line of argumentation reveals a central theme in the sustainable urban development approach to policy. Rather than focus on rearguard-actions of *conservation*, twenty-first century sustainability-theory has shifted to *restoration*. This holds true both for non-human species habitats and for class-diverse human communities. The controversy over gentrification in San Francisco has turned bitter because it is framed as a rearguard action in which community members struggle to slow down the ostensible 'cultural death' of the Mission District. In contrast, Mountain View is in a position to adopt the sustainability-path: to increase and promote diversity by building a neighborhood which is *integrated* in every dimension of the term.

1.4 BREAKING TWO TABOOS: PLAN FOR DENSITY, PLAN FOR INTEGRATION

Dense housing on small parcels, with many entrances and windows facing the street, all seem to be contributing factors to making an urban neighborhood worth keeping over time. Ironically, these were precisely the traits disparaged by planners and discouraged by standard (“Euclidean”) zoning from the 1940s onward. Both Jane Jacobs (1961) and Herbert Gans (1962) argued that much denser districts in Boston and Manhattan were attractive and viable. Near the very beginning of *Death and Life of Great American Cities*, Jacobs recounts the ideological dissonance of modernizing planners at that time:

Why in the world are you down in the North End?” he said... “That’s a slum!”

“It doesn’t seem like a slum to me,” I [Jacobs] said.

“Why, that’s the worst slum in the city. It has two hundred and seventy-five dwelling units to the net acre! I hate to admit that we have anything like that in Boston, but it’s a fact.”

“Do you have any other figures on it?”

“Yes, funny thing. It has among the lowest delinquency, disease and infant mortality rates in the city. It also has the lowest ratio of rent to income in the city...Of course it’s a terrible slum.”

(Jacobs 1992[1961]:10)

The planner went on to describe the wonderful character of the neighborhood. But no appealing quality could change his ideological certainty that high density—by definition—meant that the area *must* be a slum. Jacobs pointed out that American cities “should have more slums like this” because the reality was that the association of high density with bad living conditions was empirically false. As we know in California, poor housing conditions can occur in low-density suburbia such as East Palo Alto, Vallejo, and Stockton; whereas some of the best housing conditions in the Bay Area occur in the very dense neighborhoods of Nob Hill, Pacific Heights, and North Beach in San Francisco.

1.4 BREAKING TWO TABOOS (CONTINUED)

The problem, then as now, was not density: it was *segregation* (Massey and Denton 1993). Whether in public housing towers of the 1950s or sprawled ranch housing of the 2010s, segregation is one of the primary barriers of access to good education and good jobs. Spatial integration in multi-class neighborhoods creates the opportunity to develop contacts and to learn what is needed to radically improve life opportunities. Creating these opportunities does not guarantee better lives; but conversely, segregation *does* guarantee that these opportunities will not occur. If your extended circle of friends and contacts have very limited overlap with high-paying employers, your ability to get a high-paying job is severely truncated. To address class-mobility in practice, planners need to design integrated neighborhoods. This requires major subsidies in newly-constructed neighborhoods, and fortunately, the revenue from impact fees in North Bayshore itself look to be sufficient to fund this diversity.

1.5 NORTH BAYSHORE, PLANNED FOR ALL

In this study we present ideas that will increase wildlife habitat, accommodate economic growth, provide affordable housing, and high-tech workforce development for the residents of Mountain View. Fitting all of these programs into one district requires a massive increase in the density of both office and residential development. Fortunately, density is also a key ingredient for making this entire plan work: if we want to attract thousands of tech workers to live in North Bayshore, we need to produce a setting similar to the ones they prefer today: in San Francisco, the densest city in the Bay Area. We need to design an *urbane* environment, rich in cultural and social activities. And we need to push for the maximum level of affordable family housing, because class and cultural diversity are an essential ingredient to urban environments such as San Francisco's Mission District. For the San Francisco-based students who have developed this study, it is a push back against the gentrification that is affecting them. But it is also a recognition that tech workers *choose* to live in a diverse environment, and thus, to make North Bayshore attractive to them, it must also have this same richness in cultural diversity.

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CHAPTER 2

URBAN CULTURE

This is the collective work of Edward Chavez, Irene Ho, and Matthew Paul

Cultivate North Bayshore's urban culture through creative urbanism + participatory planning to create a community destination.

Access to art and entertainment endows an area with rich cultural diversity and a liveliness that attracts local and neighboring residents, as well as global visitors. Close proximity to public spaces which facilitates these creative junctions will serve the community for decades resulting in a longevity of investment. This model for planning is characterized by a "livable community." This model emphasizes the importance of connecting residents to a neighborhood center, tackling cultural deprivation, and addressing the needs and wants of a local population.

The goal of Urban Culture is to manifest these ideals, not only for the people of North Bayshore, but also for neighboring residents and visiting persons. The plan is to frame the Gateway, Core and General Districts, as a whole, as an "arts and entertainment" sector. Which, in turn, would construct programmable public and private spaces that encourages diversity and education.

Currently, the North Bayshore Precise Plan's outline for allowed land use permits a variety of activities that may be associated with plans involving art, entertainment and retail. Our proposition will expand on these allowances by establishing an umbrella agency to organize initiatives, and by granting statutory use for entertainment across the Gateway, Core and General Districts. Accordingly, arts and entertainment in these three districts have the permissible right to operate 24 hrs/day. The purpose of such an expansion is to create an identity for North Bayshore, separating itself greatly from its Mountain View neighbors and challenging the Bay's entertainment epicenter of San Francisco.

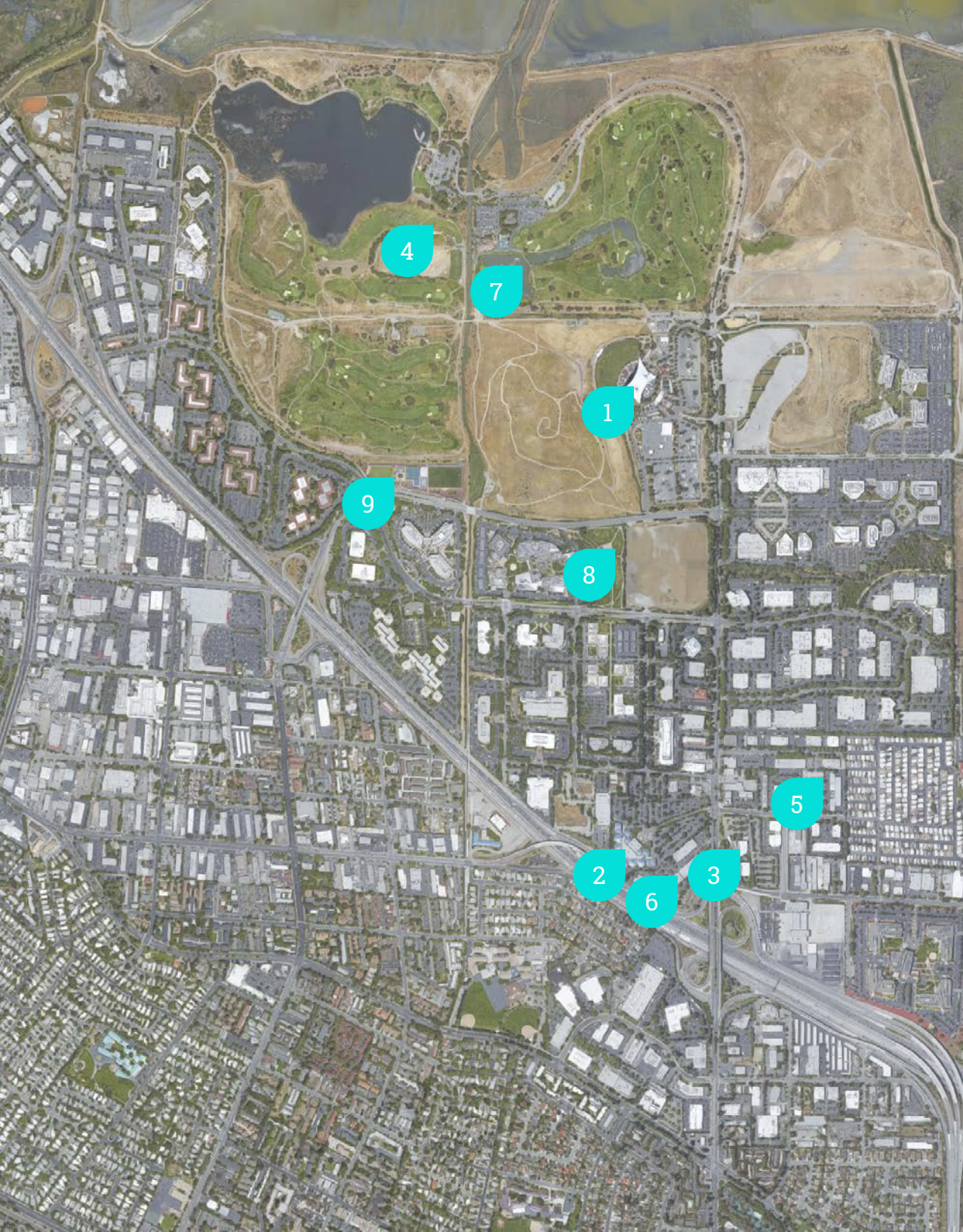


Build a Fun + Livable Community: Approaches

We believe a fun and livable community can be achieved through the following proposed ideas:

1. Create the North Bayshore Neighborhood Association
2. Establish the Arts + Culture + Entertainment Commission
3. Designate North Bayshore Arts District
(Artist in Residence)
4. Designate a temporary multipurpose space for small businesses [retail, food, art] and community
5. Designate a food+entertainment corridor
6. Designate a plaza in Gateway District connecting residential housing to outdoor activity venue
7. Establish the North Bayshore Art + Cultural Center
8. Sunday Street Closures





2.2 Existing Neighborhood + Cultural Amenities in North Bayshore

- 1 SHORELINE AMPHITHEATRE
- 2 CENTURY 16 CINEMA
- 3 COMPUTER HISTORY MUSEUM
- 4 SHORELINE PARK
- 5 PEAR AVENUE THEATRE
- 6 LASER TAG GAME VENUE
- 7 SHORELINE GOLF LINKS
- 8 CHARLESTON PARK
- 9 GARFIELD PARK

NORTH BAYSHORE CAN BE MORE FUN AND LIVABLE!

2.3 Create North Bayshore Neighborhood Association

In order to bring to life the vision of a place that meets the diverse needs of residents, workers, and visitors, planners must work closely with all stakeholders - providing community members with a sense of ownership and inclusion. The establishment of the North Bayshore Neighborhood Association (NBNA) will provide an outlet for collaboration between residents, workers, business leaders, and government agencies.

The NBNA shall serve as the official city agency responsible for incorporating public participation in all major planning decisions. Residents and community groups will have the opportunity to work alongside planners to design a livable and accessible city. The NBNA will allow all members of the community to participate in an open and inclusive environment for all.

CONNECT RESIDENTS WITH THE NEIGHBORHOOD & BUSINESS COMMUNITY

In order to meet the historic vision of the North Bayshore for All Plan, planners must facilitate collaboration between the business community and local residents. This will be accomplished by hosting monthly neighborhood meetings, as well as social community building and planning sessions. The primary task of the NBNA will be to foster a sense of connection among the neighborhood and break down social barriers between business and the community. North Bayshore will be a place where people work, live, and make decisions together.

A LIVABLE NEIGHBORHOOD THROUGH TRANSDISCIPLINARY PLANNING

The NBNA shall bring together planners from diverse fields in order to inform the public and provide a holistic understanding of how projects will interact and affect day-to-day life and long-term sustainability. The NBNA will also serve as a vehicle for developing cohesive planning strategies with livability and equity at its foundation. 5 committees of different fields will be formed under NBNA:

- ❖ Arts + Culture + Entertainment Commission
- ❖ Business Relations Committee
- ❖ Communications
- ❖ Public Safety
- ❖ Transportation and Planning

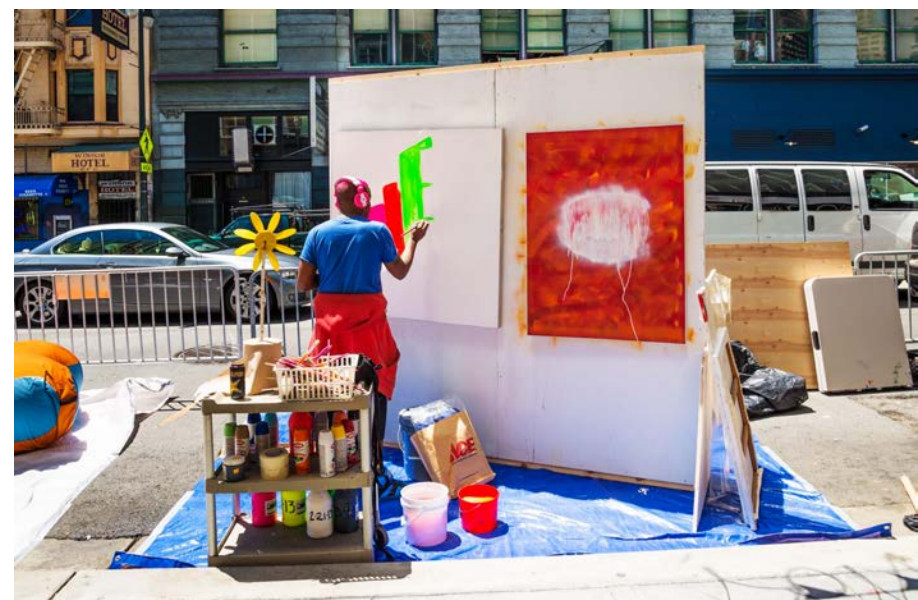
2.4 Establish Arts + Culture + Entertainment Commission

The Arts + Culture + Entertainment Commission is charged to bring arts and entertainment into everyday life to make North Bayshore a vibrant cultural center. The Commission values the transformative power of arts in the cultivation of urban identity to foster positive social change and liveability. Through creative forms of community engagement, the Commission envisions a thriving North Bayshore that exerts cultural gravity for residents and visitors.

The Commission will collaborate with artists and businesses to advance ideas and deliver high quality arts and entertainment experience. Leveraging on the innovative talents and resources in Mountain View, the Commission bridges the gap between artists, residents, workers, and businesses. North Bayshore will provide an ideal base for this innovative arts and culture to take place.

Initial programs include North Bayshore Arts District, and Food + Arts + Entertainment Corridor. These initiatives will serve as a successful placemaking model to enliven a neighborhood.

Potential partners include: Silicon Valley Creates, Silicon Valley Community Foundation, and Mountain View Center for the Performing Arts.



2.5 Designate North Bayshore Arts District + Artist in Residence

A thriving creative sector is key to a diverse and sustainable city. Arts district development is one strategy that helps a community boost their economies while realizing other cultural and civic benefits (Texas Commission on the Arts 2015). These special areas can serve as focal points for generating business, attracting tourists, stimulating cultural development and fostering civic pride (*ibid.*).

The Arts + Culture + Entertainment Commission will designate and manage an arts district - the North Bayshore Arts District - in the Core District of North Bayshore. Capitalizing on the new development in the Gateway District, the North Bayshore Arts District will attract artists and cultural enterprises to North Bayshore to foster a creative, vibrant community destination.

The arts district model is an innovative way of city branding; it also addresses the potential challenges of social equity. The North Bayshore Arts District will:

- ❖ Ensure affordable housing for artists and other residents
- ❖ Tailors zoning to suit artist-related needs and allows artist live/work spaces
- ❖ Puts existing vacant properties back on the tax rolls
- ❖ Create a strong image for artists, other district businesses, and area colleges

(Community Partners Consultants, Inc. 2001)



2.5-1 ARTS DISTRICT PRECEDENTS

SOWA, BOSTON

The SoWa district (South of Washington Street) in Boston's South End is a creative epicenter known for its art galleries, restaurants, shops and open markets. SoWa is a former mill building district in the 19th century. The area has been home to artists' studios carved out of the old factories for the last 50 years. In the early 2000s, GTI properties redeveloped the area to rejuvenate the district. The redevelopment project has since drawn galleries, destination-worthy restaurants, marketing agencies, design studios, modern residential lofts, and creative businesses to SoWa (SoWa Boston 2015).

SoWaMarket & SoWaSundays

The district hosts four outdoor markets - Open Market, Vintage Market, Farmers Market, and Food Trucks Market every Sunday. The collection of vibrant outdoor markets brings over 5,000 thousand visitors to SoWa every Sunday.

First Friday

On the first Friday of every month, over 80 artists and galleries in SoWa exhibit their new 30-day shows featuring the works of emerging and established painters, photographers and sculptors.

SoWa Art Walk

The SoWa Art Walk is an annual art festival held each spring. Drawing thousands of visitors to the district, the SoWa Art walk is one of the main events in the area. The event allows artists to present their works and host open studios, attracting artists from all around the country come to showcase their works.

PRIVATE SECTOR PARTICIPATION IN ARTS DISTRICT DEVELOPMENT CAN CREATE A ROBUST COMMUNITY DESTINATION.



2.5-1 ARTS DISTRICT PRECEDENTS

FACTORY 798 ART DISTRICT, BEIJING



The Factory 798 Art District is located in the northeast Beijing, an abandoned industrial site of Factory 798. The factory complex was vacated in the 1980s, the time when Beijing's contemporary artist community was looking for a new home. Cheap rents combined with the unique loft factory buildings designed in Bauhaus style attracted the creative artists to relocate.

In the early 2000s, Factory 798 became an internationally-known art district because of 2 overseas art enterprises (Yin *et al.* 2015). In 2002, Robert Bernell, an American art publisher moved his Timezone 8 bookshop and publishing office into the area, and recommended to western artists. Designers and artists began to move into 798, and Timezone 8 drew on contacts with global publishing to grow into an important global publisher of illustrated Chinese art books. Later that year, Tokyo Gallery set up the Beijing Tokyo Art Projects (BTAP) in Factory 798 main area, led by Tabata Yukihiro, a globally known avant-garde artist. The opening exhibition drew over 1,000 people and marked the beginning of the popular infatuation with Factory 798.

During 2003 - 2005, the landowner sought to demolish and redevelop Factory 798 into part of the Beijing High-Tech Zone, designer artist Huang Rui organized the Reconstructing 798 Movement and the Dashanzhi International Art Festival to protect the area. These grassroots campaigns cultivated a community spirit, and were supported by overseas media. Factory 798 was recognized by the Beijing Municipal Government, and has since become a thriving international artist community and destination.

A SUSTAINABLE ARTS DISTRICT NEEDS CREATIVE TALENTS AT HOME & ABROAD + GOV. SUPPORT.

2.5-2 OPEN ACCESS ARTS FESTIVAL PRECEDENT

EDINBURGH FRINGE, SCOTLAND

The Edinburgh Fringe Festival is the largest arts festival in the world and takes place every August for three weeks in Edinburgh, Scotland. In 2014 there were 49,497 performances of 3,193 shows in 299 venues, making it the largest ever arts festival in the world (Edinburgh Festival Fringe 2015).

Every year thousands of performers take to hundreds of stages all over Edinburgh to present shows. From big names in the world of entertainment to unknown artists looking to build their careers, the festival caters for everyone and includes theatre, comedy, dance, physical theatre, circus, cabaret, children's shows, musicals, opera, music, spoken word, exhibitions and events.

In a 2010 study, the Edinburgh Fringe brings about \$409 million additional tourism revenue for Scotland (*ibid.* 2011). 85% of all respondents agree that the Festival promotes a confident, positive Scottish national identity. 89% of Edinburgh respondents say that the Festivals increase local pride in their home city (*ibid.*).

OPEN ACCESS ARTS FESTIVAL CAN PROMOTE CITY BRANDING AND LOCAL CREATIVE INDUSTRY.



2.5-3 NORTH BAYSHORE ARTS DISTRICT

The North Bayshore Arts District will preserve the existing structures, support street level and outdoor activity, pursue public art opportunities throughout the area.

PHYSICAL ARRANGEMENT

Live/work Space

Existing structures will be converted to live/work space adapting to artist and creative business uses

Public Recreational Area

The outdoor area will serve as green space and public recreational space with rotating public art pieces and furnitures created by residing artists and businesses

PROGRAMMING

First Friday

Open studios and galleries, complimentary happy hours, special discounts by shops and restaurants

Bayshore Open Market

Flea market hosted by artists, residents, and local businesses every Saturday and Sunday

Bayshore Fringe

Yearly outdoor art festival featuring art exhibitions, concerts, theatre shows in January

Subsidies for International Independent Artists and Creative Businesses

Incentivize creative talents to base in North Bayshore and create an artist community



2.6 Designate Food + Entertainment Corridor & Temporary Multipurpose Space

- ❖ Sustainable business practices that create low waste and respect bordering parks and natural habitat areas
- ❖ A flexible environment that encourages the rotation of new ideas and businesses as well as art installations
- ❖ Semi permanent retail and entertainment spaces created from repurposed shipping containers or other reconstructed materials for lease

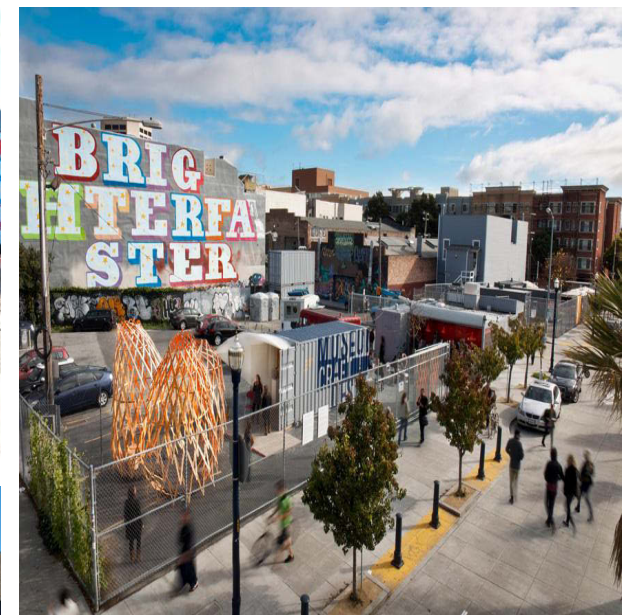


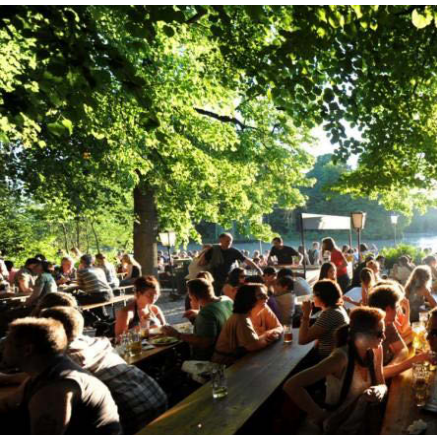
2.6-1 TEMPORARY MULTIPURPOSE SPACE PRECEDENT

PROXY, SAN FRANCISCO

PROXY is a placeholder for a more permanent building in the sites left over from the path of the former Central Freeway, which slice through San Francisco's Hayes Valley. It is a temporary two-block construct that imagines a vibrant focal point for commerce and community. These sites currently are occupied by temporary inhabitations of retail, restaurant, art gallery, garden and community-based uses that add to the richness and diversity of Hayes Valley (envelopeA+D 2011).

PROXY is conceived of with an ethic of sustainability and reuse. The southern face of the L site will sponsor a demonstration photovoltaic array for on-site power generation. A water collection will be used for irrigation of on-site plantings and the existing asphalt surface will be partially removed to allow for pervious paving in common areas. Retail pods and frames will be re-used or recycled after this inhabitation. Most other components will be rented or recycled after proxy is dismantled.





2.6-2 POSSIBILITIES FOR THE CORRIDOR AREA

FOOD & BEVERAGE BUSINESSES

Schmidt's Biergarten

An outside German pub that features 30 German, Austrian and Belgian beers on tap. Small bites provided by Esther's German Bakery

Google Bike Shop and Outpost

A place to park and repair commuter bikes; not limited to Google bikes and employees

Ike's Sandwich Shack

Bay area's famous sandwich house

ARTS & ENTERTAINMENT

Designated graffiti and mural space

Independently standing concrete wall space, each allowing two sides to be painted by a selection of artists. Murals rotate annually or semi annually

Vortex Room Pop-up

Temporary outside movie house where Vortex Room brings the screen and projector and the audience brings their chairs and blankets. Monthly viewings of cult films and B-movies.

NORTH BAYSHORE JAZZ + BLUES FESTIVAL

A yearly outdoor jazz + blues festival for listening, jamming, dancing, and more to be held in March.

MOUNTAIN VIEW OKTOBERFEST

A yearly beer festival to be held in October in the Entertainment Corridor and the open area of Shoreline Amphitheater

ENTERTAINMENT USES PERMITTED BY RIGHT

When establishing an area rich in cultural activity, protection of rights for an individual is of utmost importance. Encouraging the people's right to assembly and even busking by an artist emboldens their constitutional First Amendment right and proactively promotes forward thinking.

Further legislation challenges include the following that would be specific for the North Bayshore plan:

LIQUOR LICENSE (BAR, 48)

The liquor license is issued by the State of California's Department of Alcohol and Beverage Control. Liquor licenses can be issued to individuals or a company and may be transferable. Presently, North Bayshore has no limit for the number of businesses that may attain a liquor license.

The bar license allows the business to serve hard liquor on the premises until 2:00 AM, in a facility that only admits entry to people who are 21 years of age and older.

LIQUOR LICENSE (RESTAURANT, 47)

The restaurant license is similar to the Bar 48 license, only the restaurant liquor license allows an establishment to serve alcohol in a facility that admits minors.

The Department recognizes a restaurant to be an establishment that has a commercial kitchen and if the sales of food prepared (any preliminary processing to the final serving of) and sold on the premises exceeds the gross sales of alcoholic beverages. Conditional requirements for North Bayshore licensees requires 40% or more of total gross sales must be food.

PLACE OF ENTERTAINMENT

Licensed by the City of Mountain View Police Department, this permits any entertainment of any kind in conjunction with food and beverage services. The definition of "entertainment" will remain broad.

Entertainment licenses and permits grant establishments the right to operate 24hrs/day.

DANCE HALL

Mountain View currently only grants permits for single events. North Bayshore's dance hall permit will be included in conjunction with the Place of Entertainment license. Place of Assembly licenses will still need to obtain a Dance Hall permit.



2.7 Gateway Placemaking Ideas: Turing Plaza Amphitheatre

The Gateway District will be the face of North Bayshore. Creating such a public arena establishes a culturally rich and vibrant community that is visible to residents and nonresidents alike. High density housing, diverse demographics, access to life necessities and amenities, including art and entertainment; this is the future of sustainable city planning. The North Bayshore Gateway District will challenge the suburban identity of its fellow South Bay neighboring cities, and present itself as a new urban development.

To put the livability ideas in a packaged design, a new proposal for the Gateway District is under way. Along with the new plan to erect high-rise, mixed-income housing, the Gateway District will become an open plaza area designated for pedestrian and bicycle traffic only. This residential plaza establishes a communal neighborhood gathering place for general enjoyment or flexible scheduling of community events.

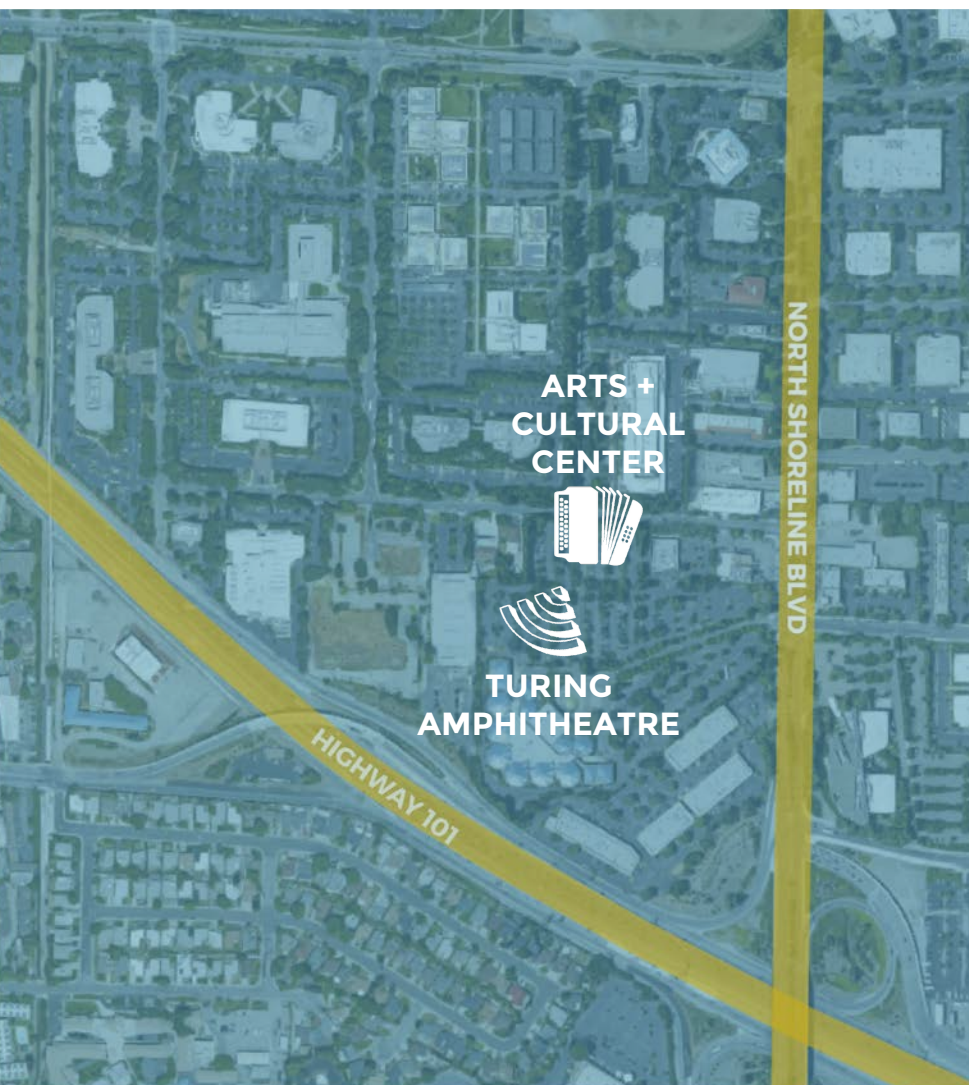
One example would be Washington Square Park (WSP) in Manhattan. WSP is a large park with a big plaza right in the middle of Greenwich Village, Manhattan that caters to the tens of thousands of residents who surround it. The park is a major tourist destination but taking a stroll through it would reveal the importance WSP is for the local people. Individuals exercising, families walking together, kids playing sports or hanging out, artists performing are all commonplace. The plaza at North Bayshore can conduct the same behavior by constructing a healthy park environment attached to where residents live. Promoting individual expression and community programming will provide a unique experience each time the park is visited.



2.7 Gateway Placemaking Ideas: Turing Plaza Amphitheatre

When imagining an urban landscape it is important to design an accessible urban form for the community to adopt, manage, and evolve the dimensions of such a space (Wheeler 2013: 156). This is the most successful way to achieve urban design value and guaranteeing future interest. A Greek-style amphitheater is a perfect amenity for the Gateway District that can showcase regional characteristics of North Bayshore. This moderately sized staged seating area may serve as a point of interest and social gathering place. Some examples of social happenings may include, but not limited to, the beginning or ending venue for parade processions, public theater, political activism, or maybe just a comfortable space to enjoy lunch on a sunny afternoon. Portland, Oregon's Pioneer Courthouse Square emulates this form of accessibility by repurposing a former parking garage and establishing, what the local's named, the city's "living room" (Wheeler 2013: 157). The success of such a space is due to its multi-purpose programming for a wide range of residents.





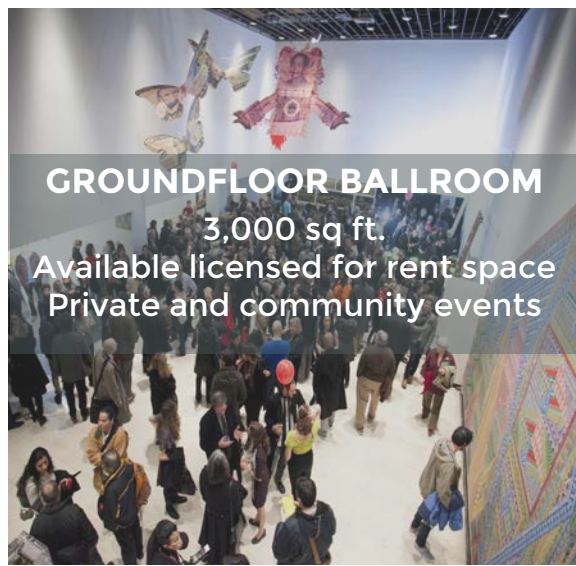
2.8 Establish North Bayshore Arts + Culture Center

In addition to an outside public space, a recreational facility situated across from the high-rise apartments and amphitheater, but still located within the plaza boundaries, will further catalyze the identity of North Bayshore. This institution will catapult diverse ideas through a multitude of services and events tailored specifically to immediate and Bay area residents. A Community Benefit Agreement will ensure this goal with a unified coalition.

A similar functioning model is present in San Francisco at SOMArts Cultural Center whose mission statement is “to promote and nurture art on the community level and foster an appreciation of and respect for all cultures.” This community-based institution showcases fine art and performance art and challenges the ideas of each and everything in between by engaging the surrounding counterculture South of Market district.

The North Bayshore Art & Culture Center will be a 501(c)(3) managed by the art and entertainment commission of the North Bayshore Neighborhood Association. Funding of construction and maintenance for such a building will be allocated from the impact fees generated from new development in North Bayshore.

2.7-1 NORTH BAYSHORE ARTS + CULTURAL CENTER AMENITIES



GROUNDFLOOR BALLROOM

3,000 sq ft.

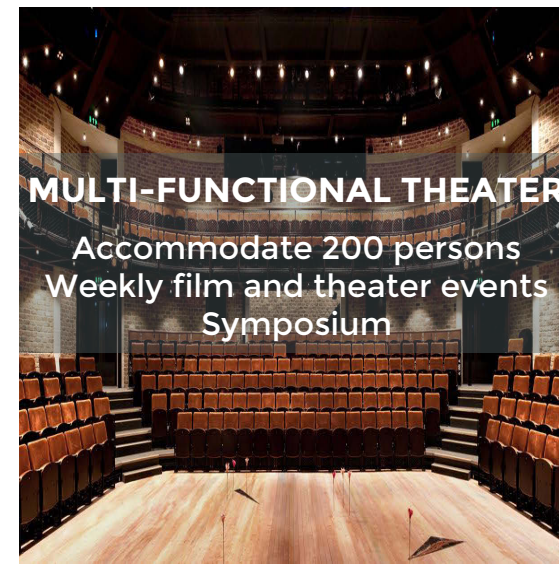
Available licensed for rent space
Private and community events



GALLERY SPACE

2,000 sq ft.

Feature national and international
contemporary artists



MULTI-FUNCTIONAL THEATER

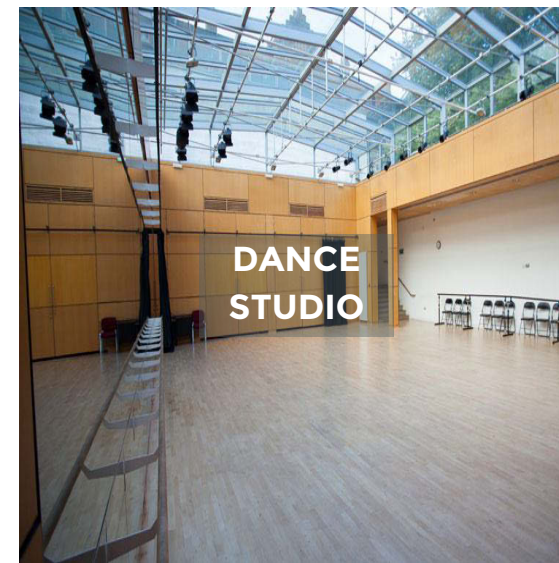
Accommodate 200 persons
Weekly film and theater events
Symposium



DIGITAL + FILM PHOTOGRAPHY LAB



CERAMIC POTTERY STUDIO + KLIN



DANCE STUDIO

2.8-2 CULTURAL CENTER PROGRAMMING

The program index for the Art & Culture Center along with scheduled, public events will be advertised in the art, entertainment and culture section of the North Bayshore Association newsletter, as well as kiosks situated within the residential towers, outdoor plaza, and Art & Culture Center. Guaranteeing the success of such an endeavor requires the commitment of an organization striving to push the boundaries of what such an area can accommodate. The art and entertainment commission of North Bayshore's target goal is have a constant flow and rotation of events. Scheduling is important; the idea is that there is always a participatory gathering being held during respectable hours.

An example of possible daily and nightly events calendar for the gateway district will be attached separately. Special scheduled cultural events to highlight are:

The First Annual Shoreline Foreign Film Festival, Sept 6th-12th

A global event that hosts new works from current filmmakers.

The National Latino Heritage Week, Sept 13th-20th

Beginning with a cultural festival and parade event on Sunday, the week's festivities continue with three nights of Latino films. Latino Heritage Week concludes with a lecture by Gloria Anzaldua on Chicano culture and challenging homophobia and machismo attitudes within her community.

Midnight Movies!

Every Saturday night at the Art & Culture Center. A showcase of crass films only to be viewed no earlier than the darkest hour of midnight.



SEPTEMBER PROGRAM

TUESDAY

1

Dance Class: Brazilian 6 PM
Dance Class: Hip Hop 7 PM
Digital Photo Lab 7 PM
Booze and Bingo 9 PM

WEDNESDAY

2

Farmer's Market 8 AM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
A Tribute to Michael Clark 8 PM

THURSDAY

3

Dance Class: Vogue 6 PM
Digital Photo Lab 7 PM
A Tribute to Michael Clark 8 PM

FRIDAY

4

Cocktail Hour + Funk 7 PM
A Tribute to Michael Clark 8 PM

SATURDAY

5

Farmer's Market 8 AM
Vinyasa Flow Yoga 10 AM
Ceramic Studio Class 11 AM
Midnight Movies! 11 PM

SUNDAY

MONDAY

6

SUNDAY STREETS

Open Studio 9 AM
Hatha Yoga 9 AM
South Bay Foreign Film Fest 6 PM

7

LABOR DAY

Shoreline Foreign Film Fest 6 PM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Dance Class: African 8 PM

8

Shoreline Foreign Film Fest 6 PM
Dance Class: Brazilian 6 PM
Dance Class: Hip Hop 7 PM
Digital Photo Lab 7 PM

9

Farmer's Market 8 AM
Shoreline Foreign Film Fest 6 PM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM

10

Shoreline Foreign Film Fest 6 PM
Digital Photo Lab 7 PM
Dance Class: Vogue 7 PM

11

Shoreline Foreign Film Fest 6 PM
Gallery: Avery Singer 8 PM

12

Farmer's Market 8 AM
Vinyasa Flow Yoga 10 AM
Ceramic Studio Class 11 AM
Shoreline Foreign Film Fest 6 PM

13

SUNDAY STREETS

Flea Market 7 AM
Open Studio 9 AM
National Latino Heritage 9 AM
UFW Alliance 4 PM

14

Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Dance Class: African 8 PM
Latino Film Night 8 PM

15

Dance Class: Brazilian 6 PM
Dance Class: Hip Hop 7 PM
Digital Photo Lab 7 PM
Latino Film Night 8 PM

16

Farmer's Market 8 AM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Latino Film Night 8 PM

17

Digital Photo Lab 7 PM
Dance Class: Vogue 7 PM
Gloria Anzaldua 8 PM

18

Centre Closure

19

Farmer's Market 8 AM
Vinyasa Flow Yoga 10 AM
Ceramic Studio Class 11 AM
Midnight Movies! 11 PM

20

SUNDAY STREETS

Open Studio 9 AM
Islamic Celebration of Hajj 9 AM
Hatha Yoga 9 AM

21

Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Dance Class: African 8 PM
Film Week: Hitchcock 8 PM

22

Dance Class: Brazilian 6 PM
Dance Class: Hip Hop 7 PM
Digital Photo Lab 7 PM
Film Week: Hitchcock 8 PM

23

Farmer's Market 8 AM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Salm! Poetry 8 PM
Film Week: Hitchcock 8 PM

24

Digital Photo Lab 7 PM
Dance Class: Vogue 7 PM
Mehrdad Darvishpour 8 PM

25

Cocktail Hour + Jazz 7 PM
Company C Ballet 8 PM
Critical Mass! 8 PM

26

Farmer's Market 8 AM
Vinyasa Flow Yoga 10 AM
Ceramic Studio Class 11 AM
Midnight Movies! 11 PM

27

SUNDAY STREETS

Open Studio 9 AM
Hatha Yoga 9 AM
Guest Lecture Series 8 PM

28

Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Dance Class: African 8 PM
Teatro Libertad 8 PM

29

Dance Class: Brazilian 6 PM
Dance Class: Hip Hop 7 PM
Digital Photo Lab 7 PM
Teatro Libertad 8 PM

30

Farmer's Market 8 AM
Ceramic Studio Classes 6 PM
Photography Lab Classes 7 PM
Salm! Poetry 8 PM
Teatro Libertad 8 PM

2.9 Sunday Streets BAYSHORE: Recreation, Community, and Street Access for All

Every Sunday from 5 AM to 4 PM, approximately one mile of streets will be closed to cars in order to allow for residents and visitors to utilize these public spaces for walking, bike riding, roller skating, skateboarding, dancing, creating, eating, exploring, and making friends.

Street space will also be made available for live music, vendors, non-profits, and public agencies to distribute information and engage the community

LOCATION

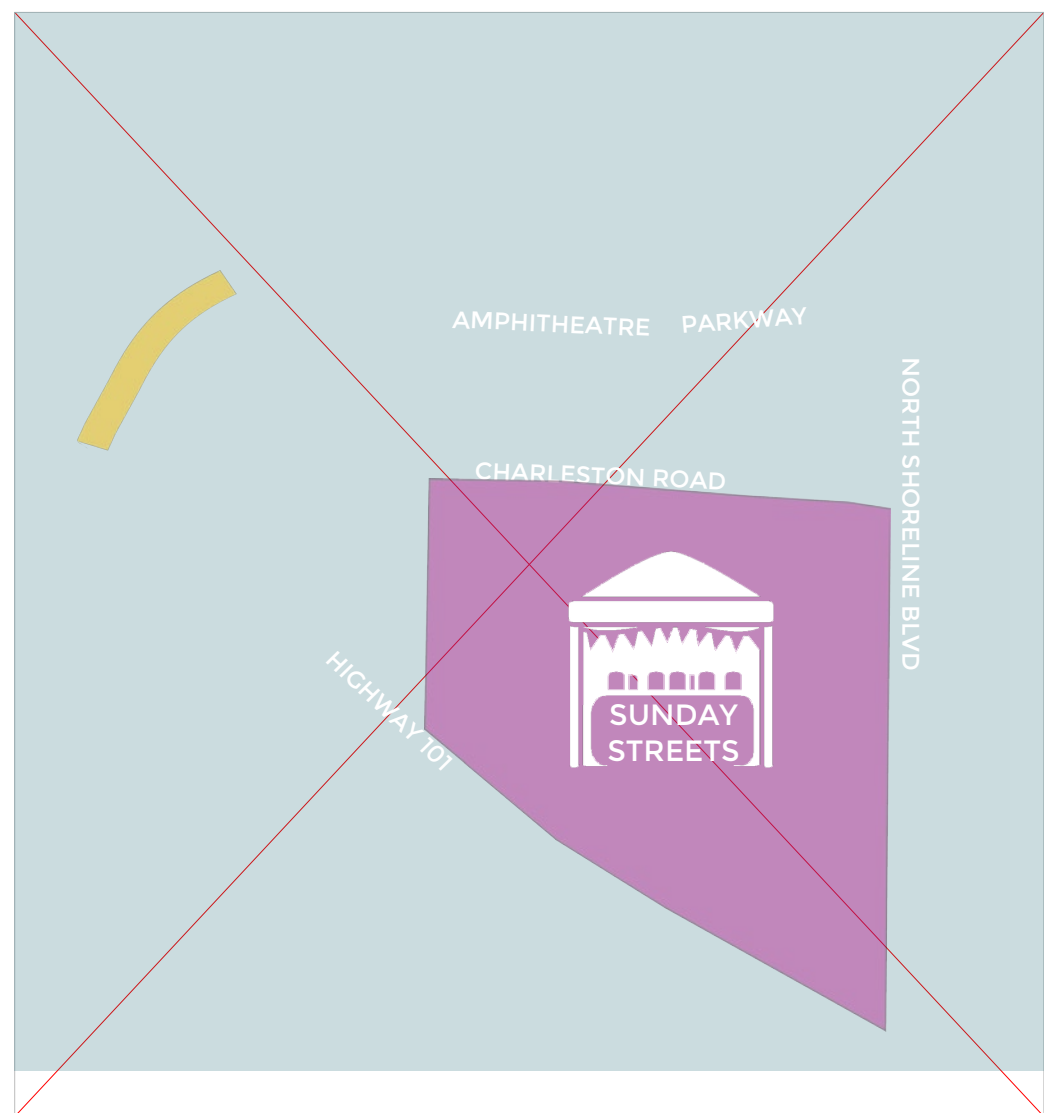
During Sunday Streets BAYSHORE, the following streets will be closed:

North Shoreline Boulevard (beginning at La Avenida Street and extending north to Charleston Road, intersection will be closed to cars)

Charleston Road (extending west to Alta Avenue)

Select Access Streets

Total street closures = 1.5 km (0.93 miles)



2.9-1 CAR FREE STREETS PRECEDENT

BOGOTÁ, COLOMBIA

Ciclovía, literally “bike path” in Spanish, is a ground-breaking weekly event that started in Bogotá, Colombia in 1976 that currently draws more than 1.5 million people to walk, bike, skate and enjoy more than 70 miles of streets opened to people – and closed to automobile traffic. The Ciclovía concept has spread to a variety of cities worldwide, including Tokyo and Kiev (Sunday Streets San Francisco 2015).

SUNDAY STREETS, SAN FRANCISCO

In 2008, San Francisco picked up the idea of Ciclovía to promote bicycling among residents in neighborhoods underserved for recreational resources and experiencing high disease burden. On various Sundays throughout the year, city streets are closed to automobile traffic and opened to people. Participants can enjoy a large, temporary, public space where they can bike, walk, run, dance, and do any other physical activity. Nonprofit and health organizations offer free activities and share information about their services during the event. A 2010 - 2011 study on Sunday Streets shows that the participants represents a wide age range and the ethnic minority distribution of the city (Zieff & Chaudhuri 2013). Sunday Streets routes traverse neighborhoods with limited open space and physical activity resources, potentially equalizing the distribution of recreational infrastructure (*ibid.*).

**CAR FREE STREETS + RECREATIONAL
COMMUNITY ACTIVITIES CAN PROMOTE SOCIAL
COHESION + PUBLIC HEALTH.**

“Is it so radical a concept to promote healthy, non-polluting, silent forms of transport that bring people together, rather than locking them behind airbags and safety glass, for just half a day a week? Must we measure everything so drearily in pounds lost to business?”

- Mike Power, journalist for *The Guardian*



2.9-2 SUNDAY STREETS CITY-SPONSORED SERVICES + CIVIC ENGAGEMENT

In addition to offering residents a safe-space for recreation and fitness, Sunday Streets BAYSHORE will function as an opportunity for public agencies to connect with the community and provide information about the services they offer and how people can get involved.

The following agencies/city programs will be given space to set up booths along the car-free streets of North Bayshore:

- ❖ North Bayshore Family Services Center
- ❖ “Sustainable Self” Recycling Program will conduct “pop-up” classes on waste management and sustainable living
- ❖ Friends of North Bayshore Natural Habitats
- ❖ NB Arts + Cultural + Entertainment Commission
 - Live music and theater at Turing Plaza
- ❖ Water conservation/native gardening demonstration
- ❖ Local vendors along the Charleston Road Food & Beverage Corridor
- ❖ Access to farmers market at Computer History Museum
- ❖ +MORE!



POTENTIAL SPONSORS



2.9-3 SUNDAY STREETS VOLUNTEER PROGRAM

Sunday Streets BAYSHORE will be made possible through the hard work of amazing volunteers. The North Bayshore Arts and Entertainment Commission encourages people of all ages to get involved with Sunday Streets. Volunteers are needed to:

- Clean up before and after the event
- Work with the trained traffic aids to direct pedestrians
- Provide water at the hydration stations
- Spread the word about Sunday Streets BAYSHORE
- Get people excited for an awesome Sunday!

Senior citizens are especially encouraged to get involved!

*Sunday Streets coordinators will work closely with the North Bayshore Family Services Center to organize older adult, family, and student volunteer groups

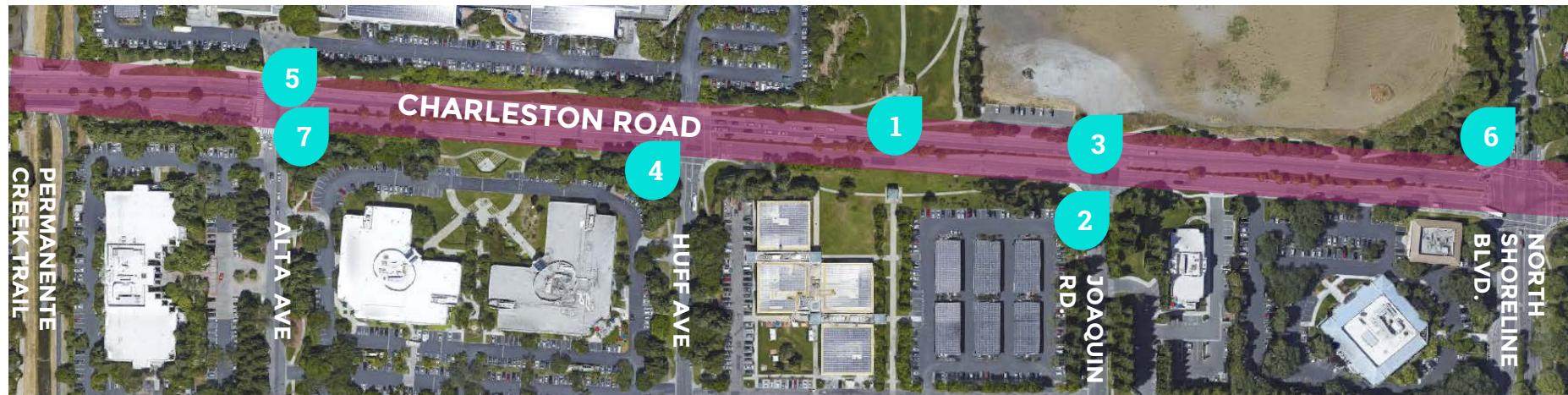


High school students volunteer at Sunday Streets San Francisco

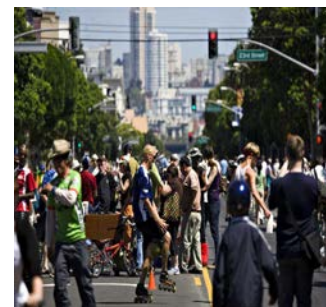


2.9-4 SUNDAY STREETS BAYSHORE SPECIFIC ARRANGEMENT

CHARLESTON ROAD



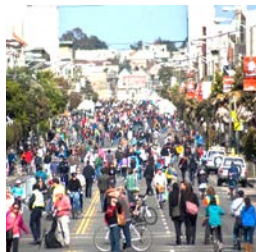
- 1 ENTERTAINMENT STAGE #1
- 2 MEDICAL/HYDRATION STATION #1
- 3 BICYCLE REPAIR STATION#1
- 4 FOOD AND BEVERAGE VENDORS
- 5 VOLUNTEER HEADQUARTERS #1
- 6 TRAFFIC AID HEADQUARTERS #1
- 7 SECURE BICYCLE STORAGE



2.9-4 SUNDAY STREETS BAYSHORE SPECIFIC ARRANGEMENT

NORTH SHORELINE BOULEVARD

- 1 ENTERTAINMENT STAGE #2
- 2 TRAFFIC AID HEADQUARTERS
- 3 VOLUNTEER HEADQUARTERS
MEDICAL HYDRATION STATION
- 4 BICYCLE REPAIR STATION
- 5 SECURE BICYCLE STORAGE



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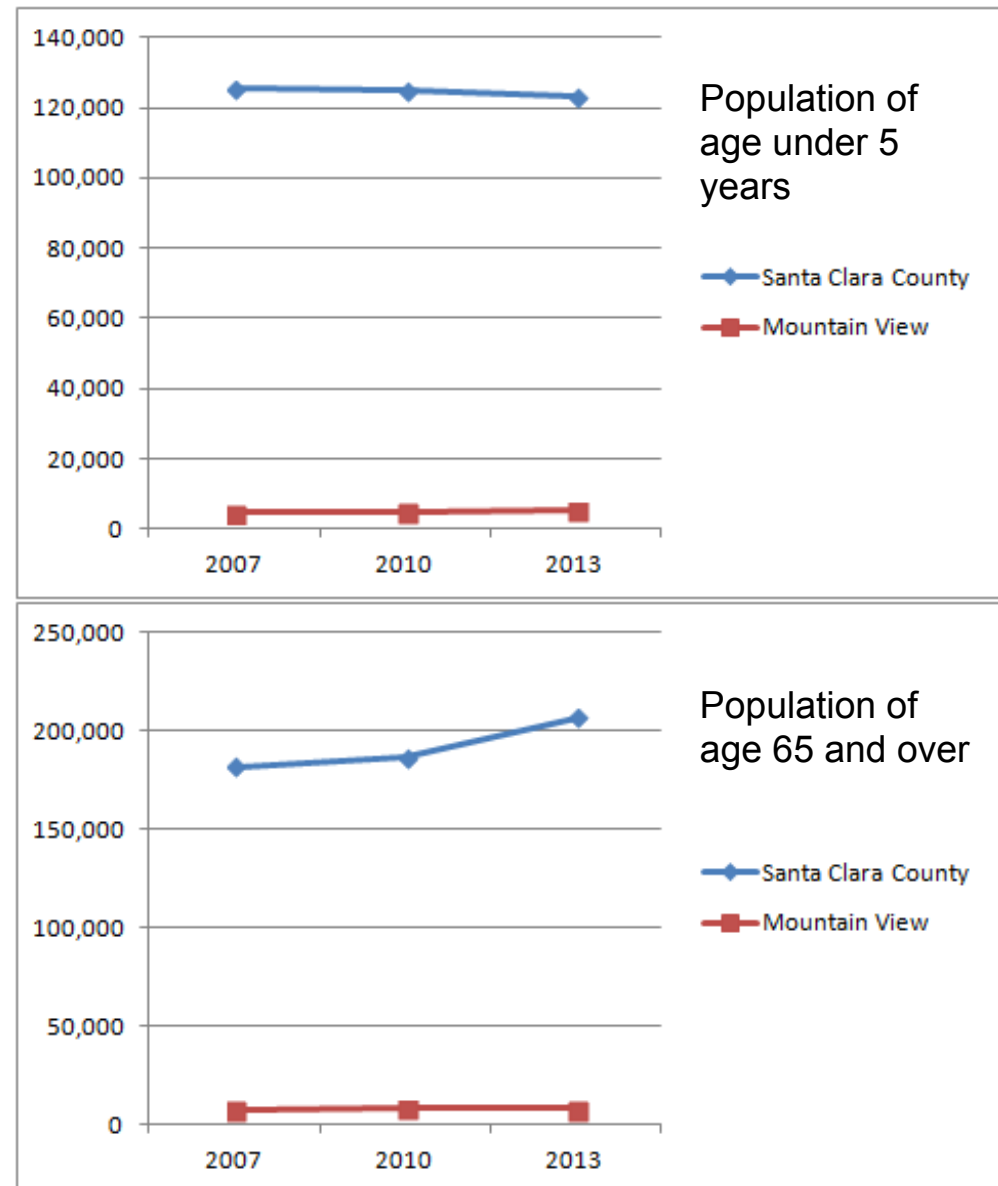
CHAPTER 3

SUSTAINABLE ECONOMIC DEVELOPMENT

Xuiwen Chen, Xiomara Galvan, Sara Gordon

3.1 Population Analysis of City of Mountain View and San Mateo County

Developing a city with sustainable economics, the NBPP fails to include development of community services that not only serve to the wealthy tech workers, but also serve to lower class workers live and work in the neighborhood. Why building child care and senior services in North Bayshore? According to U.S. Census data, the population of age under 5 years was increasing in Mountain View, while it was significantly dropping in the Santa Clara County. On the contrary, the population of age 65 and older was dropping in Mountain View, while it was significantly increasing in Santa Clara County. The decrease of senior residents in Mountain View illustrates that the population might be forcing out of the city for various reasons. It might be lack of mobility, access to public transit or affordable housing in the city. Thus, as the development of North Bayshore opens up opportunities to various aspects, building child care and senior services is needed in the plan for economic sustainability, equity and accessibility.



3.2 Develop a Community Based Family Services Center

3.2.1 EARLY AGE CHILD CARE SYSTEM



GOALS

- Secure at least 50% of spots available and affordable
- Subsidize children from low-income and homeless families
- Provide affordable cares without diminishing quality and creativity of early childhood education
- Embrace to cultural diversity
- Care for children from different income level families (low-moderate-high income)



3.2 Develop a Community Based Family Services Center

3.2.1 EARLY AGE CHILD CARE SYSTEM



PROPOSED PROGRAM SIZE:

Programs	Age	Capacity
Infant	6 weeks to 18 months	12
Toddler	18 months to 36 months	16
Preschooler	3-5 years	20

MIN. SPACE REQUIRED FOR CHILDREN

Programs	Indoor (sq. feet)	Outdoor (sq. feet)	Total
Infant	420	900	1,320
Toddler	560	1,200	1,760
Preschool	700	1,500	2,200
Total	1,680	3,600	5,280



3.2 Develop a Community Based Family Services Center

3.2.2 OLDER ADULT SERVICES

OLDER ADULTS ACTIVITY CENTER

- "Enhance older adults' health and vitality"
- "Help them maintain independence and quality of life"
- Provides:
 - Healthy meals (Breakfast, Lunch and Brunch)
 - Fitness classes: Yoga, Tai Chi, Zumba, etc.
 - Social Activities: Garden Club, Spanish Club, etc.
 - Education: ESL class

TRANSITION OF CARE COLLABORATIONS

- Partners with local hospital
- Supports participants as they are discharged from hospital
- Coordinates short-term meal support, transportation to doctor's appointment, wellness coaching, etc.

SENIOR PEER COUNSELING

- For adults aged over 55
- Help participants manage transitions and life changes, mobility issues, care provider questions, etc.
- Serves with languages other than English (Mandarin, Spanish, Japanese)
- Provides one-on-one peer counseling

SENIOR VOLUNTEER OPPORTUNITIES

- Senior peer mentors
- Teacher assistance at child care center
- Transportation help
- Literacy class volunteer

References: <https://www.peninsulafamilyservice.org/programs/older-adults/>

3.1 Develop a Community Based Family Services Center

3.2.3 LOCATION

PROPOSED LOCATIONS

- Each site is accessible to public transportation and within walkable distance in the neighborhood
- Infant and Toddler Services built inside housing that near job concentration area and public parks
- Pre-school built near local elementary school for children getting ready for school-aged education
- Older Adults Services Center also locates on the first floor of apartment buildings and close to Infant and Toddler Service sites

- 1 Infant and Toddler Services Center
- 2 Preschool
- 3 Senior Counseling and Activity Center
- 4 Senior Transition of Care Collaboration



3.1 Develop a Community Based Family Services Center

3.2.4 ANALYSIS OF PENINSULA FAMILY SERVICE

ADULT SERVICED 2014

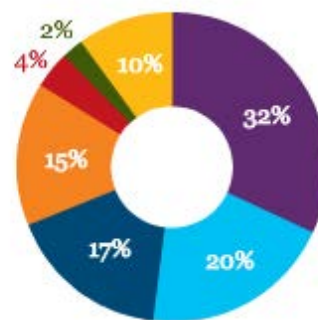
- 10,000 Participants
- 354,000 Meals
- 3 Major Healthcare Providers
- 4 languages
- 859 Older Adults

EARLY EDUCATION (HEAD START REPORT)

- 144 Families and 154 children were served
- 10% of eligible children with Head Start
- More than 85% of children received dental and medical care

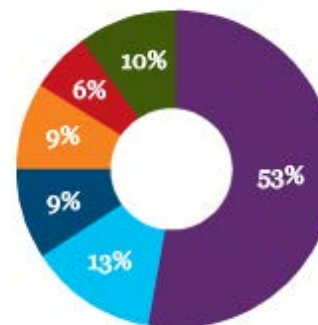
FUNDING

2014-15 OPERATIONAL BUDGET



REVENUES

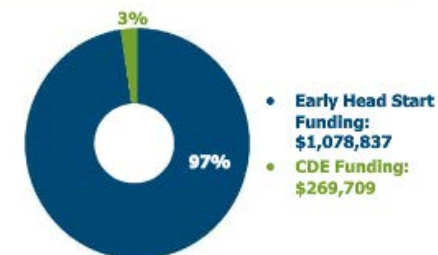
State Contracts	\$3,719,188
Federal Contracts	\$2,346,305
Grants & Contributions	\$2,019,078
Local Contracts	\$1,801,820
Client Fees	\$424,075
Endowment & Building Funds	\$223,696
In Kind Revenue	\$1,127,492
Other Income	\$1,000
TOTAL	\$11,714,132



EXPENSES

Early Learning	\$6,153,340
Financial Empowerment	\$1,580,152
Older Adult Services	\$1,075,511
Management	\$1,045,295
Fundraising	\$731,342
In Kind Expenses	\$1,127,492
TOTAL	\$11,714,132

FY13 FUNDING



3.2 Socio-economic Sustainability

Child and Adolescent Development

Path to Tech program for all ages, beginning from early childhood lasting through adolescence. Children will be engaged in a curriculum enrichment preparing them for the jobs in Mountain View. These programs will be available through childrens services such as after-school program, child day care and social services provided to families. Incorporating the theory of “Education City” in North Bayshore in order to attract families to settle and create a future in technology for themselves as well as their children.



Employability: All ages, All jobs

Creating jobs for people from all walks of life, ensuring them a spot in the working class and providing the support to advance themselves. Women with children, seniors and adolescents can all contribute to the economic sustainability in North Bayshore, from integrating ‘mom and pop shops’ right along side big business, to training young people and children in order to prepare them to take on opportunities in big name corporations.



3.3 Sustainable Economic Development is Social Justice

Keeping Locals Local

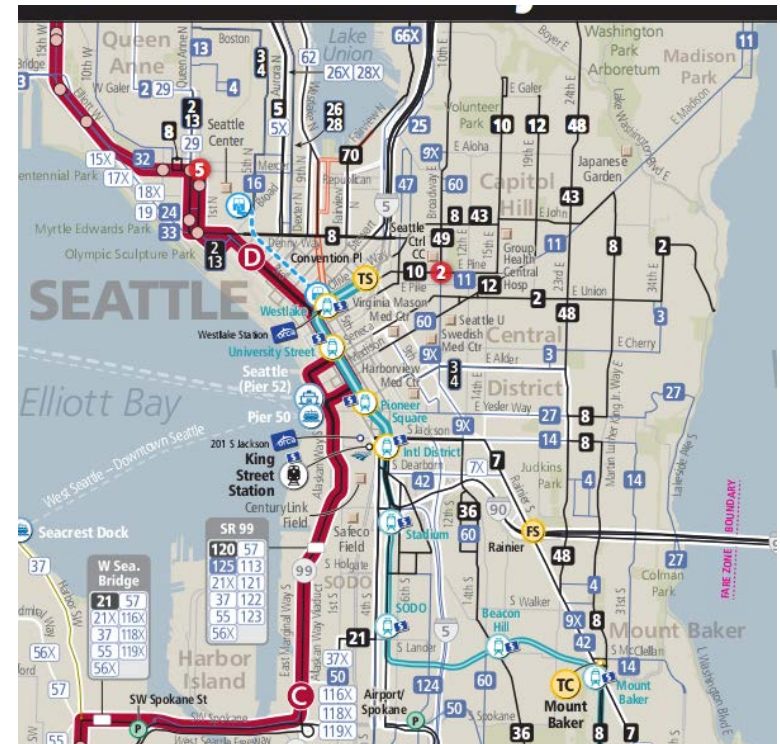
As witness in the San Francisco housing crisis, many people who have been living in the area for generations are forced to move out because of economic straits or forced evictions. More often than not, the people who are moving out are black and brown folk because of institutionalized racism that cuts people of color off from access to social services, work, schools, transportation, and more.

When an area is undergoing change because of money pouring in, like Mountain View, the community needs to work together in order to ensure the area remains an equitable area to all its residents, new and old.

Access to Social Programs

One of the most important aspects to a neighborhood is how high its mobility is without a car. The attractiveness of places like New York, Seattle, and San Francisco is its Municipal Transit Systems. They are not perfect, and all of these cities include areas that are not serviced as heavily as others; as mentioned before, these areas have a higher chance of being communities of color.

It is necessary to have an MTA system that evenly supplies services to all neighborhoods so the social services that were proposed in earlier slides will have a clientele base that has the opportunity to access the building.



The Seattle MTA offers transit lines no more than 3 blocks away from anywhere

3.4 Allowing Gentrification of Benefit All

Opportunities of All Walks of Life

The tech industry is known for being young and wealthy, but North Bayshore needs to have an industry in place that allows opportunities and services for all people, be them young, old, rich, and poor. The services and business proposed earlier will offer all people learning and work opportunities so that the area of North Bayshore does not allow gentrification to operate under institutionalized powers, but instead have a neighborhood that works heartily towards having gentrification operate in a healthy way: by allowing all folks, new comers but especially old time residences, to benefit from the better institutions.

Cultural Exchange and Sensitivity

People move into areas that are deemed rich in culture because these diverse areas are attractive and interesting. Culturally rich areas are made up of old locals who had moved to the area because of necessity, but when their homes are considered “cool” the rents go up. If inequitable gentrification is allowed to operate, there will not be a mixture of ethnic groups or income levels, effectively removing cultural exchange and cultural sensitivity from an area. With cultural exchange and sensitivity, the inhabitants can create something beautiful and worthwhile to future generations.



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2.5 Organizations doing the work

Old Skool Cafe

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Subsidized Employment: Welfare-to-work Program

California's Welfare to Work (WTW) program is designed to assist welfare recipients to obtain or prepare for employment. All welfare to work participants receive an orientation to the program and an appraisal of their education and employment background. In addition, program participants may be eligible for help with child care, transportation, and work-related or training-related expenses. Moreover, participants who find a job and are no longer eligible for welfare may continue to receive help with medical care and child care expenses. The county welfare department can provide information on other programs that may help CalWORKs recipients find jobs, such as the U.S. Department of Labor's Welfare-to-Work Grant Program and the Work Opportunity Tax Credit (WOTC) program. WOTC provides an incentive (tax credit) to employers who hire welfare recipients.

Subsidize Housing: Rent-to-own Program

The Office of Community Planning and Development (CPD) seeks to develop viable communities by promoting integrated approaches that provide decent housing, a suitable living environment, and expand economic opportunities for low and moderate incomes. i

- Community building begins with job creation, employment, and creation of safe, decent and affordable housing.

- Planning and execution of community development initiatives must be bottom up and community driven.

- Complex problems require coordinated, comprehensive, and sustainable solutions.
- Government must be streamlined to be made more efficient and effective.

- Citizen participation in Federal, State and local government can be increased through communication and better access to information.

CHAPTER 4

FOOD ACCESS

This is the collective work of
Anonymous
Moirá Chase
Audrey McNamara
Maire Marshall

4.1 Food and the North Bayshore Precise Plan

It is surprising that the North Bayshore Precise Plan does not include food in its development. Food systems have a long history of being left out of urban planning, as agriculture has, and continues to be, largely considered a “rural issue.” But the urban and the rural are strongly connected, and food is a vital component of urban life; it is an essential part of who we are as humans. Food systems greatly impact the ecosystem and play a strong role on whether a society is sustainable or not. We believe that developing a local, sustainable food system in Mountain View is important to the sustainability of the city and surrounding areas. With the great amount of development and change that is being proposed by the North Bayshore Precise Plan, it is possible to include urban agriculture in that plan and make space to develop a sustainable, local food system.



4.2 The Importance of Urban Agriculture

There are many benefits to urban farming; it is an integral part of creating a sustainable food system for a city. To name a few: it reduces carbon dioxide emissions by reducing transportation of food; reduces reliance on fossil fuels; reduces food packaging waste; and utilizes urban spaces to maximize the amount of food we are able to produce, which is important because urban development continues to grow while the amount of fertile rural farmland continues to diminish.



4.3 Proposal for Urban Agriculture in North Bayshore

A COMMUNITY FARM

We propose that the North Bayshore Precise Plan include a community farm between one and three acres that would be open to and serve the whole community. This farm would practice sustainable, polyculture farming practices in attempting to become as much of a closed-loop system as possible, which recreates minimal waste..



4.4 Proposal for Urban Agriculture in North Bayshore

A COMMUNITY FARM

Location:

A good location for the farm would be in a park, same as how the 6-acre urban community farm Veggielution resides in Emma Prusch Park in San Jose. The farm should be easy to access by biking, walking, or public transit. It should be at least 100 meters (about 330 feet) from roads with regular automobile traffic.

Food production: Focus put on drought-resistant plants and avoid planting extremely water intensive plants, such as almonds and alfalfa. The amount of food able to be produced on this farm depends on several factors. Will Allen's Growing Power urban farm in Milwaukee should be used as a role model, which produces 40 tons of food on 3 acres a year, which feeds 10,000 people.

Food distribution: Sold at the farmers market, and distributed at below market-value or free for lower-income residents. Food produced in North Bayshore will be distributed and consumed by residents of North Bayshore, and perhaps other parts of Mountain View. It will not be exported.

Water considerations: Water is a serious concern in sustainable farming, even more so considering this long-term drought California is experiencing. In efforts to conserve water potable water use should be reduced as much as possible and other sources of water, including rainwater-harvesting from rooftops (for the little rain that we do get) and greywater harvesting should be emphasized. Also, gardening practices such as sheet mulching can increase water retention and prevent water evaporation in the soil (Planting Justice). Using drip irrigation watering systems are very efficient, more so than sprinklers and other watering systems (Planting Justice).

Sources:

Growing Power.
Planting Justice
Veggielution

4.5 Proposal for Urban Agriculture in North Bayshore

OTHER URBAN AGRICULTURE PROPOSALS

- 1) A communal garden-space for the new housing that is being proposed. This garden would be available to all those who live in the building to grow food on, as well as to enjoy this thriving, natural environment.
- 2) A garden at the proposed elementary school.
- 3) A garden at the proposed clubhouse. Classes in urban agriculture will be taught at the clubhouse, as well as classes in food preparation, nutrition, and ways in which to reduce food waste.
- 4) Food production in planter boxes, which will be included in the zoning code for buildings.
- 5) A tool library for urban gardeners to utilize, which would be housed at the North Bayshore Clubhouse.



4.6 The People's Restaurant

BELO HORIZONTE, BRAZIL

In the Brazilian town of Belo Horizonte, the city has declared that every person has a right to healthy, sustainable, affordable, easily accessible food. As part of their program to turn this philosophy into action there exists several "People's Restaurants," where meals are made available to everyone, regardless of income-level. This is done by serving the meals at below market value. Meals cost an equivalent of about one U.S. dollar. The restaurants are run by the city and operated out of a city-owned building. The restaurants are subsidized by the city and federal governments to cover the costs that exceeds the restaurants' income. These subsidies account for a small part of Belo Horizonte's budget. The peoples restaurants, as well as the other projects designed to allow every citizen accessibility to affordable, healthy sustainable food, account for only 2% of the city's budget.



Sources:

Lappe, Frances Moore. 2002. Hope's Edge.

Lappe, Frances Moore. Yes Magazine.

4.6 The People's Restaurant

SUCCESSFUL CHARACTERISTICS

- The restaurants are open to everyone, which creates a shame-free, empowering environment, one that emphasizes “food with dignity.”
- The food used is high-quality and the meals are nutritious and tasty, which are planned by local chefs and nutritionists.
- Almost 100% of the restaurants’ produce comes from local produce, which helps to support local, independent, and family-owned farms in the area..
- Meals are eaten at cafeteria-style tables, creating a community-based, interactive atmosphere.
- The restaurants are located in busy, centralized areas of town, which are close to buses and subway terminals. They are convenient for low-income people to get to, making healthy, affordable food easily accessible to people who would otherwise be at risk of food insecurity.
- In 2009 the government estimated that 86.4% of the customers were low or very low income. This shows that the restaurants are being utilized by a section of the population who are at risk of food insecurity.
- Because of these aspects, the restaurants are extremely popular. The city is currently operating 5 branches, and will open up a sixth in 2016. This popularity in turn helps to ensure the success and vitality of the restaurants.



4.6 The People's Restaurant

A PEOPLE'S RESTAURANT IN NORTH BAYSHORE

We propose that a people's restaurant be created in North Bayshore, as a way to help ensure that everyone in North Bayshore has easy access to affordable, healthy, and sustainable food. This restaurant will be modeled after the Belo Horizonte program, and include all of the described characteristics that help to make the Belo Horizonte Peoples Restaurants such a success. Specific details of the North Bayshore People's Restaurant include:

- It will be located in the food and entertainment corridor that the Urban Culture group is proposing.
- 100% (or nearly 100%) of the produce will be supplied by local farmers. This includes urban agriculture efforts from within North Bayshore and other neighborhoods in Mountain View, as well as local rural farmers.
- Meals will cost one dollar. The restaurant will be subsidized by the city of Mountain View.
- The tables in the restaurant will be long cafeteria-style tables, which will enable mingling and foster a community atmosphere.
- No proof of income will be required for the customers to enable them to eat there; everyone of all income levels will be welcome.

Sources:

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Lappe, Frances Moore. Yes Magazine.



4.7 Food Waste

THE PROBLEM

Addressing food waste is an important area to address in creating a sustainable food system. At least one third of food that is produced in the U.S is wasted. This is an immense waste of resources: it wastes food in a country where hunger and food insecurity are still big problems. It is also a waste of the valuable resources, such as water, arable soil, and energy, that are used to harvest, process, transport, preserve, and package food. One important thing we can do to minimize our consumption of these resources is to try to reduce the amount of food that goes to waste as much as possible. One third of the U.S's food waste occurs at the consumer level. There are things every consumer can and should do to minimize the amount of food they waste. However, it is not enough to only rely on the consumer, as they are only one-third of the problem. Structural, systemic changes must be made as well that address food waste further up along the food system.

Sources:
Food Waste Alliance

4.7 Food Waste

THE SOLUTION:

AT THE PRODUCTION LEVEL

- Food waste is usually a result of the food rotting before it reaches the consumer. Shorter travel time that comes with more localized food systems helps to prevent this. Our proposal of farmers markets and urban agriculture will create a shorter travel time for produce sold in North Bay Shore.
- Cold storage space should be offered at farmers markets for the farmers to store their products in on-site, instead of having to haul away their unsold food. This will also reduce the travel time of food and increase freshness, which will lower the amount of food spoilage.
- Food that is imperfect but still edible should not be discarded; it should be included in the North Bayshore food supply through the farmer's markets, the proposed grocery store, and the proposed North Bayshore People's Restaurant.

4.7 Reducing Food Waste

THE SOLUTION:

AT THE CONSUMER LEVEL

- Ways in which the consumer can reduce their individual food waste include:
 - 1) Making weekly meal plans and making a grocery list before going to the store.
 - 2) Buying imperfect produce.
 - 3) Doing frequent fridge and pantry checks to make yourself aware of food in the fridge and pantry that is about to go bad, and utilizing these foods in meals before they expire.
 - 4) Storing food in ways that will increase their freshness and make them last longer.
- Education is key in reducing food waste at the consumer level. Consumers can be given tips on how to plan, shop, and cook in ways that reduce food waste. Affordable and easily accessible classes on these topics should be offered.
- Free educational materials on how consumers can reduce food waste should be distributed at a stand at the farmers markets.
- Sending food waste to the landfill instead of being composted is a waste of valuable resources. In every part of the food system, be it at the grocery store or at home, all food that cannot be used should be composted so that the nutrients in the food can be reused as a resource for growing more food.

4.9 Successful Farmers Markets for a Successful City

Top Markets Offer Working Ideas

Farmers markets across the US create an environment for exchange of local, sustainable and often organic produce, dairy, and value added products, however there are some whose exciting innovations cause a lot of buzz among more than the earthy types. Since they act as a congregation area in addition to shop space, markets stimulate the local economy, and when the space is utilized for demos, talks, and other forms of community outreach, these markets stimulate the local mindset. By incorporating innovative factors contributing to the success of well known US markets, North Bayshore will become a city known for its sustainability and community outreach.

Top US Markets

Farmers Market	State
Portland	OR
Green City Market	IL
Union Square Greenmarket	NY
Santa Fe	NM
Ferry Building	CA



Tree sheltered Portland Farmers Market.

4.9 Results of Direct Market Analysis

Portland, Oregon

The Portland Farmers Market direct analysis lists securing permanent sites as the most critical priority. Proposed permanent sites are addressed in section 7.7. Next is the need to appoint a person in city government to serve as a liason and contact point for farmers markets. Thirdly, if North Bayshore is to create accessible nutrition, we must begin with accessible grounds, with special emphasis of slope and surface, restrooms, water, and electricity. Finally, Portland offers a veggie valet, which is a surface which holds heavy produce for customers while they shop. The San Francisco Ferry Building also offers the veggie valet, a service which will be particularly valuable for North Bayshore's elderly and disabled.

Analysis in Numbers

City Population	609,456
Median Household Salary	\$40,146
Annual Market Attendance	550400
Vendors	392
Total Sales in 2012	\$11.2 Million



Grow Portland booth vendor.

4.9 Results of Direct Market Analysis

Green City, Illinois

The Portland Farmers Market direct analysis suggests promoting tax deductible contributions to market. In addition to promoting market donations, half of Green City's vendors are certified organic. While this is an expensive and arduous process for the market's vendors, North Bayshore buildings must be LEED Gold Certified. Asking vendors to meet an equivalent requirement is not unreasonable. Finally, Green City has an excellent web presence, which promotes education about markets. The Market Cost Comparison shown below offers information which emphasizes accessibility through education.

Analysis in Numbers

City Population	2.719 Million
Median Household Salary	\$38,625
Annual Market Attendance	8-10K SAT, 2-3K WED
Vendors	44
Total Sales in 2012	\$407,983

	Price at Whole Foods	Price at Green City in season	
Vegetables			
Arugula	\$ 3.99	\$ 2.60	per 5oz box/bag
Asparagus	\$ 4.99	\$ 3.00	per bunch (~1lb)
Kale	\$ 2.50	\$ 3.00	per bunch (~1lb)
Leeks	\$ 3.00	\$ 3.00	per stalk (~1lb)
Lettuce	\$ 2.50	\$ 2.00	per head
Parsnips	\$ 1.99	\$ 3.00	per pound

Market Cost Comparison Chart offered on Green City homepage.

4.9 Results of Direct Market Analysis

Union Square, New York

The Union Square Farmers Market direct analysis represents how prioritizing lower income accessibility can be done properly. This is possible because the market accepts EBT in 50+ markets in all 5 boroughs. Although North Bayshore is a much smaller community, the impact of nutritious food accessibility will be intensified if Union Square's lead is followed. Organized textile recycling makes the market an efficient place to load up on produce, and unload rarely worn clothing. On a similar note, Union Square has an intensive food scrap collection program. While North Bayshore has soil quality issues, the compost results from the scraps can still be utilized via raised beds. Finally, Union Square touches on how markets and community are interlaced through their use of weekly demonstrations, such as cooking demos and composting DIYs. North Bayshore Markets will feature a rotating cast of demonstrations, drawing from many successful Union Square features.

Analysis in Numbers

City Population	8.046 Million
Median Household Salary	\$53,514
Daily Market Attendance	60,000/ Day
Vendors at Peak Season	140
Total Sales in 2009	\$362 Million \$2.6 Million in EBT



Union Square Farmers Market booth.

4.9 Results of Direct Market Analysis

Santa Fe, New Mexico

The Santa Fe Farmers Market direct analysis reveals an intriguing method of regulating what products are sold: the 80/20 Rule. This 80/20 Rule states 80% of products vended must be produce, meats, and dairy, and 20% added value products, such as jams, salsas, or baked goods. North Bayshore Markets may choose to employ this rule for its ability to preserve and sustain agriculture. Since the market was crowned the most efficient market in the county, Santa Fe represents a direct model for North Bayshore Markets in terms of building efficiency. The market has an 80 year lease on a Gold LEED certified building, the same certification specified in the North Bayshore Precise Plan. In terms of transportation accessibility, the market is 19.1 miles from LMY Amtrak station. North Bayshore Markets will be accessible from multiple bus routes in central locations throughout the city.

Analysis in Numbers

City Population	69,967
Median Household Salary	\$40,392
Annual Market Attendance	180,000
Vendors	392
Total Sales in 2007	\$2 Million ¹



Iconic Santa Fe Market water tower.

4.9 Results of Direct Market Analysis

San Francisco Ferry Building, California

The Ferry Building Farmers Market direct analysis shows how an emphasis on incentives programs invite positive outcomes, be it increasing value of EBT or reducing the cost of parking. North Bayshore Farmers Markets will follow the Ferry Building's approach to EBT and make food stamps worth double on food purchases, however, we are open to accepting EBT market purchases not limited to ready food, (ie. sauces, honey, etc. Taking a cue from both Green City Market website, and the Ferry Building Market's sleek web interface and updated YouTube account, the North Bayshore web presence must be strong, and modern. Operating within a tech hub only intensifies this need. And like Portland, the San Francisco Ferry Building offers the veggie valet, a service which will be particularly valuable for North Bayshore's elderly and disabled.

Analysis in Numbers

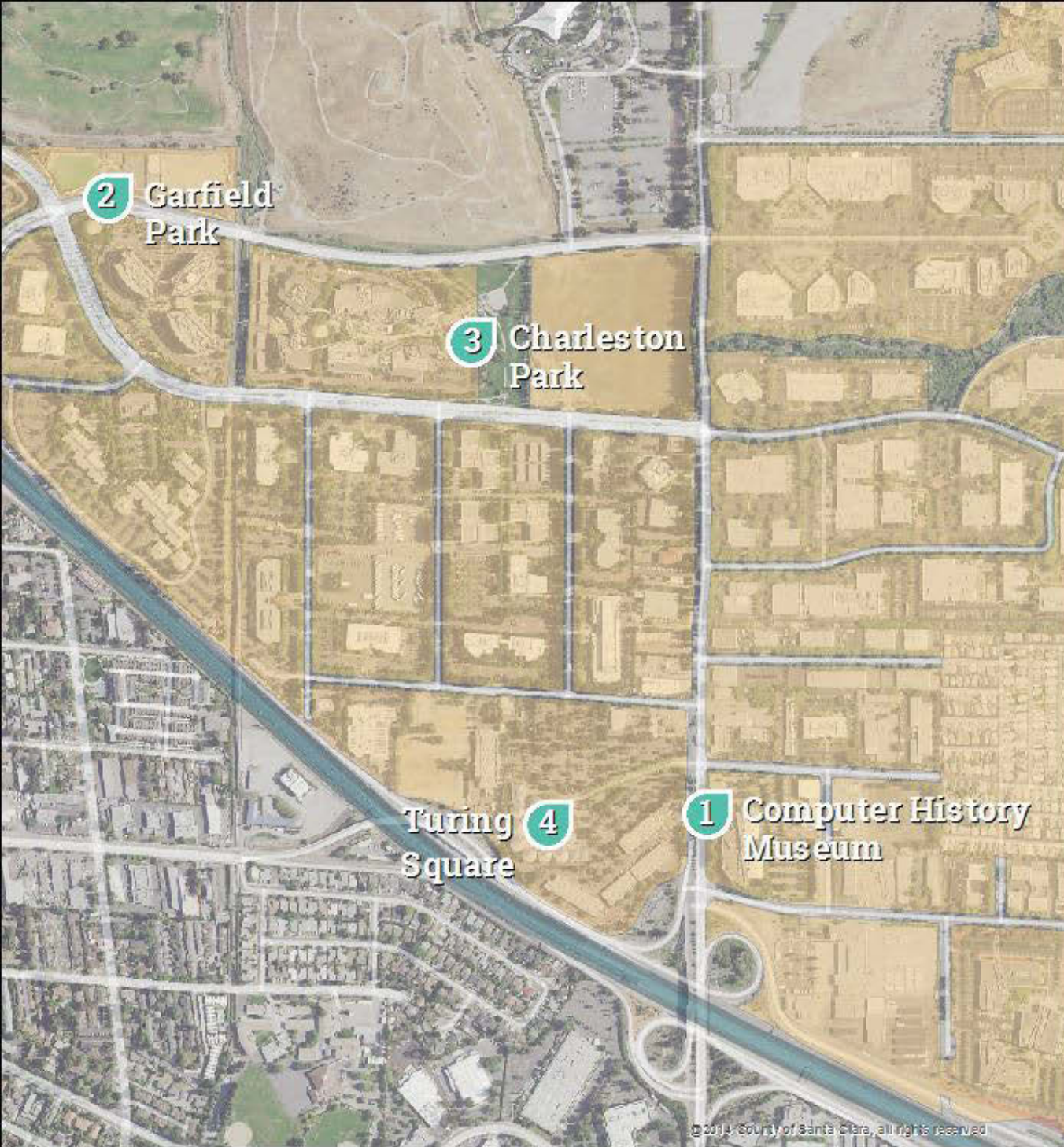
City Population	837,442
Median Household Salary	\$75,604
Annual Market Attendance	180,000
Vendors	120+



Ferry Building Farmers Market vendors.

Proposed Locations for Markets

- 1 COMPUTER HISTORY MUSEUM
- 2 GARFIELD PARK
- 3 CHARLESTON PARK
- 4 TURING SQUARE



Data Sources: Mountain View 2015; National Agriculture Imagery Program 2014; ESRI 2015

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Miles

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Food Accessibility Through Public Transit

Proposal: Retrofitting Low-Floor Buses



Food Accessibility Through Public Transit

Proposal: Retrofitting Low-Floor Buses

Gillig 1000s Series Low-Floor Bus Interior
Currently used by VTA in Mountain View



Retrofit will include the addition of shelving-style storage, ideal for large numbers of grocery bags

- Overhead storage areas above lighting fixtures
- Storage above and near wheelwell

Food Accessibility Through Public Transit

Proposal: Retrofitting Low-Floor Buses

In order to prompt a more widespread purchase and consumption of sustainable foods and products, we must first examine the factors that determine where a person is more inclined to shop.

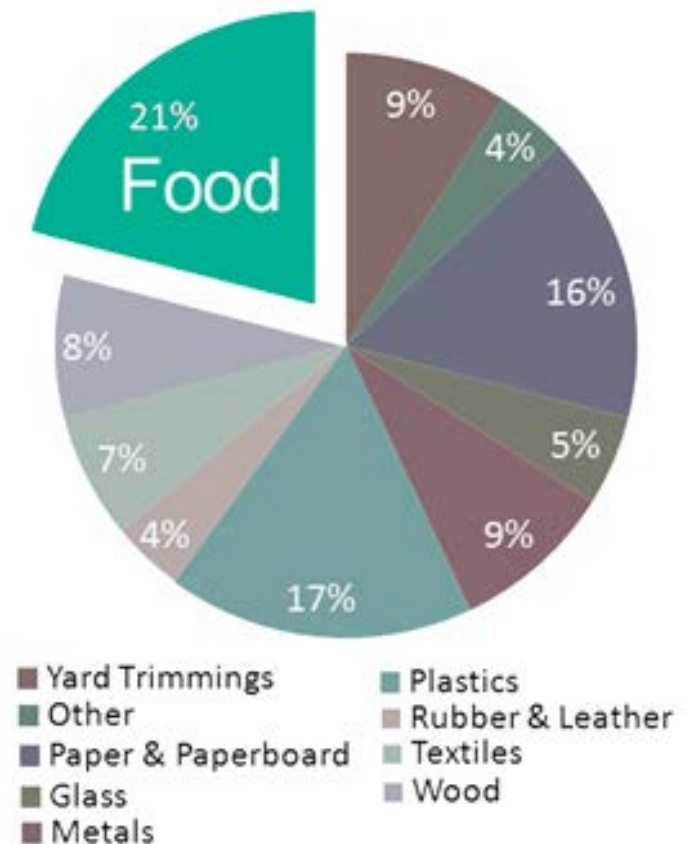
Typically, people are drawn to sources that are the easiest to get to, and that sell the cheapest products. Unfortunately, many sources that fit both of these descriptions are typically large corporate chains. Corporate markets will sell their products without consideration for the externalized costs that were involved in the production of these items. Through this proposal, we aim to cause sustainable food sources to also fit these descriptions of what people find favorable in a market.

In addition, the majority of people are inclined to use passenger vehicles for transport to and from these markets. The primary reason for this is that people do not like the idea of hauling their grocery bags on public transit. With this mentality,

Community Compost Heap

Proposal: Construct facility that will house a community compost heap, accessible to both commercial and non-commercial users.

Food makes up the largest percentage of waste going into municipal landfills and combusted for energy recovery



Community Compost Heap

Availability of a community compost heap will cause people to re-think traditional principles of waste management. Ideally the community compost heap is intended for biodegradable waste generated by local businesses, vendors, cafes, and restaurants in Mountain View. However, everyone (commercial or non-commercial) is permitted to utilize the heap.

Regulation of the compost heap:

- compost heap will be enclosed for protection from wind, rain, and other disruptive factors.

Proposed location: 100 Year Floodplain

Community Compost Heap

Odor Mitigation Technology

Users and volunteers will ensure that the heap is maintained. Preventing unpleasant odors will require the following

Balance Too much green material in a compost pile will result in an odor that resembles sewage or ammonia. Ensuring a proper balance between brown and green matter Adding brown materials like leaves, newspaper and straw will help bring your compost pile back into balance.

Aeration– Compost piles require oxygen (aeration) to decompose the organic material properly. If your compost pile gets compacted, the compost will start to smell. By regularly turning the compost heap, you can help get air into the compost and mitigate the foul odor. The addition of some “fluffy” materials like dry leaves or dry grass to help keep the pile from over compacting again.

Moisture regulation– It is most common for compost heaps to give off an unpleasant smell during the Spring. This is due to the pile becoming wet from all the excess rain and moisture in the air during this time. A compost pile that gets too wet can ultimately become compacted just as the previously described scenario, limiting the flow of oxygen. Compost that is too wet will smell putrid or like rotting eggs and will look slimy, especially green material. To fix this cause of a smelly compost pile, turn the compost and add some dry brown materials to absorb some of the moisture.

Layering– It is essential to know when to place “green” and “brown” in layers as well as the appropriate layering techniques. If the green material is isolated from the brown material, it will start to decompose incorrectly and give off a bad smell, like sewage/ammonia. Fixing this is only a matter of mixing the pile properly. Regular turning of the pile and ensuring a balance between “green” and “brown” matter, will help you keep the compost pile from causing problems.

Community Compost Heap

Grand Rapids, Minnesota

The City of Grand Rapids, Public Utilities Commission and Itasca County partnered in 1988 to create a public compost site for yard waste such as grass clippings and leaves. The composted material is turned twice a year and once compost material has decayed it is available to the public. Compost yard waste recycles nutrients back into the soil and saves landfill waste. The compost yard site is located on the north side of River Road approximately 450 east of the intersection of 8th Street SE and River Road (County Road 23). Our compost site is strictly for residential use and not commercial.



Community Compost Heap

Grand Rapids, Minnesota



Located in Grand Rapids, New Soil is a green waste collection & commercial composting business committed to enabling our customers to go green while saving green. We aim to engage our community in environmentally conscious activities and actions.

CHAPTER 5

SUSTAINABLE

WASTE MANAGEMENT

This is the collective work of Brandon Northart and Jorge Sung

5.1 Why is Waste Management Important for the Sustainability of our Environment?

Protecting our delicate natural environment is a necessary action that needs to be taken in order for the survival of not just our own species, but of all species. One of the ways in which we can help to contribute towards this goal is to attempt to implant and promote ideas of sustainability. One important aspect in regards to the sustainability movement involves the waste generated by residential and commercial sectors. Many Americans often are unaware of exactly where "away" is when they dispose of their waste which has perpetuated an historical tradition and culture of 'out of sight, out of mind'. There are a number of complex processes involved in the collection, logistics, treatment, and disposal of not just garbage, but human waste as well. Evolution in both the technology we possess and our mindsets regarding waste have both helped (innovative waste treatment facilities and processes) and hurt us (dawn of the age of plastics).

In order to achieve sustainable waste management, there are a number of changes that will have to be made. Some of which range from the uncomfortable to the miniscule. Not only will our technologies and systems have to undergo an evolution, but maybe even more importantly, a change in our mindsets regarding waste.

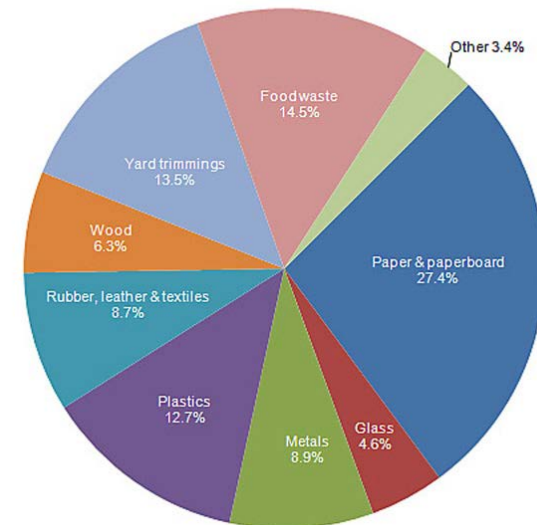


Source: Google, *Google Images*, 2015

5.2 Relevant Figures

- ❖ In 2012, Americans generated about 251 million tons of trash and recycled and composted almost 87 million tons of this material. (Environmental Protection Agency, *Facts and Figures Facts Sheet*, 2012)
- ❖ In 2012, the per capita generation of waste was 4.38 pounds per person per day. (Environmental Protection Agency, *Municipal Solid Waste Charts*, 2012)
- ❖ In 2012, the recycling rate was 34.5% and 86.6 million tons of materials were recycled. (Environmental Protection Agency, *Municipal Solid Waste Charts*, 2012)
- ❖ In 2006, Mountain View diverted 72% of its waste, by weight, from landfills, which is among the highest diversion rates of any city in the state. (City of Mountain View Community Development Department, *Mountain View 2030 General Plan*, 2012)

Figure 5. Total MSW Generation (by material), 2012
251 Million Tons (before recycling)



Source: Environmental Protection Agency, *Municipal Solid Waste Charts*, 2012

5.3 Shortcomings of the North Bayshore Precise Plan

While the North Bayshore Precise Plan addresses a number of future concerns regarding the waste sustainability of water and demolition, one of its shortcomings comes from the fact that little is done concerning municipal solid waste generation.

Address future waste concerns in North Bayshore Precise Plan

With the destruction and reconstruction of numerous offices, homes, apartments, and commercial centers, the creation and sources of municipal waste is only set to increase. There is little in the current plan detailing how these new sources will be offset.

Extended Producer Responsibility

Perhaps even more alarming than the waste generated within homes is the amount of waste created in the design and manufacturing process. As the North Bayshore area is home to some of the largest corporations in the world, their products are in the homes of millions. As long as these companies continue to operate and generate products, they will also generate waste. The city of Mountain View should require companies in the area to require efforts to make their operations and products.

Adopt “The 5 R’s”

‘Refuse, Reduce, Reuse, Recycle, and Rethink’ is an easy and effective way to think about waste on the personal level.

5.4 Policy Recommendations

Solving Problems Through Policy

Mountain View as a city has already taken a number of steps to forward its Zero Waste initiatives, including a plastic bag ban and take-out styrofoam ban, but more can be done.

Ban the sale of plastic water bottles

Plastics are made from fossil fuels, can contain toxic chemicals, do not biodegrade, and harm wildlife and humans (Terry, 2012). Plastics are also one of the main contributors to waste as well. When recycled, plastic water bottles are only downcycled in the waste process, rather than having 100% of their materials reclaimed. Much of the water in prepackaged bottles often comes from our own Californian lakes and reservoirs, furthering our severe drought.

Integrate food waste into current waste systems

According to EPA estimates from 2012, nearly 35 million tons of food was wasted in America. Mountain View and Recology currently do not have a system that handles food waste. Despite having green bins, only yard trimmings are allowed, with a strict prohibition on a variety of other organic materials. This can be managed by including appropriate food waste into the current waste collection service utilizing the green bins. Another way to include food waste is to incentivize in-home composting through the “Sustainable-Self” program.

Allocate a portion of impact fees to fund the “Sustainable-Self” Program

Using a portion of impact fees from development in the area, the residents of North Bayshore will (at no cost to them) have access to a number of resources:

5.5 Addressing Waste Management Through Outreach and Awareness

The “Sustainable-Self” Program

Directly provide alternatives to plastics

In accordance with some of the proposed and already existing policies banning the use of some plastic items, accommodate residents with sustainable substitutions such as glass or aluminum water bottles and reusable grocery bags.

Directly provide alternatives to traditional waste management

Provide separate, in-home trash receptacles for waste and recyclables, as well as traditional composting or vermicomposting bins, and “humanure” toilets.

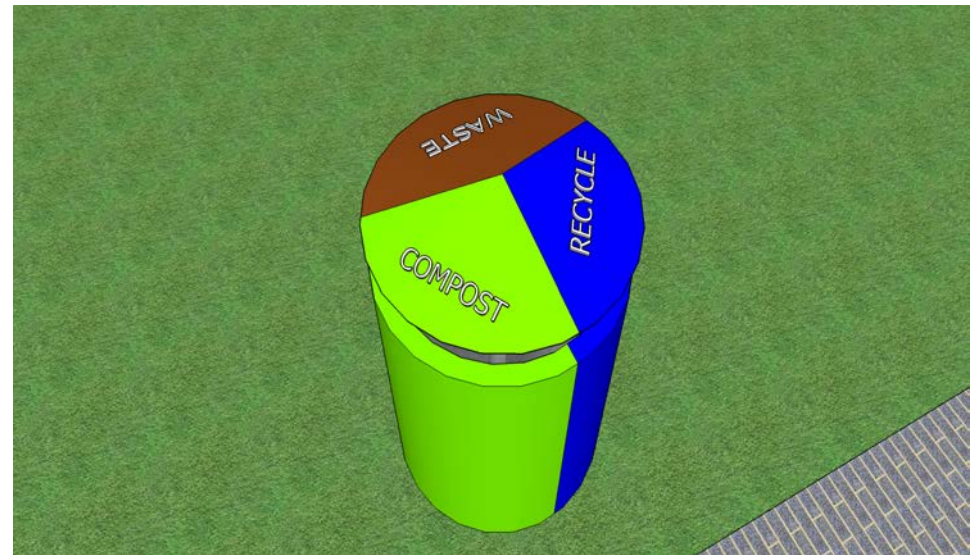
Undertake waste management at the community level

Provide citizens the access to a recurring sustainability class that addresses the concerns of the current sustainability movement and gives hands-on demonstrations that could range from “Vermicomposting 101” to “100 Ways to Reuse That Old Toothbrush”. These events could be held on events such as our Sunday Streets or at the Community Center.

5.6 The “Smart” Separated Waste Bin

Solving Problems Through Redesign

One of the reasons as to why we as Americans are able to generate so much waste is because we lack the means and education of what is meant to be composted or recycled, in comparison to what should end up in a landfill. Using the three separate waste bins at San Francisco State University as an inspiration, our team has created a singular waste container that demonstrates where particular items go through. This is done by easy identifiable color coordination for each waste stream, as well as additional signage that will give specific examples of items suitable for each section. In addition to potentially diverting waste to landfills, the new waste bin will also reduce the amount of space and materials generated in comparison to having three separate cans. We also hope to further raise waste awareness by demonstrating that not all waste is “trash”, and other alternatives are viable.

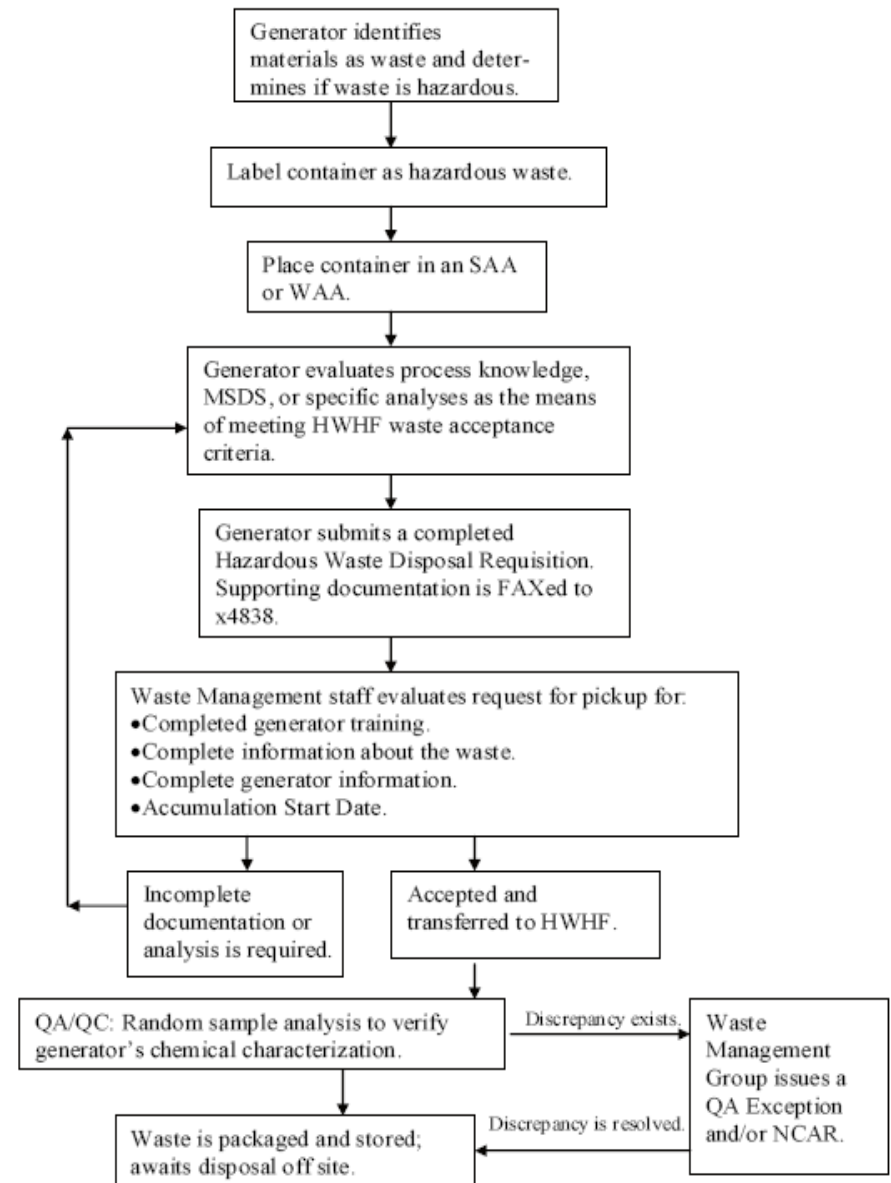


Source: Brandon Northart,
2015

5.7 Integrating Environment and Development in Decision-Making

In a broad sense, addressing the need to create a sustainable environment is not a simple system, strategy, method or policy that can solve the complex environment of waste management. It has to follow a well-organized and funded organization in order to study how to resolve the urban waste or garbage problem. In fact, waste or garbage are the same, it really does not matter as long as we have to deal with their useless form wherever they are located. Cities have to deal with the waste generated in their cities, and requires a great deal of financial resources and lands where any decision making to address the issue can be a challenge. So, by using the scientific methods approach, such as observation, ask a question, do background research, construct a hypothesis, test the hypothesis by doing an experiment, analyze the data and draw a conclusion, and communicate the results; all are good tools for this purpose. For example, how to deal with the environmental and social impact (ESI) through the ecological footprint analysis (EFA) and environmental impact assessment (EIA) are the questions to be answered only with an extensive data and intensive discussion to address them. However, as we see that all the types of operations for the scientific methods are moving and action driving processes, again they might require a comprehensive approach from the well organized and funded organization to do the job.

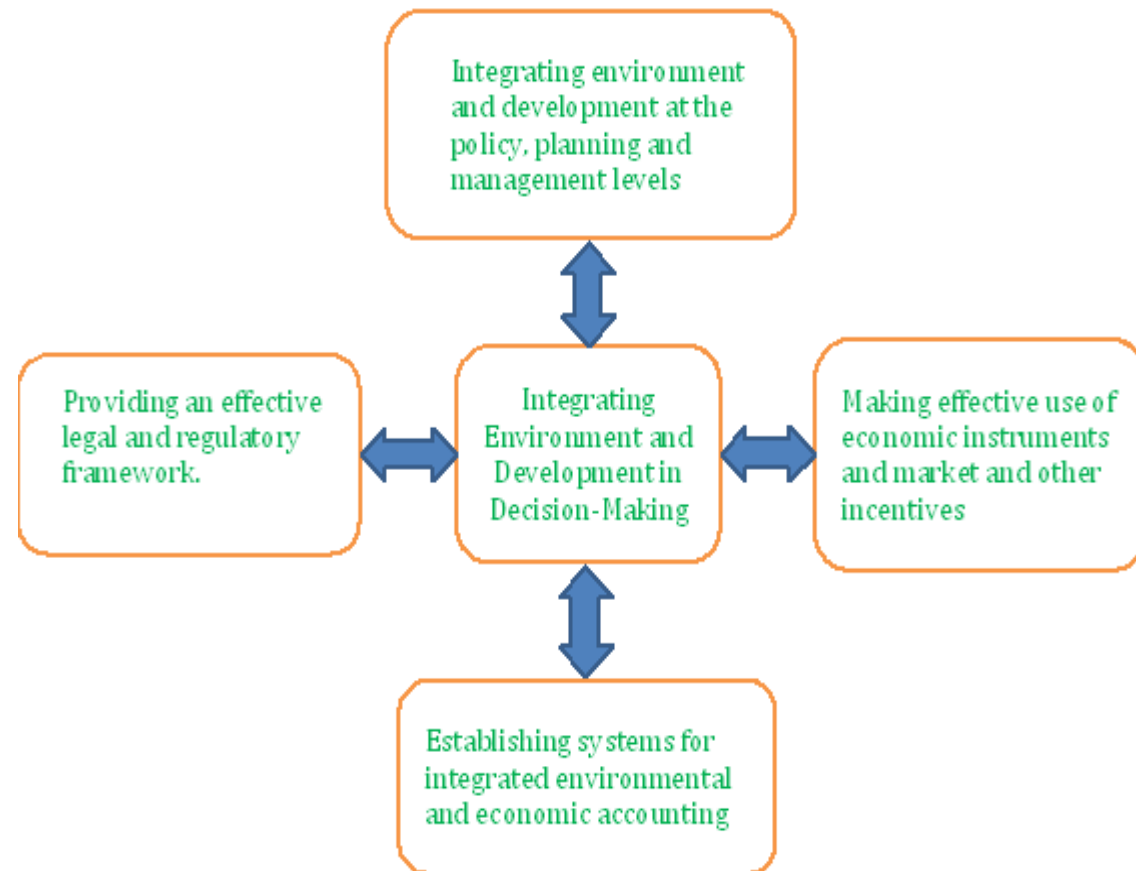
Overview of Hazardous Waste Process



5.8 The Framework of Organizations

It is important to know how, what, and why organizations operate with the vision, planning, and implementation through its framework. Even though there are many ways that we can use to deal with our environment from a good to a degrading state through the conservation and restoration processes, by having the framework in mind it definitely can help us to address the environment issue in an easier manner. This subject contains the following programmed areas (Srinivas, Hari, agenda 21, chapter 8):

- ❖ Integrating environment and development at the policy, planning, and management levels.
- ❖ Providing an effective legal and regulatory framework.
- ❖ Making effective use of economic instruments and market and other incentives
- ❖ Establishing systems for integrated environmental and economic accounting.



5.9 An Example of Waste Management in Mountain View

It takes an enormous amount of time for the environment to absorb, naturally degrade and recover, so it is our duty to provide the conditions to allow the environment to do the work. For example, wisely using the 3R processes: reduce, reuse, and recycle, can save more energy consumption, raw materials, and space in the environment, and applying the 3E theories: environment, economy, and equity for a sustainable development can provide us with extra resources to use in the future. In order to address a city's waste management, it is up to us to solve this kind of big issue by having a deep discussion with communities or experts. In the city of Mountain View, on March 24, 2009, the Mountain View City Council adopted an Environmental Sustainability Action Plan called Zero Waste Plan to manage how the community disposes of waste compositions. The key to this plan is to examine whether these materials can be diverted from the waste stream through increased recycling, waste reduction, composting, and other diversion programs. Such programs conserve landfill space and natural resources while reducing greenhouse gas emissions" (Zero Waste, Plan Adoption).

As the landscape of a city changes through the city's development so do the lives of its citizens, who are dependent on city government to create environmentally sustainable programs to manage the city's waste, which contributes to better living condition. Mountain View's urban waste management has become an important tool to deal with the urban waste through its transformation to create a new technology. For example, "two goals are proposed to measure the City's progress in achieving the recommended 2025 Zero Waste Vision. By emerging standards, 90% diversion is considered achieving zero waste" (Zero Waste Plan):

1. By 2015, Mountain View residents and businesses will divert 80% of materials from landfill.
2. By 2020, Mountain View residents and businesses will divert 90% of materials from landfill. As such, it is the matter of taking the scientific research methods, because it is possible that waste management methods can evolve from one to another from time to time with the ESI, EFA, and EIA concepts. Just to remember the potential use of any other methods such as Integrated Resource Planning as a decision-making approach for urban waste sector if it is well applied through efficiency alongside options for new infrastructure, and there are many benefits that can be provided from a broader context-sensitive, adaptive, and stakeholder to a cost benefit with the current limitations in place. Therefore, keep in mind, some system pro's include some waste management techniques and methodologies that have resulted from the current system, which are very useful as part of a well-rounded knowledge and can only last if we don't take it as a guarantee when the situation changes under different scenarios.

5.9 (con't) An Example of Urban Waste Management in Mountain View to North Bayshore Precise Plan

Overview

- Concerning the quantity of waste generated from the size of North Bayshore Precise Plan from now to the future (which is likely to be included to the quantity of waste generated from the City of Mountain View) what is the best waste management that the city can be granted for the sustainable environment as well as sustainability?
- knowing that the information plays a crucial role in enabling energy conservation, it would be better to know how the waste is managed in the City of Mountain View.

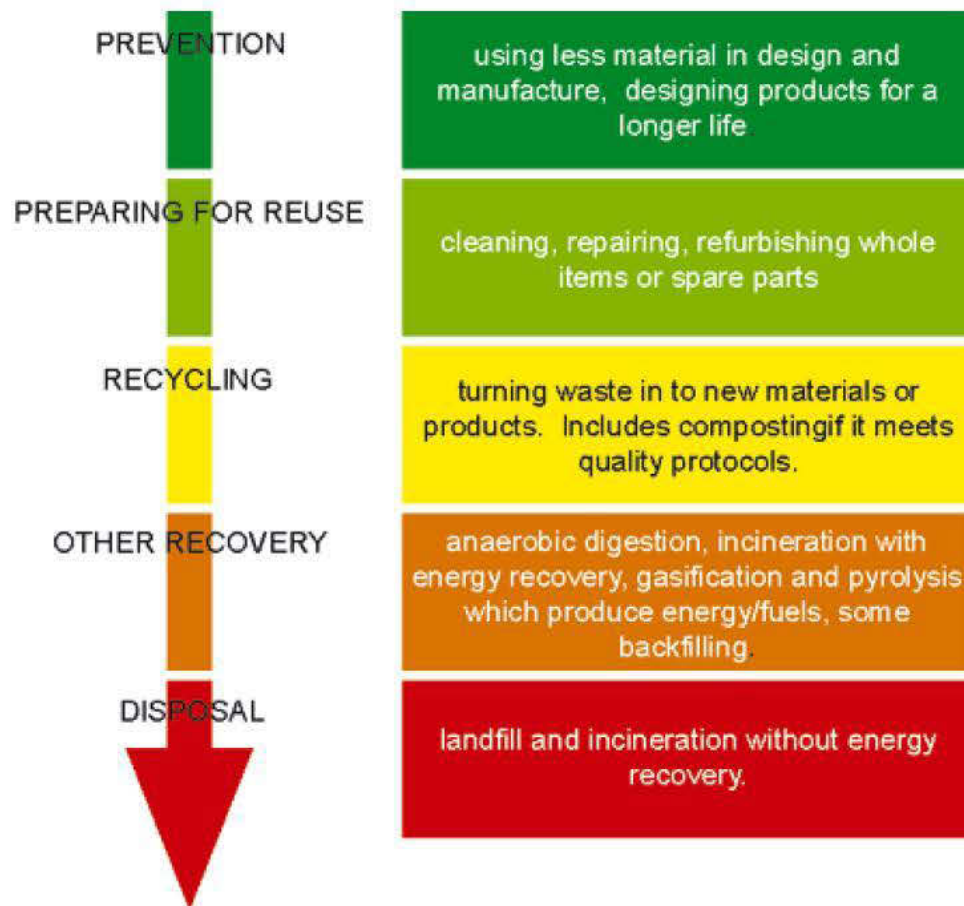
Mountain View Recycling Center

Mountain View accepts a variety of recyclables based on sustainable market value. Recyclables that do not have enough market value to merit collection and processing costs may still be accepted at the Mountain View Recycling Center.

The SMaRT Station's Drop-Off Center (such as plastic buckets, scrap metal, and polystyrene packaging foam and peanuts). Plastic bags are no longer accepted at the SMaRT station drop. Stores offer inexpensive, reusable bags for purchase. At the Smart Station, the new material recovery equipment can't catch everything, but at least 25% can be pulled out from the waste material. So, please always do your part. Reduce, reuse, and recycle (http://www.mountainview.gov/depts/pw/recycling_and_zero_waste/centers/center/default.asp).

5.10 The Waste Hierarchy Diagram

The Waste Hierarchy and J&B's "Zero Waste to Landfill" Commitment



The waste hierarchy aim is to reduce the amount of waste produced, and to recover maximum value from wastes that are produced.

After recycling options have been exhausted J&B can provide a Zero Waste to Landfill as all residual non-recyclable waste is recovered as energy (the only exception being some hazardous wastes such as Asbestos, which has no other viable disposal solution).

Any Landfills that J&B use have been audited by us and are selected because they capture the Landfill Gas to produces electricity which is used on site and sold to the National Grid.

5.12 A Model of Waste Management

Idea of rationalizing and conservation

Considering the degree of rationalizing is used for the sustainable environment on the left hand, conservation is the number one sustainability strategy for energy (since energy is generated either from renewable resource, solar, wind, and gas, or non-renewable material, coal, plants, and oil) on the right hand, it ups to us to balance both rationalizing and conservation for undertaking what waste is generated from the city to generate energy for the city.

Solid Waste Treated in Mountain View Recycling Center



[935 Terra Bella Avenue](https://www.recologymountainview.com) (near Shoreline Blvd. & Hwy 101)
Mountain View, CA 94043
(650) 967-3034
www.recologymountainview.com

5.13 The Tonnage of Waste Generated in Some of the Cities in California during 2004

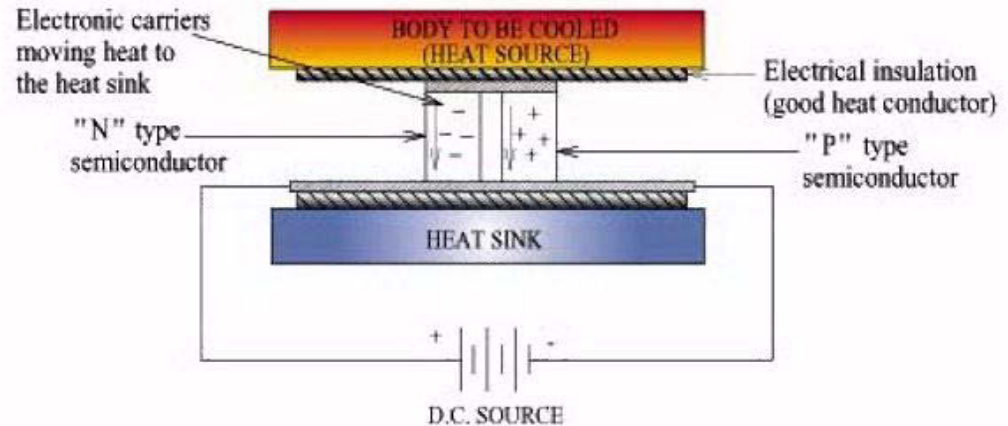
Findings for the Disposed Waste

California Integrated Waste Management Board shows the report presents the results of the analysis of the commercial self-haul and drop-box waste stream in 2004: 1,387,500 tons for commercial self-haul waste and 1,655,600 tons of drop-box waste. Especially, the Bay Area represents most of the commercial self-haul waste disposed of 713,660 tons, which is about half of the total tonnage. Slightly less, about 637,000 tons compared to 639,000 tons, were estimated to be disposed in the L.A. Basin for drop-box waste.

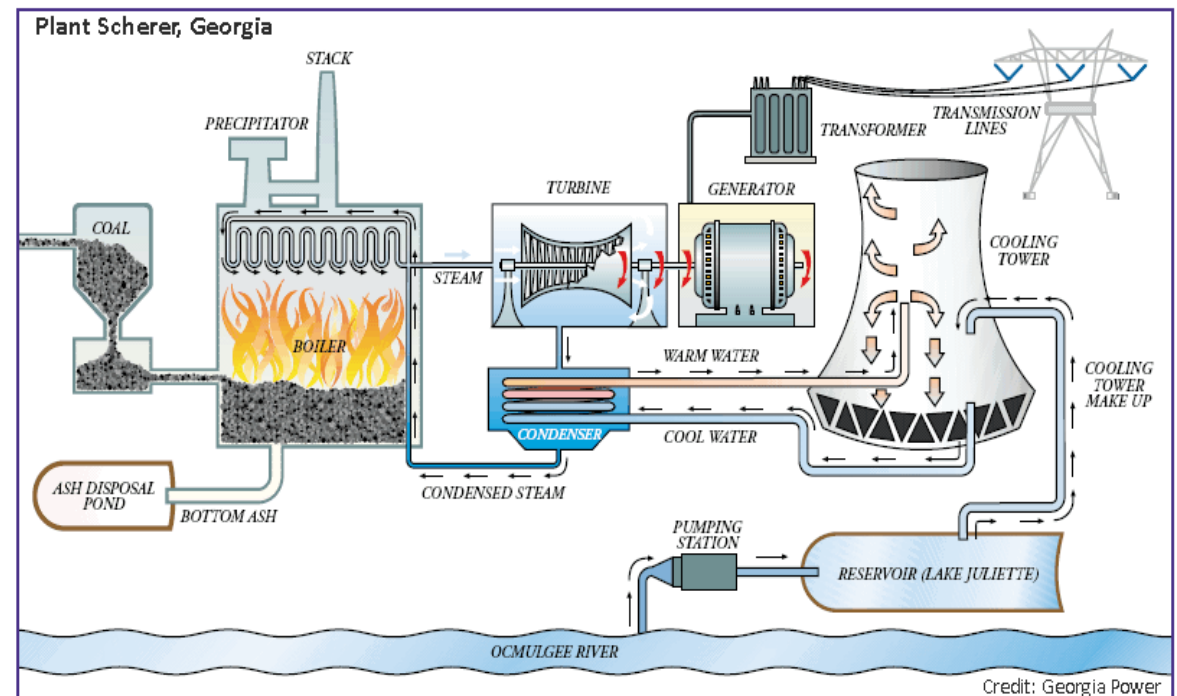
Sector	San Diego	San Francisco/ Bay Area	Southern California/ L.A. Basin	Central Valley	Total
Commercial Self-haul	306,266	713,660	313,276	54,317	1,387,519
Drop-box	310,948	639,424	636,526	68,736	1,655,634

5.14 A 1000 MW Thermoelectric Power Plant

Thermoelectric Module Diagram



Thermoelectric Power Plant

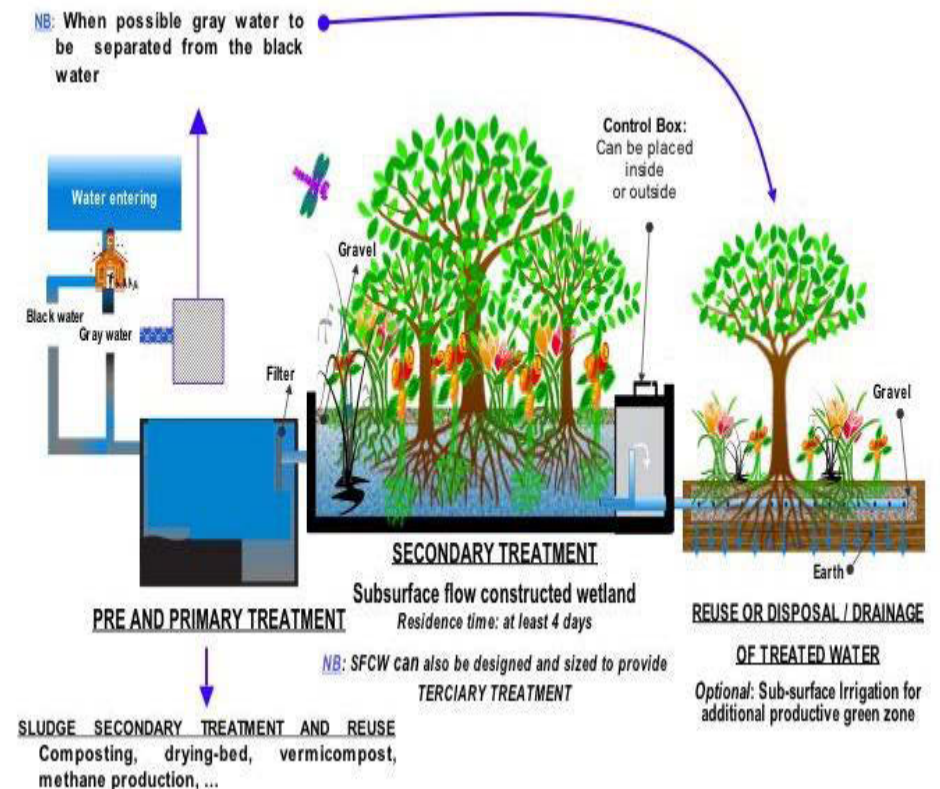


5.15 Using Technology to treat wastewater

Domestic Wastewater Treatment

- ❖ The both black and gray water are treated in a big enclosed recipient for the pre and primary treatment, where the water is processed and is going to be filtered when going to a secondary treatment.
- ❖ At the secondary treatment, water is treated through composting, drying-bed, and a vermicomposting process, while passing through it both plants and grass have an opportunity to get water and remain there for 4 days.
- ❖ At the end of process, there is a control box, which can be placed outside or inside of the treatment, designed to control the flow of water by allowing the water to slip out from a small tube.
- ❖ When the water level is higher than the tube then water comes to the secondary treatment from the primary filter treatment, because the water is dragged to flow on to the next stage.
- ❖ Next, water is drained again for reuse through a tube as disposable water to irrigate plants and flowers.

Domestic Wastewater Treatment Diagram



5.16 A Superfund Site in North Bayshore

Inquiries with the site

- ❖ At a glance, the superfund site is improperly located next to residential area in an area that is about 1.85 square miles, “a study released finds a historical increase in cancer among residents of northeastern Mountain View.
- ❖ Lenny Siegel, an Executive Director Center for Public Environmental Oversight, discussed why the DEIR barely mentions vapor intrusion when asked by a Planning Commissioner about the serious risk of trichloroethylene.
- ❖ The pinpoint of the inquiry to that event should be taken with a careful response and be addressed properly; in part because when a dangerous object can seriously harm the building occupants as well as the public at large have a right to know the risks and the solution.

Conclusion

For North Bayshore Precise Plan to battle the urban waste with the ongoing of urban growth, waste management should take whatever tools that is right to deal with the waste generated in the city. Since we know that the waste, chemical and non-disposable elements, and solid and disposable waste as well as domestic water waste, can't go away by itself, we have to take the waste management seriously in that regard.

CHAPTER 6

SUSTAINABLE RECONSTRUCTION

This is the collective work of Tiffany Pagsanjan, Joanne Chen, Kenix Yu, Mai Satoh

Introduction

Our built environment is one of the important elements to a quality of life; the buildings where we live, work, and play, the community that we are all part of, the communication systems that we use, water and electricity consumptions, and the supplies and wastes, are all essential for human society to function. In world's landfill waste, about 44% of it come from wood harvest and building demolitions (Wheeler, 184). In addition to that, 25% of the world's resources are used for building constructions. Thus, sustainable reconstruction will tackle this particular matter—reduce, reuse, and recycle materials to build new constructions. Generally speaking, sustainable reconstruction is a remarkable approach to “environment-friendly, energy-efficient, healthy, and humane building design” (Laefer & Manke, 2008). There is an insufficient attention towards reusing construction and demolition waste materials. Thus, “building reuse as an alternative demolitions offers reduced debris generation, maximized material use, and minimized resource consumption” (Laefer et al, 2008). In Mountain View, there are sites that may be in premium locations and real estate costs are very high. With that, it is very beneficial to utilize building reuse because it will have direct and indirect impact on monetary savings, and sustainability. With cost-efficiency, it will save labor costs relating to demolitions, reconstruction, and new materials transportation.

Goals

- ❖ Reduce the use of overall consumption of energy, water and material use (e.g. Zero-net energy buildings, vegetated roofs, increase materials reuse, etc)
- ❖ Recreate building into a more sustainable place to live for future residents.
- ❖ Help reduce poverty (e.g. more funding from corporation to invest on social services, affordable new housings).
- ❖ Diversify and bring in more communities in North Bayshore.
- ❖ Provide more supportive living situations for people-- especially families with children, the elderly, or the disabled.
- ❖ Create alternative living environments that promote community.

Policies Implementations

- Create funding for low-income families because Mountain Views' median household income (\$97,338) is greater than California's income (\$61,094)
 - ◆ Fund health care centers
 - ◆ Build child care centers
 - ◆ Build a school
- Invest in Dual Plumbing systems to reduce water usage
- Put more funding to recreate buildings into a sustainable energy, water, and material using.
- Put more subsidies on existing buildings to install renewable energy system.

In recreating these new and existing buildings into sustainable usage, there will be thousands of dollars that can be saved especially on utilities for future residents of North Bayshore

(CITY OF MOUNTAIN VIEW, July 10, 2012)

Sustainable reconstruction can reduce poverty

As Glaeser pointed out, “investing in buildings instead of people in places where prices were already low may have been the biggest mistake of urban policy over the past sixty years.”

Invest in the community first instead of big corporations

- ◆ small businesses
- ◆ social services (e.g childcare, employment centers, health clinics for lower-income)
- ◆ policies that are open to the community



What can we provide or address in the North Bayshore Precise Plan that involves Poverty Reduction

6.1 The State of North Bay Shore

Sustainable reconstruction does not have to be a one-sided competition, the big corporations can help with poverty.

- A policy should be made so that part of the profit aims towards funding social services in the general districts for the poor (Young's Income Tax).
 - ◆ Such policies should aim towards the sustainable livelihoods approach. These programs would and shall provide the poor with natural resources and education. The Plan must invest their human capital into their community, or the corporations will not survive. As Glaeser points out once again, "a sexier public space won't bring many jobs it isn't safe. All the cafes in Paris won't entice parents to put their kids in a bad public school system."

The North Bayshore Precise Plan needs to address poverty

6.2 The State of North Bay Shore

North BayShore is constricted and limited to people who does not have the necessary means of access.

- The plan is aimed towards policies that can retain and attract businesses as an innovation for urban growth.
- This plan is not addressing the fundamental means of reducing inequality and poverty because they are attracting the well-educated people for start up companies



1. Create Distinct Areas within North Bayshore



Gateway District

A mixed-use center that supports a broad range of uses, including entertainment, retail, office/R&D, services, and hotel.



Core District

An office/R&D area focused on Shoreline Blvd that provides space for retail, services and small, start-up businesses.



General District

A campus-like environment with office/R&D buildings surrounded by usable open space.



Edge District

Lower-scale office/R&D uses that serve as a transition between higher intensity areas and sensitive habitat areas.

A NEW VISION FOR NORTH BAYSHORE



"The value is based on profits that are obtainable from maintaining a business on that land." North BayShore's vision addresses all the necessities to be sustainable, but it may not necessarily help address the issue of inequality and poverty. The rich will get richer, and the poor will get poorer.

(CITY OF MOUNTAIN VIEW, July 10, 2012)

Using Sustainable Reconstruction to reduce poverty

6.3 The State of North Bay Shore

The Census Bureau regards every families and individuals as poverty if their total income is less than the family's threshold. From the Data of U.S. Bureau, 8.1% people are under poverty in Mountain View (U.S. Bureau of the Census). This plan is making North Bayshore in Mountain View become better for people who are under poverty. Moreover, this plan recommend to solve this problem by using a way of sustainable reconstruction of housing and working place.

From General Plan Land Use Map(Figure1), North Bayshore is almost used for High-intensity office (violet). There are small place for Mobile Home Residential(yellow stripe) and Mixed-Use center(red). This plan follows this zoning to decide which building we will reconstruct.

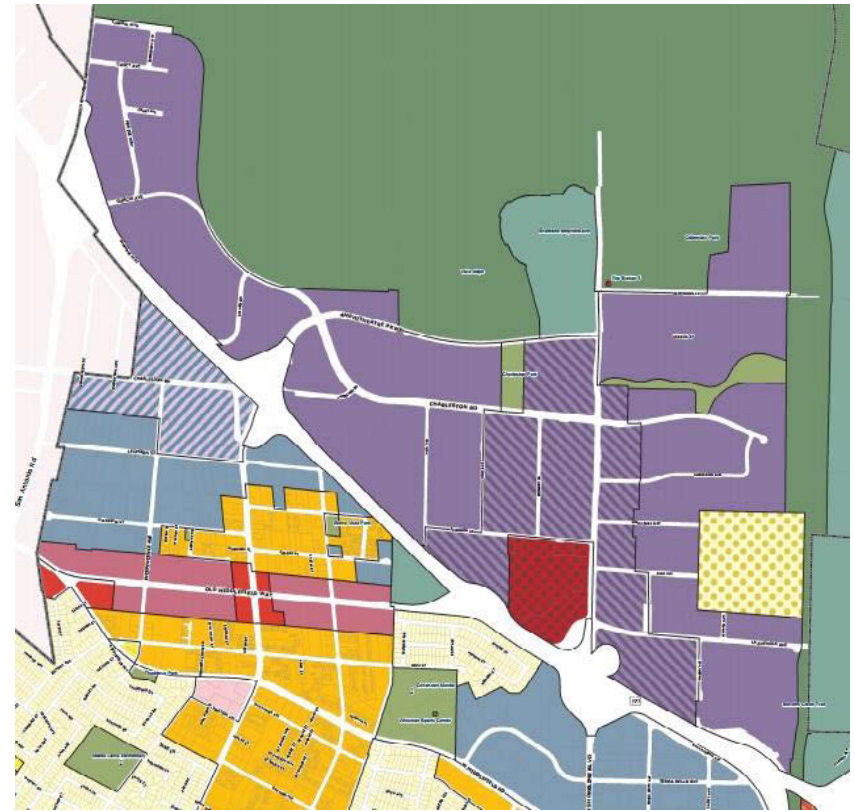


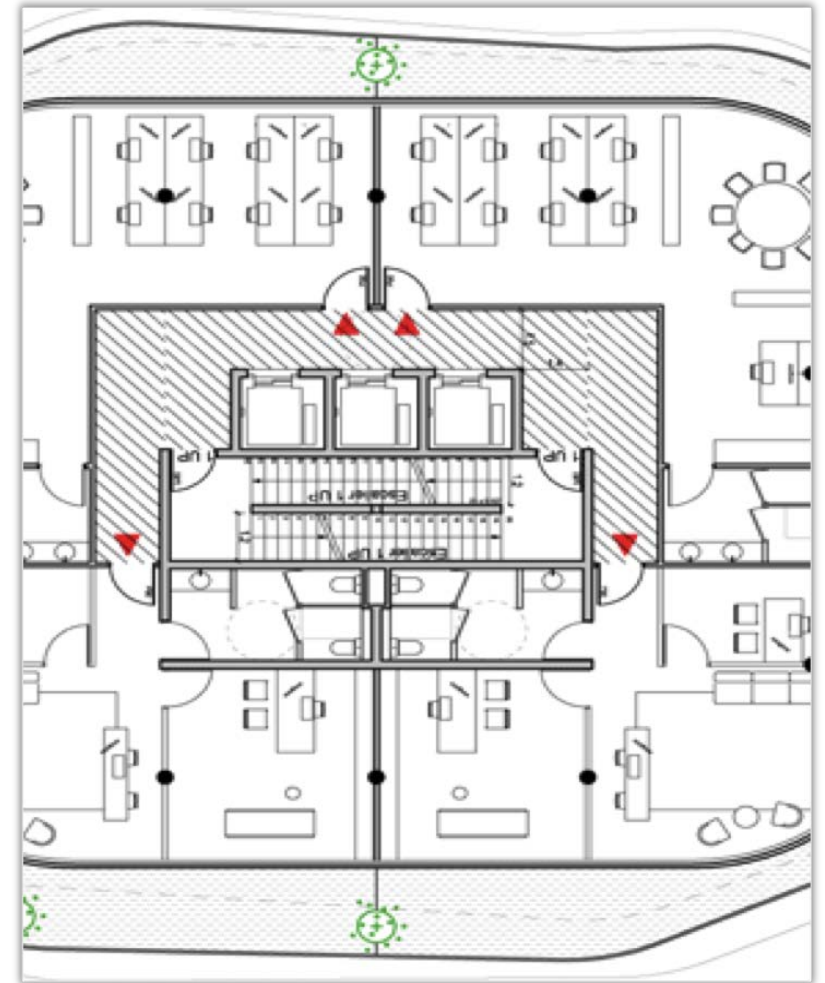
Figure1: General Land Plan Land Use Map

(CITY OF MOUNTAIN VIEW, July 10, 2012)

High Rise Buildings that are Beneficial to Both Sides

6.4 Options

Another way we can reduce poverty through sustainable reconstruction is the development of hotels or large industries (Google's Proposal to build a new building). We can build a luxurious hotel in the Gateway District and build low rise buildings around it, so that the hotel can pay for part of the houses surrounding it. The people who could live in the low rise buildings has to be middle class or below. Another suggestion could be to demolish the historical buildings to make room for low-income houses because preserving the historical buildings will not decrease the rent, but increase the rent.



This is a mixed used illustration of three mid rise towers that are surrounded by low rise housing, doing this will create more room for amenities.

Giving back to the Community

6.5 Strategic Plans

If Google is willing to pay \$25 per square feet, it shows that they have enough capital to provide social service centers for the community. Some of the things Google can provide back to the community:

- Google should provide childcare and infant care centers around work for the poor and the rich
- In renovating new buildings for social services, it also creates jobs
- Build public schools with zero net energy buildings as it will be cheaper

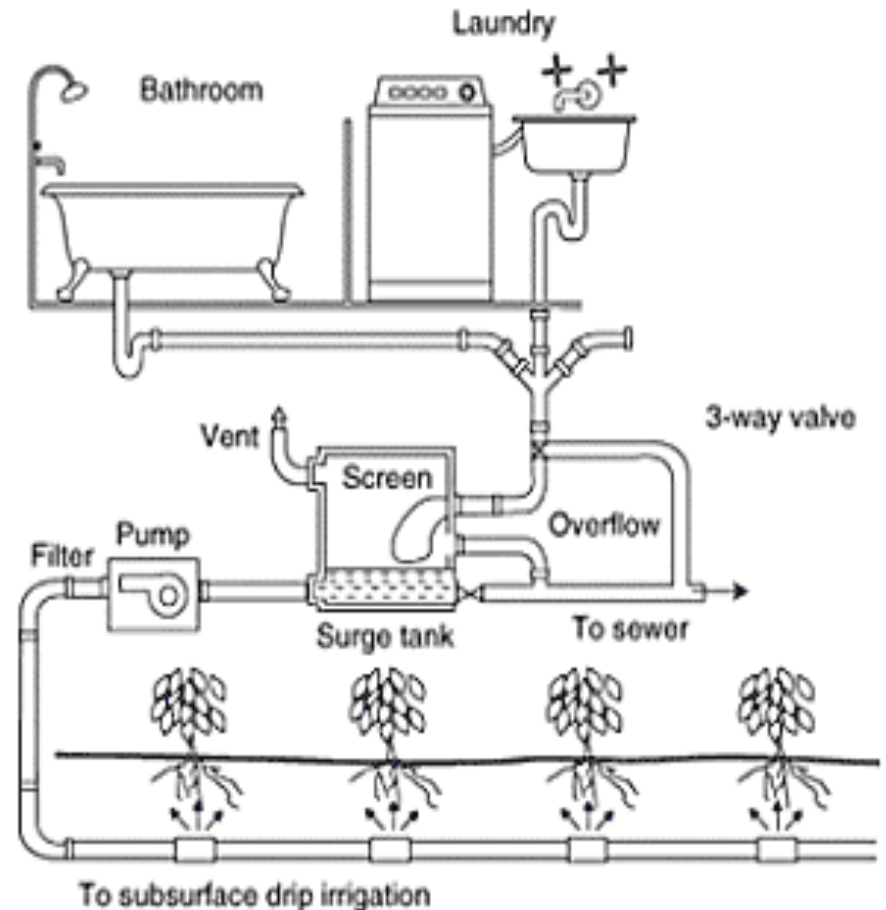


Dual Plumbing and Grey Water

6.6 Options for Reducing Water

Since California is in a drought, it is important that we save water, and one way in doing so is to install a double circuit prototype in our plumbing systems.

- Dual Plumbing is two separate distribution systems that supply potable water through one network and non-potable water through another
- Does not have to provide clean water for activities such as toilet flushing, street cleaning, and garden
- Saves money because water can be used for more than one purpose and saves water consumption



6.7 Community makes people reduce poverty

People can reduce poverty by making community, and develop their community. In the United States, people don't make community of the relationship of their area. They tend to make their community with people near in age. Therefore, if people make their community with neighbors, it becomes better to cooperate to solve their problem. According to Bradshaw, there are 5 origins which cause poverty: 1) individual deficiencies, 2) cultural belief, systems that support subcultures in poverty, 3) political economic distortions, 4) geographical disparities, or 5) cumulative and circumstantial origins(Theories of Poverty and Anti-Poverty Programs in Community Development 2005;2). We should solve these problems from the roots of poverty when we reduce poverty. If people can get housing whose price is decided by their income, making community garden and get vegetables by themselves, and share some facilities inside of their community, people can solve a root of poverty at least one.



6.8 Co-op Housing

What is Co-op Housing?

Co-op Housing is a corporation that exists primarily to provide housing and related services to its members, instead of simply generating a profit for its shareholders.(The Northcountry Cooperative Foundation 2003;4) The idea of Co-housing was from Denmark more than 30 years ago. The concept was “living community”. Now, this idea spreaded all over the world, and there are hundreds of cohousing community from Denmark into the United States, Canada, Australia, Sweden, New Zealand, the Netherlands, Germany, France, Belgium, and Australia. In the United States, there are more than 213 cohousing communities in 38 States(About Cohousing).

There are some characteristics of Co-op housing.

- 1) Celebrate diversity by living together of racial/ ethnical diverse people
- 2) Many cooperative recommend that permanent affordability restrictions which becomes sale price is equity shares by using federally assisted.
- 3) Development of affordable housing provides broad-based learning experience and support for affordable housing
- 4) Volunteer membership cooperative associations do not have resources to provide, or authority to require, the ongoing technical assistance required by most affordable housing cooperatives.
- 5) It's autonomous community. They manage their housing by themselves.

(Sazawa

2000;26)



6.9 Create Jobs to reduce poverty by constructing Co-Working Space

Poverty relates to the rate of employment. This plan make people get opportunities to have a job. By making Co-Working Space, people create jobs, and the rate of employment increase. Then, people who under the poverty may escape from poverty.

This plan induces start up company, and make their working place. Generally, start up company doesn't have much money. They want to become minimum of their cost. Business rent price directly related to their cost. Therefore, Co-Working place will offer low price office to them. These are some characteristics of Co-Working Space below.



- ❖ Rent minimum from one Desk
People not rent room, but they rent a desk and chair.
- ❖ Able to start from the first day to use
Tenant don't have to collect equipments like fax
- ❖ 3 types of renting space
 - 1)Open Share Desk -use empty desk
 - 2)Designated Desk -own desk
 - 3)Private Room
- ❖ No contract of lease
- ❖ Cost contains everything
Monthly rent contains cost of heating, lights and network
- ❖ Shared kitchen
- ❖ Lots of event
- ❖ Collaboration
Collaborations emerge by start up companies
- ❖ Meeting place with CPA, lawyer, and investor
- ❖ Get service of investment company
- ❖ Examination to enter
- ❖ Set up deadline
Failed company have to leave

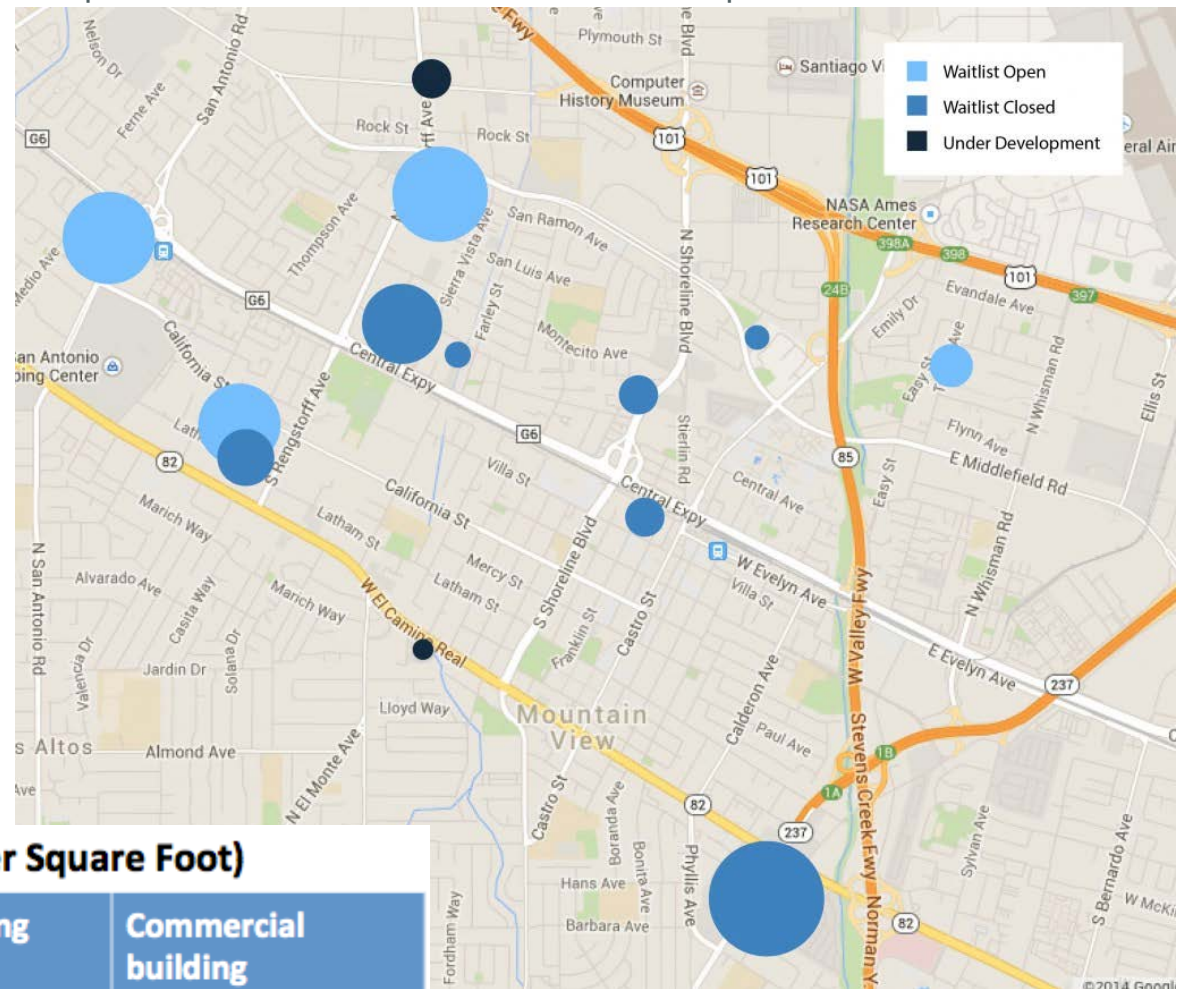
(freshtrax 2011)

6.10 Policy of Affordable Housing

Mountain View should expand their subsidized not only for the affordable housing project at least two years away from construction, but also for renovating building. New building construction takes more costs, and rent may increase.

City Council should persuade to make affordable housing in North Bayshore. Now, all of them are out of North Bayshore. Also, city council should not decrease the fee of fund for affordable housing.

Map about all the subsidized rental complexes in Mountain View



Affordable housing fees in Mountain View (Per Square Foot)

	Ownership housing	Rental housing	Office building	Commercial building
Current	3% of sales price	\$10.26	\$10.26 (half for first 10,000 sq. ft.)	\$2.60 (first 10,000 sq. ft. -\$1.30)
Proposed	4% of sales price	\$15	\$20-\$25 (half for first 10,000 sq. ft.)	No change

6.11 Demolishing Buildings

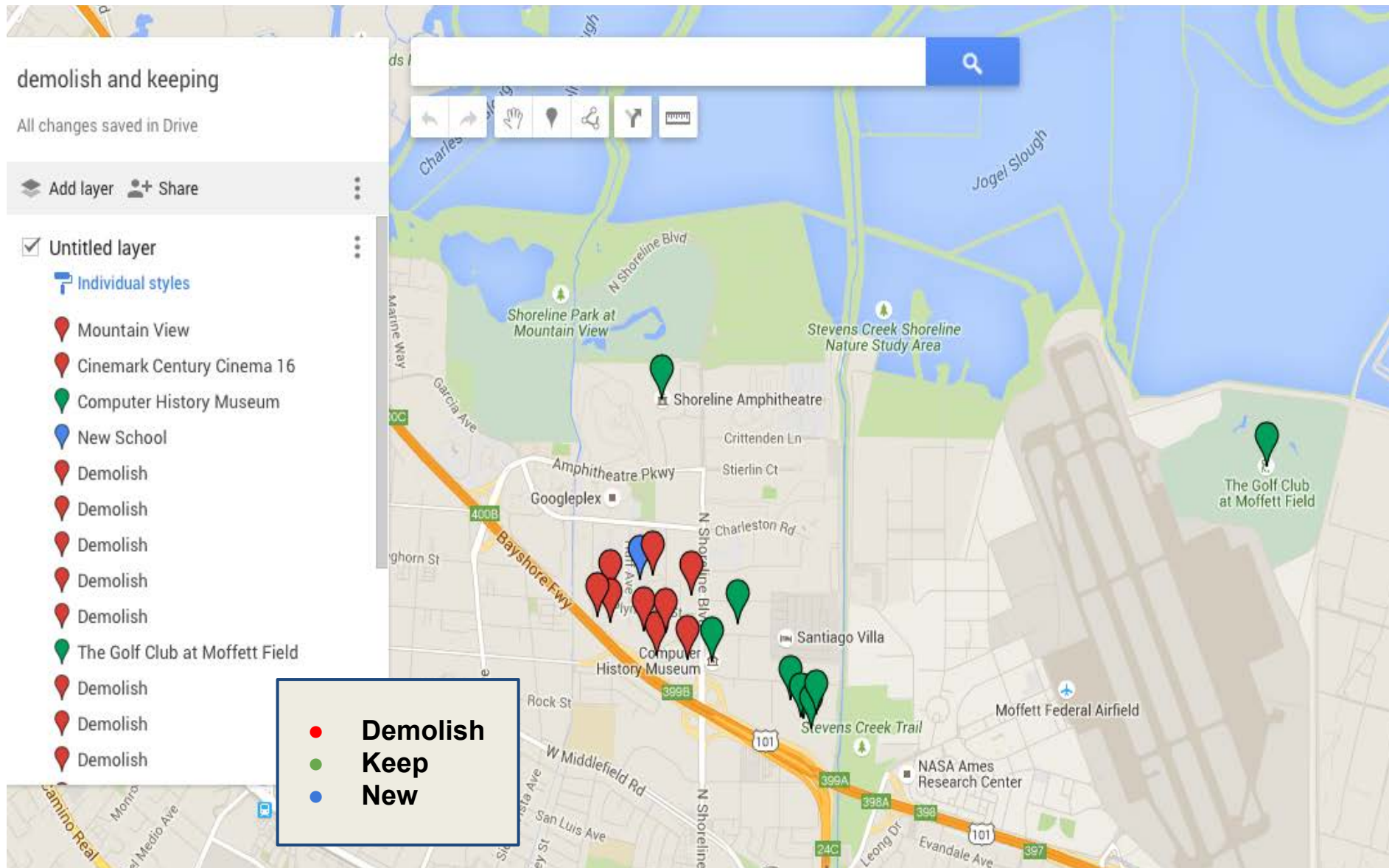
Buildings in North Bayshore that should be demolished

- Cinemark Century Cinema 16
- Rarely used Parking lots
- Twin creeks Sports complex

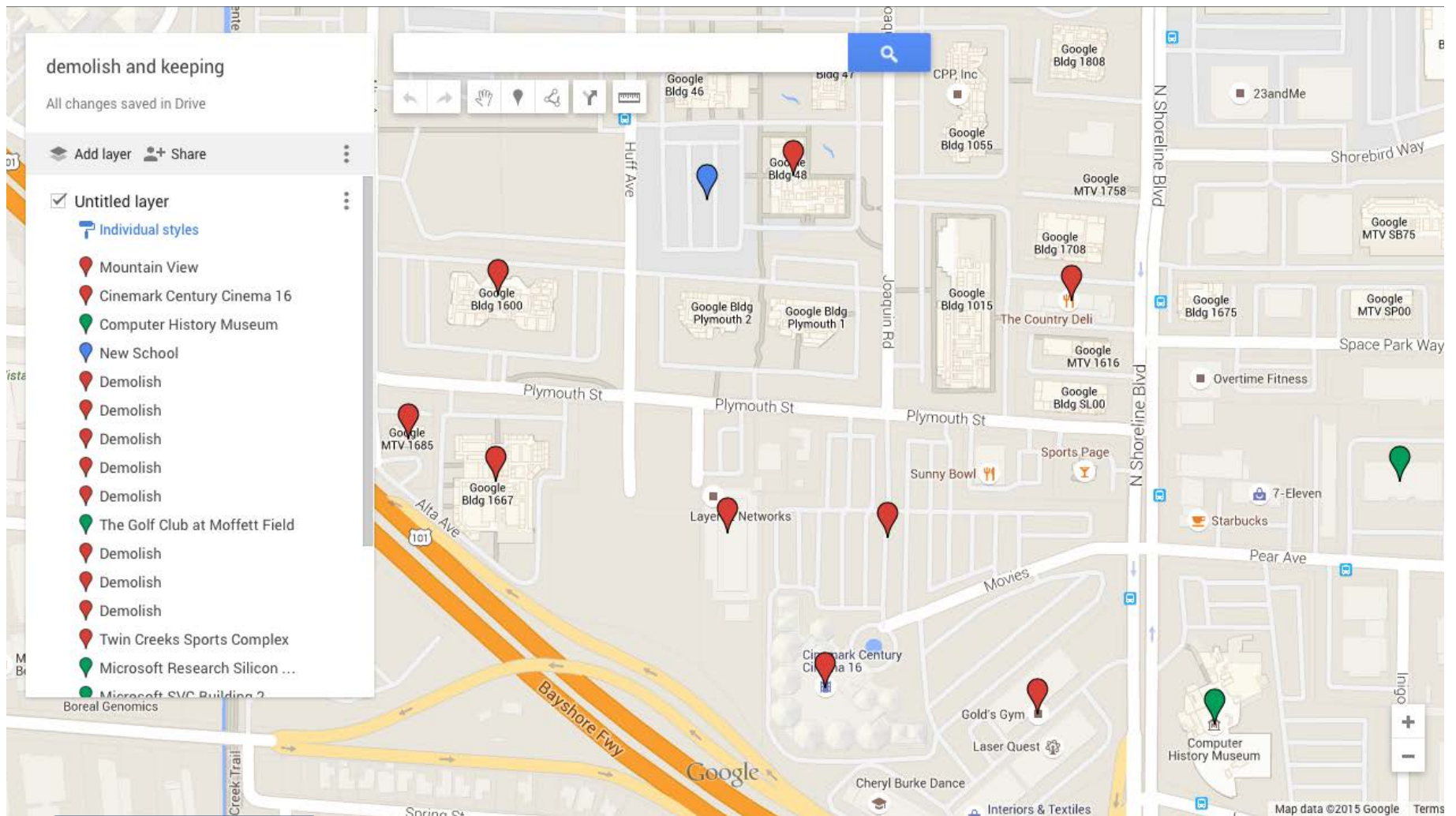
Buildings in North Bayshore that should be kept

- Shoreline Amphitheater
- Google
- Microsoft
- Computer History Museum

6.12 Demolishing Buildings



6.13 Demolishing Buildings



- Demolish
- Keep
- New

6.14 Sustainable Building Materials



Building and construction activities around the world consume around 3 billion tons of raw materials every year or 40 percent of the total global use ([Roodman and Lenssen, 1995](#)). Using green building materials and products promotes conservation of dwindling nonrenewable resources internationally. In addition, integrating green building materials into building projects can help reduce the environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source materials. The use of green building materials and products represents one important strategy in the design of a building.

Green building materials are composed of renewable, rather than nonrenewable resources. Green materials are environmentally responsible because impacts are considered over the life of the product ([Spiegel and Meadows, 1999](#)). Reducing our environmental impacts requires thinking and learning about not just how we use products, but where they came from and where they are going.

6.15 Sustainable Building Materials

BENEFITS:

- ❖ Improve air quality
- ❖ Sustainable
- ❖ Resource & material efficient
- ❖ Energy efficient
- ❖ High level of environmental, economic, and engineering performance
- ❖ Reduced maintenance/replacement costs over the life of the building
- ❖ Energy conservation
- ❖ Improved occupant health and productivity
- ❖ Lower costs associated with changing space configurations
- ❖ Greater design flexibility

5.16 Sustainable Building Materials

CRITERIA ON PRODUCTS SELECTION

Resource Efficiency can be accomplished by utilizing materials that meet the following criteria:

- **Recycled Content:** Products with identifiable recycled content, including post-industrial content with a preference for postconsumer content.
- **Natural, plentiful or renewable:** Materials harvested from sustainably managed sources and preferably have an independent certification (e.g., certified wood) and are certified by an independent third party.
- **Resource efficient manufacturing process:** Products manufactured with resource-efficient processes including reducing energy consumption, minimizing waste (recycled, recyclable and or source reduced product packaging), and reducing greenhouse gases.
- **Locally available:** Building materials, components, and systems found locally or regionally saving energy and resources in transportation to the project site.
- **Salvaged, refurbished, or remanufactured:** Includes saving a material from disposal and renovating, repairing, restoring, or generally improving the appearance, performance, quality, functionality, or value of a product.
- **Reusable or recyclable:** Select materials that can be easily dismantled and reused or recycled at the end of their useful life.
- **Recycled or recyclable product packaging:** Products enclosed in recycled content or recyclable packaging.
- **Durable:** Materials that are longer lasting or are comparable to conventional products with long life expectancies.

5.17 Sustainable Building Materials

CRITERIA ON PRODUCTS SELECTION

Indoor Air Quality (IAQ) is enhanced by utilizing materials that meet the following criteria:

- **Low or non-toxic:** Materials that emit few or no carcinogens, reproductive toxicants, or irritants as demonstrated by the manufacturer through appropriate testing.
- **Minimal chemical emissions:** Products that have minimal emissions of Volatile Organic Compounds (VOCs). Products that also maximize resource and energy efficiency while reducing chemical emissions.
- **Low-VOC assembly:** Materials installed with minimal VOC-producing compounds, or no-VOC mechanical attachment methods and minimal hazards.
- **Moisture resistant:** Products and systems that resist moisture or inhibit the growth of biological contaminants in buildings.
- **Healthfully maintained:** Materials, components, and systems that require only simple, non-toxic, or low-VOC methods of cleaning.
- **Systems or equipment:** Products that promote healthy IAQ by identifying indoor air pollutants or enhancing the air quality.

5.18 Sustainable Building Materials

CRITERIA ON PRODUCTS SELECTION

Energy Efficiency can be maximized by utilizing materials and systems that meet the following criteria:

- Materials, components, and systems that help reduce energy consumption in buildings and facilities. (See [Green Building Basics](#) for more information.)

Water Conservation can be obtained by utilizing materials and systems that meet the following criteria:

- Products and systems that help reduce water consumption in buildings and conserve water in landscaped areas. (See [Green Building Basics](#) for more information.)

Affordability can be considered when building product life-cycle costs are comparable to conventional materials or as a whole, are within a project-defined percentage of the overall budget. (See [Environmental and Economic Assessment Tools](#) for links to resources.)

5.19 Sustainable Building Materials

RECLAIMED BUILDING MATERIALS

Building construction uses large quantities of natural resources, 60 percent of the raw materials, other than food and fuel, used in the entire U.S. economy. And the nearly 170 million tons of annual building construction, renovation, and demolition derived wastes (commonly referred to as C&D materials) account for nearly 60% of the nation's non-industrial, non-hazardous solid waste generation.

Salvaging building materials and reusing them saves energy and reduces greenhouse gas emissions by minimizing the need to extract and process raw materials and ship new material long distances; it also reduces the economic and environmental impact from waste disposal (for example, greenhouse gases generated from waste decomposition, the need to build new landfills or the emission of air pollutants from waste incineration). Also, some salvaged building materials are rare and sought-after, such as marble mantles, antique fixtures, old growth hardwoods, wide-plank lumber and knot-free, fine-grain wood.

5.20 Sustainable Building Materials

CASE STUDY - THE EPA BUILDINGS

The Environmental Protection Agency (EPA) buildings located in Arlington, Virginia are great examples of construction with sustainable building materials. An estimated 71% (about 2,000 tons) of the C&D materials generated during the construction was diverted from landfills.



5.21 Sustainable Energy Systems

In California, its generation system generates more than 200,000 gigawatt-hours each year. In 2011, the state produced 70% of its own electricity and the rest was from Pacific Northwest, and U.S Southwest. Unfortunately, the electricity is mainly produced from natural gas at 45% (Energy Almanac, 2015). However, California is trying to increase the electricity generated from renewable energy up to 33%. Reconstructing the new and old buildings into sustainable energy use in North Bayshore will contribute to this effort of reducing greenhouse emission.

5.22 Sustainable Energy Systems

Zero-Net Energy Buildings: Zero-Net Energy building is another interesting modernization of sustainability (Singh, 2012). These buildings reduce greenhouse gas and generate energy on-site. It is a passive solar design, specifically uses geothermal heat pumps that helps stable the temperatures inside the building. These are also called “passive houses” because it does not need active heating or cooling systems (Wheeler, 186). Buildings have a significant impact on using energy and to the environment. Zero-Energy buildings gives us a percent on energy savings goal and sustainability. However, these goals are critical to the design process because it is important in achieving high quality buildings. It is also important to understand its efficiency measures and the supply options. The common technologies that are available today are photovoltaics, solar hot water, wind, hydroelectric, and biofuels.

- Here are some of the examples for Zero-net energy or low-energy buildings technologies that can be built in the North Bayshore.

We can reduce the site energy use by low-energy building technologies

→ Daylighting, high-efficiency natural ventilation, evaporative cooling

Using renewable energy sources on-site

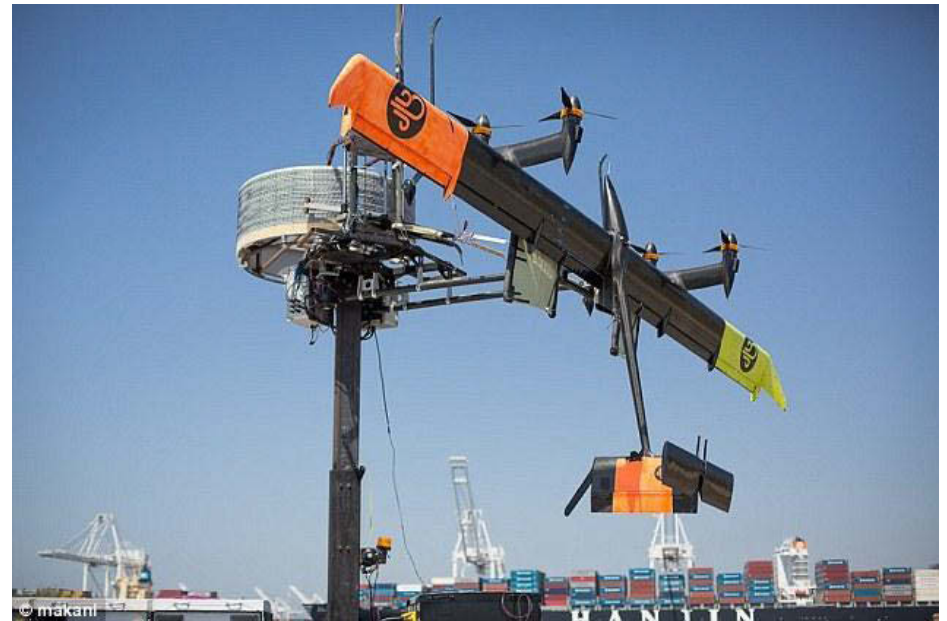
→ Photovoltaic (PV), solar hot water, low-impact hydro, biomass, Solar panels, Wind located onsite,

However, wind resources may be limited because of “structural, noise, and wind pattern considerations, and are not typically installed on buildings” (Tocellini, Pless, and Deru, 2006).

5.23 Sustainable Energy Systems

Airborne wind turbine technology: Energy Kite

These Airborne turbines are like tethered drones with eight propellers—fly in circles almost 1,500 feet in the air. At that altitude the propellers channel enough wind energy into on board turbines to send 600kW back down to earth (Inhabitat, 2014). Google has been working on this project and will launch these giants kites to harvest wind energy next month. This alternative technology will definitely become the energy future of the Mountain View because Google headquarters is mainly located there.



5.24 Sustainable Energy Systems

Rooftop Photovoltaic (PV) panels

These are the most common means to generate electricity. This technology is an electricity generating solar panels on the rooftop of residential housings or commercial buildings. In this case, reconstructing new and old buildings in the North Bayshore that have PV will help the cost saving for energy. For designing buildings in the North Bayshore, “potential architects can try to create large, uncluttered flat, south-facing roof spaces” (Wheeler, 187). Furthermore, “Thin film PV technology may also allow building walls to be covered with an energy –producing layer. Municipalities can help ensure every structure can make use of photovoltaics through solar access ordinances, which keep surrounding property owners from building in such a way that would block sunlight from reaching a building.



5.25 Sustainable Energy Systems

Energy positive portable classroom

This building technology can also provide cost saving energy in the North Bayshore if we were to build new school and childcare buildings in area. This technology is basically a portable classroom that lessens energy use through having daylight and natural ventilation. They already have a prototype of these classrooms in Hawaii and they are trying to expand it to more schools. This technology building is designed to collect natural energy such as electrical energy, daylight, wind energy and rainwater.



5.26 Sustainable Energy Systems

Solar water heaters

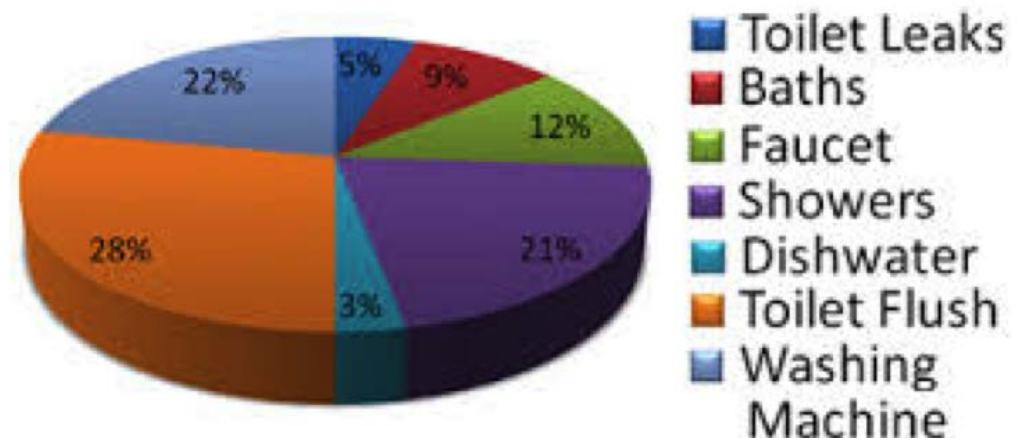
Solar water heating systems is a relatively low-cost way to reduce the use of electricity or gas for hot water. This reduces the use of gas or electricity to heat up water. Because of its cost-effective technology, it became the most common type of installations in residential buildings' roofs (Wheeler, 187). However, the use it successfully in the future buildings in the North Bayshore, we need an assessment on good sun exposure. Also, the plumbing systems between solar panels and solar tank to bathrooms and kitchen should be short as possible to be effective.

5.27 Sustainable Energy Systems

Water Use

It takes a lot of energy use to deliver and treat water that we use everyday such as heating water for bathing, shaving, cooking, and cleaning. Since climate change is an increasing concern, everyone is trying to look for ways to conserve water, energy resources, and also cutting the cost.

How Americans use water indoors

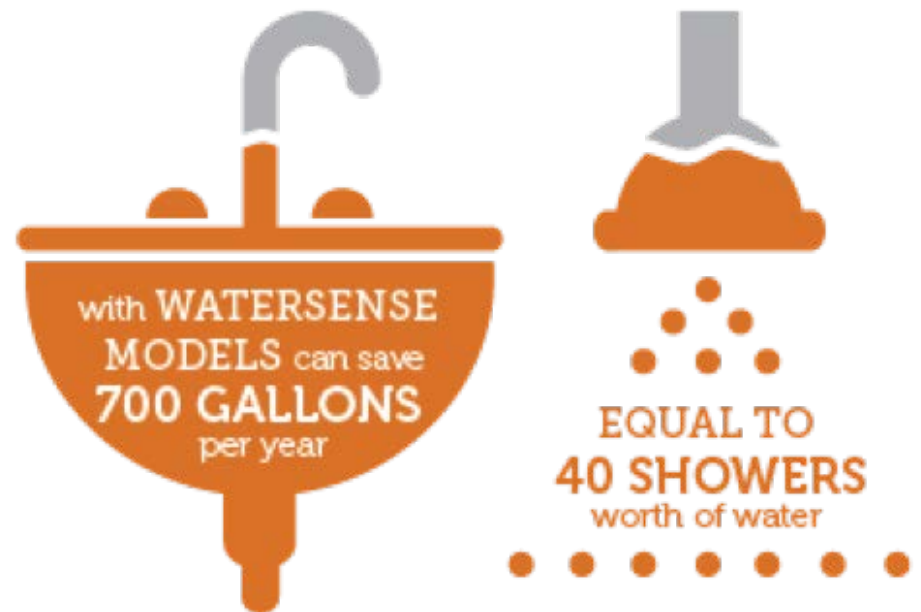


5.28 Sustainable Energy Systems

WaterSense labeled toilets

Water efficiency in simple steps we can take around the house is also very important. An average family spends \$1,100 a year on water use alone. By installing WaterSense labeled toilets can reduce it by \$350 on water use (United States Environmental Protection Agency, 2015).

REPLACING FAUCETS AND AERATORS



5.29 Sustainable Energy Systems

Vegetated Roofs

“The soil, the plants, the fabrics, the filters, the drainage system or the possible reinforcement of the roof (to support the weight of green roof) have a significant cost” (House-energy, 2013). There are also a lot of aspects that needs to be considered on this idea such as “the weight of the materials used on the rooftop and its impact on the roof beams and building structures, the maintenance and the survival of the plants (high winds, and extreme temperatures), water leaks, waterproofing problems, drainage and maintenance costs” (House-energy, 2013)

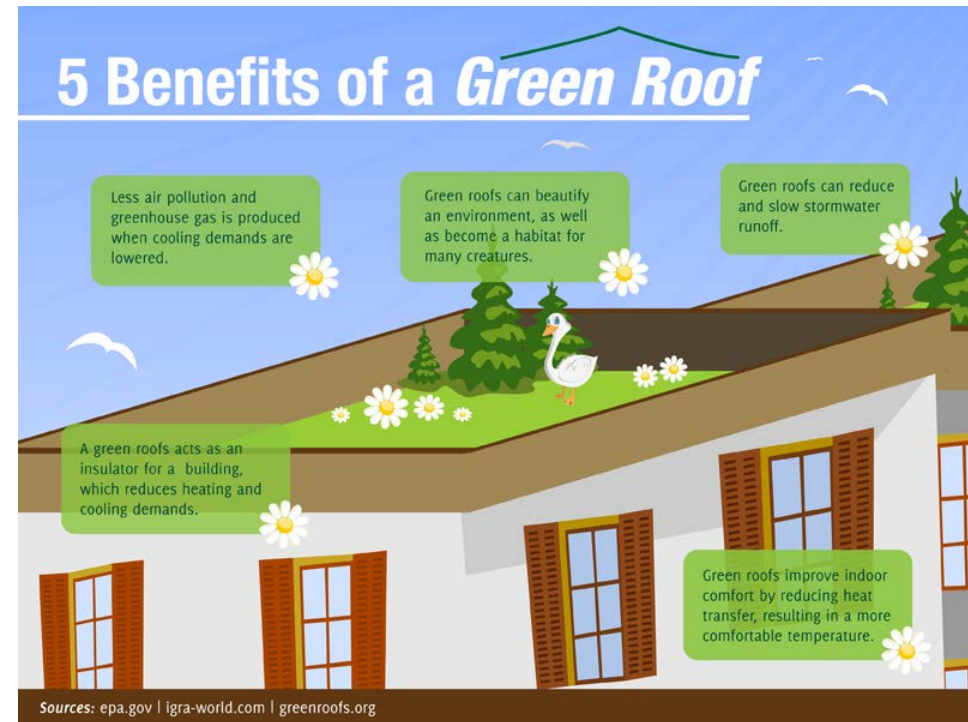


image source: www.ineffableisland.com

5.30 Sustainable Energy Systems

Gray water

Graywater is untreated water to use for lavatory wash basin, laundry, and bathing. This water is often filtered to remove solid materials but untreated with sanitizing chemicals like chlorine. Unfortunately, there is a negative side on using graywater because it present an attractive living environment for bacteria and pathogens. Graywater must be used within 24 hours of collection. In this case, the building that be built in the North Bayshore can increase its use of graywater system through capturing the water from separate drain lines for appliances generating graywater.

5.31 Sustainable Energy Systems

Flood water/Rain water capture and reuse

There can a flood water capture that can be developed in some areas in Mountain View. We can install empty water towers along with flood prone areas and a system of pump station to can pump the flood waters into the water towers. The water can be held there and reuse for irrigation and street clean up, and other construction projects.

Roof top rain water is collected using a PVC pipe

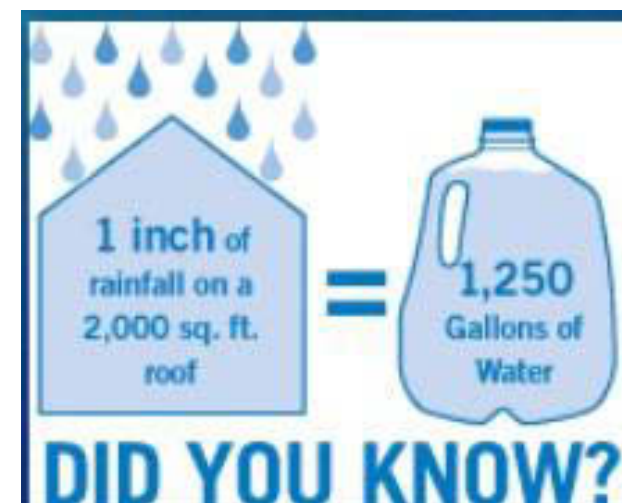
Filtered using sand and bricks

Underground pipe takes water to sump for immediate usage

Excess water from the sump is taken to the well

Water from the well recharges the udergorund

Take water from the well



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CHAPTER 6

URBAN DESIGN

This is the collective work of Jillian Castaneda, Christy Del Rio, Ashley McKeon and Haley Meisenholder.

In response to the North Bayshore Precise Plan, we propose high-density housing and additional office space to support a growing community.

This commercial corridor will allow a new community to grow, allowing new collectives to form, new spatial relationships to be had and for both businesses and community members to mingle, allowing each to flourish. The introduction of housing will help lessen the jobs:housing imbalance and allow for more people to interact with their local environment, supporting local businesses . The current zoning restrictions are restrictions to successful city making. The cities people enjoy are those that were built before our modern zoning styles existed, they were built in the era where nuisance laws were enough to restrict certain, harmful building types in communities. By revisiting that idea and implementing it, rents will be cheaper, people will be more likely to utilize the space and the future of North Bayshore will be more likely to grow.

Our four main goals through the introduction of housing to North Bayshore are:

- 1) Retaining business in North Bayshore and providing ____ square feet of office space to allow for businesses to stay within the community and continue to grow.
- 2) Address the Jobs:Housing Imbalance by introducing over 4,000 housing units to North Bayshore.
- 3) Generate maximum impact fees for community development (as described by previous chapters).
- 4) Utilize transferable development rights to reduce overall built footprint and restore wildlife habitat within the floodplain area.

7.1 Retain and Grow

Abandon the Old

While the zoning codes in the North Bayshore Precise Plan provide more leeway and are more open for interpretation and easier development, departing from standardized zoning will allow for easier development and give more life to the street. Removing the red-tape and letting the community be shaped in an organic way will create easier mixed-use, allow for residential buildings to be immediately linked to the neighborhood, and allow for a new community to be built now and changed more easily in the future. Leaving behind euclidian zoning and journeying back to nuisance laws, which restrict use only when they are verifiably negative and unwanted for and by the community, will allow the community to more easily transform, gaining new spaces and changing for the better as the community expands and creates an identity for itself. Through a reinvention of zoning in the area, we hope to see more mixed-use develop immediately, allowing for spaces both large and small to be given to the community and used in a way that is constructive and for the betterment of the overall community.

The current zoning restrictions are restrictions to successful city making. The cities people enjoy are those that were built before our modern zoning styles existed, they were built in the era where nuisance laws were enough to restrict certain, harmful building types in communities. By revisiting that idea and implementing it, rents will be cheaper, people will be more likely to utilize the space and the future of North Bayshore will be more likely to grow.



7.2 Starting Fresh

New Community, New Opportunity

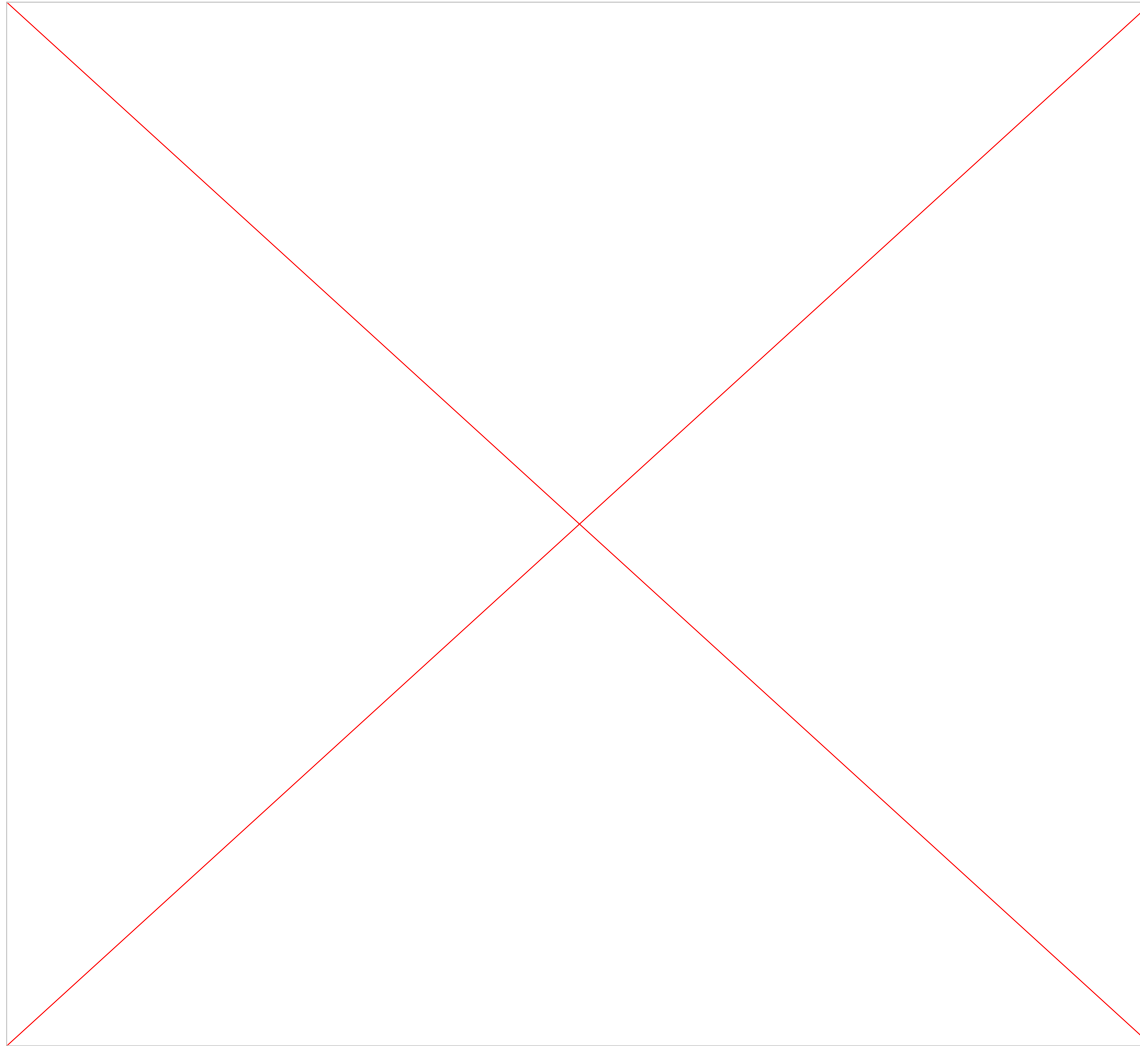
Through the proposal of housing, a larger variety of office space, and the introduction of retail and restaurants to North Bayshore, we expect a vibrant community to grow and flourish. With few businesses to and a lack of housing to support the local economy, we believe the area will best be used through the incorporation of housing, new businesses (commercial, tech., retail, etc.), cultural centers and through the creation of an entertainment hub within the area. This hub will allow Mountain View residents to wind down, contribute directly to the local economy and allow people to mingle. The creation of an entertainment corridor, with bars, music venues, coffee shops and other amenities, will allow for a community to shape itself and to grow. This entertainment hub would be accessible by all modes of transportation.

Other amenities we are proposing for North Bayshore include child care centers, allowing for local parents to re-enter the workforce with ease, an elementary school to provide easy access to people within the community and in surrounding neighborhoods. With such high housing-density proposed in the area, it is important for us to provide the necessary amenities to see this area thrive and grow. The inclusion of community and art centers within the area will cater to the artistic community, allowing for people to use innovative technology and traditional art to create new mediums. Providing subsidized spaces for artists and community leaders to work together and present new ideas to the public. Art created in these spaces can be utilized in the public, creating a changing public space and showcasing local artists works. This not only vitalizes the area but brings both residents and visitors closer to the artist and the arts culture.

7.2 Starting Fresh

New Community, New Opportunity

Proposed Locations for New Infrastructure in North Bayshore



1. Turing Square and Amphitheatre
 2. Arts and Culture Center
 3. Transit Hub
 4. Elementary School
 5. Preschool
 6. Hospital
 7. Multi-Purpose Area
 8. Infant & Toddler Center
 9. Senior Center
 10. Low-Rise mixed residential buildings
 11. Mid-Rise mixed residential buildings
 12. High-Rise mixed residential buildings
 13. Senior Counseling and Activity Center
- Farmer's Market Locations

7.3 Three E's

Three E's

Urban design would like to focus on the three E's while we redesign North Bayshore in Mountain View to make for a more sustainable lively community. The three E's according to Wheeler in his book *Planning for Sustainability* consist of the environment, economy and equity all tied together opposed to only focusing on one or two E's as previous designers have done. By tying these all together we can maximize our capital, generate a steady economy while implementing the most environmentally sustainable alternatives to create a diverse city. We have previously mentioned eliminating zoning to allow the city to grow and use their land in their own way setting the standards of their economy. The equity is decided on a mixed-use idea of incorporating both affordable and higher income housing along with other amenities and business built around the city. We want to focus on a number of changes as we adjust the current layout of North Bayshore to effectively incorporate the environmental E.

- ❖ increase walkability
- ❖ implement bike paths
- ❖ incorporate right of ways
- ❖ create open spaces
- ❖ focus on community
- ❖ add community centers
- ❖ introduce farmers markets
- ❖ promote sustainability

Introducing each of these elements can really transform this city into a highly dense community. Our goals of implementing right of ways will promote pedestrians and bicyclist focused streets opposed to vehicle intensive streets. This will increase the liveliness of the streets gathering more people to participate in community activities such as: farmers markets or outdoors sustainable conventions. To really push the E of the environment we want to really brand sustainability, making it something the whole city participates in and continuously finds ways to improve their surrounding environment. As the city becomes more dense with different cultures we want sustainability to be the commonality amongst all cultures. The *branding* of sustainability can really tie into increasing both the equity and the economy of the new North Bayshore.

7.4 Building Massing



7.4 Building Massing cont.



7.4 B: Building Types

HIGH RISE (No Ht. Limit)

- Office Space:
 - total:
- Housing:
 - total:

MID RISE (13 floors)

- 1st floor Retail/Comm: 6520 sf
- Housing: 59,400 sf



LOW RISE (5 floors)

- 1st floor Retail/Comm: 6520 sf
- Housing: 5700 sf
 - total:



7.5 Transfer of Development Rights

Solution for the Future

Three issues come in to play with regard to the implementation of transfer of development rights in North Bayshore.

Firstly, the geography of the area is unique in that it is adjacent to a number of wetlands as well as the Bay itself. It is also home to a number of rare wildlife species. That being the case, it is important to keep this in mind and protect and maintain the ecosystem that exists.

Secondly, sea level rise in the area is going to be an issue in the years to come. Scientists expect that California is very likely to experience a sea level rise of 16 inches by 2050 and 55 inches (4.6 ft) by the year 2100.¹ Since North Bayshore lies so close to the Bay, many buildings will potentially be under water in 100 years. This is something that needs to be taken into account when planning for the future of Mountain View.

Lastly, one of the issues that has been facing Mountain View and North Bayshore for some time is it's extremely unequal jobs-to-housing ratio. Currently North bayshore only has 358 housing units, all of which are located in a mobile home park east of Shoreline Boulevard. This miniscule amount of housing is unacceptable given the fact that North Bayshore brings over 17,000 workers to the area for work every weekday and new plans in the pipeline will potentially add another 10,000 commuters.² We are looking to add medium to high density housing to accommodate many, if not all, the employees that work in the area.

A solution to all three of these issues comes in the form of transfer of development rights. Under this model, we propose that both the receiving and sending areas for TDR be expanded to include more sending areas in the event of sea level change and also allow for higher density development in not only the Core but Gateway Character Area as well.

7.5 Transfer of Development Rights

Sea Level Rise

We believe that the inevitability of global climate change needs to be taken seriously as an issue of sustainability. The design of North Bayshore should take this into account when planning for the future of the city.

This image from the National Oceanic and Atmospheric Association¹ shows what effect a sea level rise of 6 feet would have on the topography of North Bayshore. Climate experts believe that this amount of sea level rise could occur within the next 100 years².

Since this is the current state of the geographic location of North Bayshore, we believe that it would be beneficial to create a larger “Sending Area” than the one proposed in the North Bayshore Precise Plan. Also, we believe that the Gateway District should be included in the “Receiving Area” to help densify the areas where sea level rises will not be as threatening.

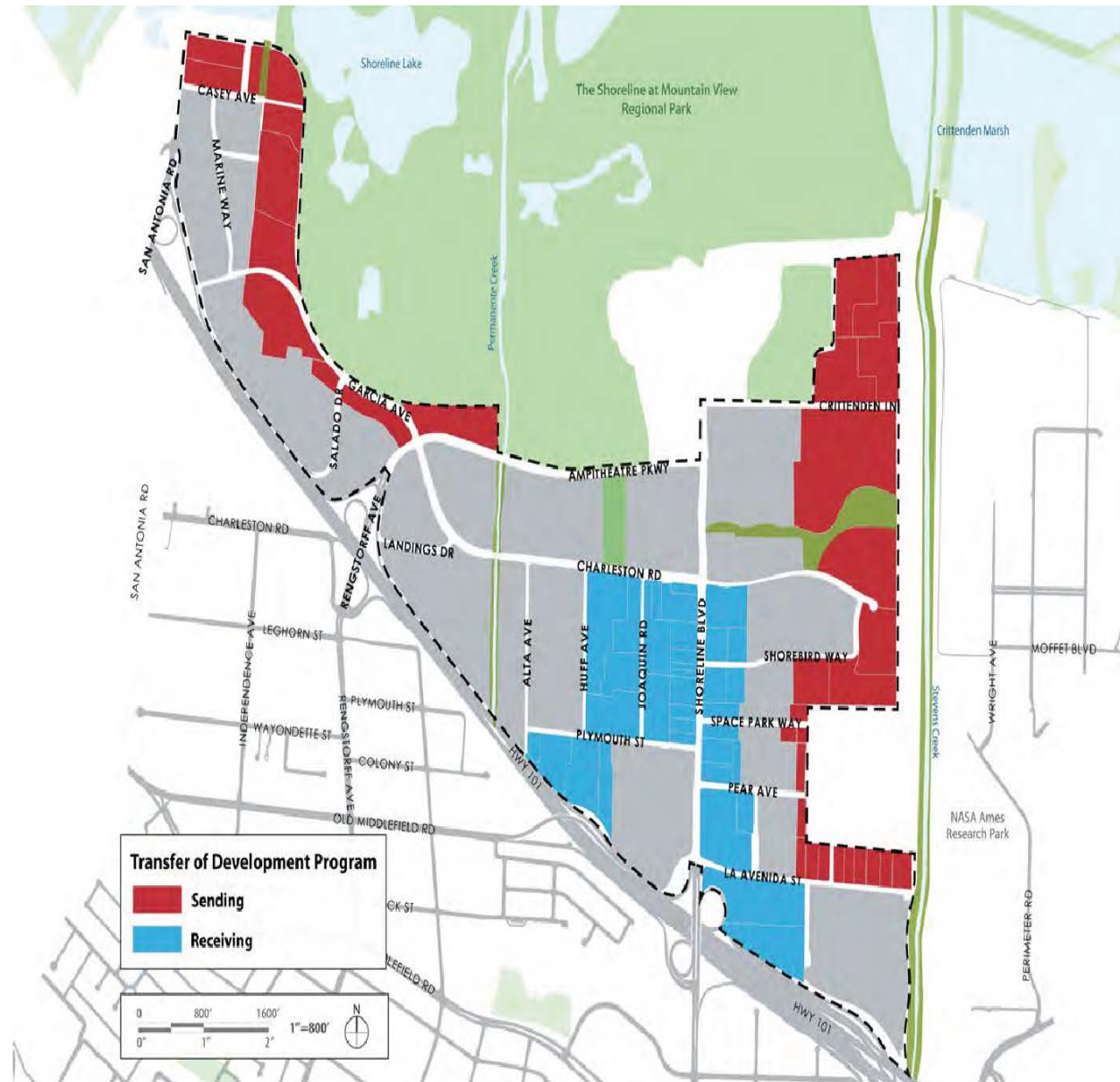


1. Image Source: National Oceanic and Atmospheric Association

2. Source: Yale University http://e360.yale.edu/feature/rising_waters_how_fast_and_how_far_will_sea_levels_rise/2702/

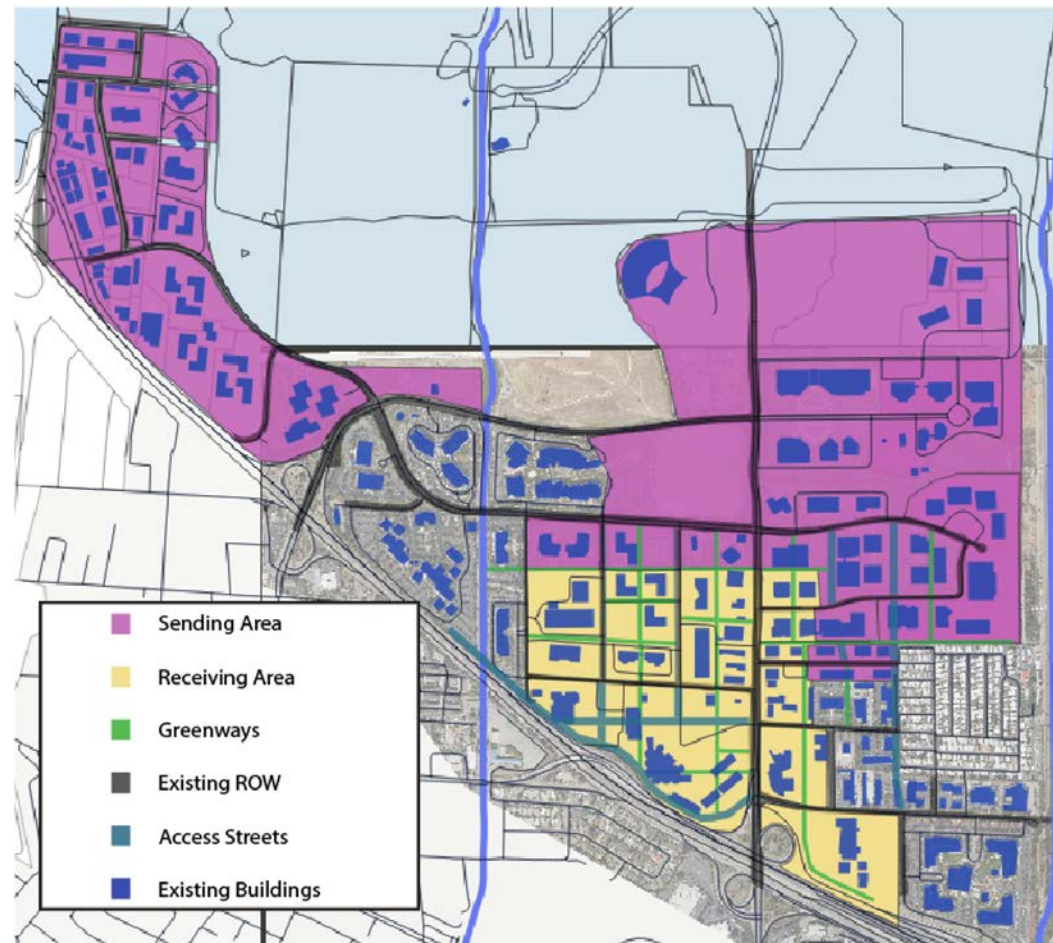
7.5 B: Transfer of Development Rights

This map shows the current designated “sending” and “receiving” areas for the transfer of development rights. Due to the climate studies referenced above and the North Bayshore’s unique geographic location along the Bay, we believe that these areas should be modified to help prepare the city for future sea level rise.



7.5 C: Transfer of Development Rights

This map shows our team's rendering of what areas we believe should be specified as "sending" and "receiving" areas. The purple is designated as "sending" and the yellow, which now includes the Gateway District as well, is designated as the "receiving" area.



7.6 Community Benefits Agreement

Community benefits are private contracts with development investors that allow cities to maximize on returns through specific amenities or mitigations. These CBA contracts are more beneficial than traditional land use approval process because they allow for open communication between the community and the developers to achieve the most feasible institutions. Community benefits will fulfill what the public sector does not cover.

- ❖ low income housing
- ❖ mixed use buildings
- ❖ high density housing
- ❖ non-profits
- ❖ amphitheaters
- ❖ community center
- ❖ health care
- ❖ child care
- ❖ clinic
- ❖ employment training

Funding Community Benefits

Funding for community benefits will come straight from Impact fees with the addition of Transfer development rights (TDR's) fees after all land set aside for TDR's are accounted for. \$100,000 of the community benefit fund (CBF) will be used as an endowment to accrue interest.

Mountain view has set standards for impact fees as follows:

- Market-rate housing is sold, 3% of contract price funding Below Market Rate housing program
- Rental unit developments are \$17/sf
- Office/hi tech/industrial is \$25/sf.



Office proposals for North Bayshore An aerial view of the North Bayshore district illustrates how in-demand the area is among tech firms and developers. There's even a plan for an Aloft hotel, not shown, from Shashi Group at 1625 North Shoreline Blvd.

1: Google Development request: 3.4 million square feet (total, four sites) Community benefit value: \$200 million

2: LinkedIn Development request: 1.6 million square feet (total) Community benefit value: \$43 million

3: The Sobrato Organization Development request: 546,000 square feet (total) Community benefit value: \$25 million

4: Broadreach Capital Partners Development request: 224,500 square feet (total) Community benefit value: \$10.2 million

5: Rees Properties Development request: 190,876 square feet (total) Community benefit value: \$8.8 million

6: Peery-Arrillaga Development request: 1 million square feet (total, two sites) Community benefit value: Not disclosed

7: Microsoft Development request: 125,000 square feet (net new) Community benefit value: Not required Donato- Weinstein, Nathan, 2006. The Battle for north Bayshore. March 6.

CHAPTER 7

STREETSCAPES

This is the collective work of Joshua Handel, Natasha Opfell, and Sowfey Saephanh

By creating streetscapes in which people want to walk, bike, and linger, we will reduce CO2 emissions, increase public health, and produce a thriving small business environment.

Remaking the streetscapes in North Bayshore presents us an exciting opportunity to make real progress toward these goals. The primary impediments to pleasant walking, bicycling, and lingering about are the safety and comfort of these basic human activities.

Of the highest regard in our street designs is the philosophy of the Vision Zero Initiative, which asserts that there is no moral justification for traffic deaths, and that it is indeed possible to eliminate them. Six pedestrians have died as a result of traffic collisions in Mountain View since 2011, which is six too many. Through the use of a blanket 20 mph speed limit in the North Bayshore neighborhood, raised speed-table crosswalks, and curb-separated cycletracks, we can prevent tragedies like those we've experienced recently from happening again.

Because traffic deaths are sudden, it's easy for us to see the necessity for change. Public health crises, by contrast, are crises of lifestyle and take decades to manifest themselves. The number one cause of death for Americans is heart disease, and excess weight and a sedentary lifestyle are primary risk factors. Our streetscapes will embrace active transportation as the preferred modes of travel. Positioning active transport as the preferred mode of travel also benefits the community and the world in several other social imperatives: addressing climate change, improving the bottom line of small business, and promoting equity for the disadvantaged.



Oakland. (Source: Streetsblog)

8.1 Street Space. Why, for whom, and how much.

Protected Bike Lanes, Role of the Bicycle, Loading Zones

The bicycle is the most efficient form of transportation known to man, in terms of the calories of energy expended per passenger mile; it is three times as efficient as walking, roughly 25 times as efficient as bus or rail transit, and roughly 50 times as efficient as the private automobile(1). As such, we will design streets with the goal of making the bicycle's modal share as high as possible. Studies from Europe, and recently from Portland State University here in the United States, show that the highest percentage of people feel safe riding a bicycle when the cycling facility is separated by a physical barrier from automobile traffic(2). Streets with protected cycling infrastructure see fewer injuries for everyone who uses the street, not just bicyclists; in New York City, this number has typically been a 40% reduction(3). Protected cycletracks have seen criticism in Seattle, where garage entrances were obscured by parked cars, and cyclists traveled at high rates of speed on hilly streets. The North Bayshore neighborhood is almost entirely flat, so we can assume that most cyclists will be traveling between 11 and 12 mph(4). To prevent garage entrances from being obscured by loading vehicles (and thus obscuring bicyclists in the cycletrack and pedestrians on the sidewalk), commercial loading and unloading will take place in designated yellow zones a minimum of 50 feet from any garage entrance on the same side of the street. Perhaps the most compelling argument for the use of protected bike lanes, however, is their ability to increase social equity. and access to this affordable, healthy form of transportation for historically marginalized groups. Blacks, Hispanics, and women are significantly more likely than Whites and men to say that they would ride a bicycle more often if motor vehicles and bicycles were physically separated by a barrier(5),(6).

1. Lowe, Marcia D. 1989. "The Bicycle: Vehicle for a Small Planet." Worldwatch Paper 90, Worldwatch Institute.
2. Monsere, Christopher; Dill, Jennifer; McNeil, Nathan; Clifton, Kelly J.; Foster, Nick; Goddard, Tara; Berkow, Mathew; Gilpin, Joe; Voros, Kim; van Hengel, Drusilla; and Parks, Jamie, 2014. "Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S." *Civil and Environmental Engineering Faculty Publications and Presentations*. Paper 144.
3. Wolfson, Howard. 2011. "Memorandum on Bike Lanes." The City of New York, Office of the Mayor.
4. Hunter, William, Srinivasan, Raghavan, and Martell, Carol, 2009. "An Examination of Bicycle Counts and Speeds Associated with the Installation of Bike Lanes in St. Petersburg, Florida." University of North Carolina, Highway Safety Research Center.
5. Breakaway Research Group, 2015. "U.S. Bicycling Participation Benchmarking Study Report." Survey conducted for People For Bikes.
6. Lusk, Anne, et al. 2014. "Gender and used/preferred differences of bicycle routes, parking, intersection signals, and bicycle type." *Journal of Transport & Health*.

Portland. (source: Portland State University's Transportation Institute for Vibrant Communities)

Impact of Protected Cycletracks on Businesses

Curb-protected cycletracks installed in dense urban environments have been shown to markedly improve business performance and reduce commercial vacancies(7). Though bicyclists may spend less money per trip, they patronize local businesses more often than drivers and actually spend more over the course of a month than both drivers and pedestrians(8), (9). Local businesses on New York's 9th Avenue saw a 47% increase in retail sales after the installation of a wide, attractive protected cycletrack, as compared to a 3% increase citywide during the same period(10).

7. Flusche, Darren. 2012. "Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure." Advocacy Advance in partnership with the League of American Bicyclists.

8. Sztabinski, Fred, 2009. "Bike Lanes, On-Street Parking and Business A Study of Bloor Street in Toronto's Annex Neighbourhood." The Clean Air Partnership, Toronto, Canada.

9. Clifton, Kelly J. et al, 2012. "Consumer Behavior and Travel Mode Choices." Oregon Transportation Research and Education Consortium, Portland, OR.

10. Trottenberg, Polly. 2014. "Protected Bicycle Lanes in NYC." New York City Department of Transportation. New York, NY.



9th Avenue in New York. (source: Cirrus via Skyscraperpage.com)

Sidewalks Width, Pedestrian Crossings



A speed table in the U.K. (source: bikexpirt.com)

The usable area of a sidewalk is defined by “shy distance,” the 18 inches directly adjacent to buildings and motor traffic that pedestrians nearly always avoid for reasons of comfort, as well as obstructions such as street furniture(11). All of the sidewalks in the neighborhood are separated from motor traffic by both cycletracks and plantings, so they can be said to have no shy distance on the side of the roadway. The six-foot wide sidewalks on Greenways, though they can be expected to have a high volume of pedestrian traffic, are adequate because they lack shy distance, being adjacent to either a bikeway or planting strip. Intersections will all be marked with continental crosswalks backed with traditional black/grey asphalt, as this design has been shown to markedly improve the safety of pedestrians versus the more widely-used “standard” two-line crosswalk (12). Speed tables will be used at intersections, as they have been shown to markedly reduce motorist speeding when traffic is low (13). All sidewalks will be easily accessible to users in wheelchairs and assistive-mobility devices via ADA-compliant curb ramps. The FHWA recommends a minimum width of five feet for wheelchair users to turn in a complete circle, which all of our sidewalks will exceed.



A continental Crosswalk in Los Angeles (source: Streetsblog)

Speed Limit

The neighborhood will have a blanket speed limit of 20 miles per hour; speeds higher than 20 miles per hour are incompatible with dense urban space. Humans are fallible, and so human error must be factored in design. When a person is hit by a vehicle traveling at 20 miles per hour, they have a roughly 95% chance of survival. When a person is hit by a vehicle traveling at 30 mph, their chances for survival drop to roughly 55%. At 40mph, the chance for survival is a grim 15%(14).

11. Kim, Yongseok, Kim, Sanyoup, and Choi, Jaisung. 2010. “Determining the Sidewalk Placement Width by Using Pedestrian Discomfort Levels and Movement Characteristics.” KSCE Journal of Civil Engineering.

12. Ewing, Reid, and Dumbaugh, Eric. 2009. “The Built Environment and Traffic Safety: A Review of Empirical Evidence.” Journal of Planning Literature.

13. Bretheron, Martin W., “Do Speed Tables Improve Safety?” Gwinnett County DOT, Lawrenceville, Georgia.

14. Richards, D.C., 2010. “Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants.” Department for Transport: London, Transport Research Library.

Roadway Capacity, Transit-Only Lanes

Planning for excessive roadway capacity is analogous to bailing water from a sinking ship, instead of trying to plug the leak. The correct approach to traffic congestion is not to accommodate more vehicles, but to use the existing space more efficiently (by prioritizing efficient modes). The current Shoreline Boulevard Corridor Study (figure below) shows that of the four roadways that provide access to North Bayshore, only Shoreline Boulevard (106% of capacity) is currently over capacity; San Antonio Road (67%), Bayshore Road (33%), and Rengstorff Avenue (43%) are all underutilized, likely because Highway 101 itself is already operating near capacity during commute times. Owing to this, a shift from two general traffic lanes in each direction on Shoreline and San Antonio to one general traffic lane and one transit-only lane in each direction is not only justified, but feasible. Such a reduction will allow roughly 17,300 private vehicles to enter the neighborhood between 7-10am, which is a relatively modest reduction from the city's proposed trip cap of 18,900 vehicles.



Future BRT on Geary Boulevard in San Francisco. (Source: Streetsblog)

Gateway	Designated Capacity (veh/hr)	A.M. Peak (7-10 a.m.)				P.M. Peak (4-7 p.m.)			
		In	% capacity	Out	% capacity	In	% capacity	Out	% capacity
San Antonio Road	1,000	1,847	67%	357	22%	919	35%	2,078	80%
Rengstorff Avenue	2,700	4,626	43%	608	11%	797	17%	3,955	38%
Shoreline Boulevard	1,800	6,415	106%	1,018	21%	2,658	42%	4,950	89%
Bayshore Road	1,000	469	33%	152	8%	487	43%	600	44%

15. National Association of City Transportation Officials, 2013. "Urban Street Design Guide."
16. Transportation Research Board, 2000. Highway Capacity Manual, Transportation Research Board, National Research Council, Washington, D.C..
17. Sprinkle Consulting, 2007. "Conserve By Bike Program Study Final Report, FDOT," Tallahassee, FL..
18. National Association of City Transportation Officials, 2014. "Urban Bikeway Design Guide."



In nearby Sunnyvale, excessively wide traffic lanes come at the expense of pedestrian and bicyclist safety. (Source: Streetsblog)

Lane Width

General traffic lanes on Transit and Gateway Boulevards will be 10 feet wide, transit-priority lanes on Transit Boulevards will be 11 feet wide, and cycletracks will be 8 feet wide. Studies show that general traffic lanes wider than 10 feet result in a higher rate of both collisions and fatalities, likely as a result of speeding and inattentive driving(15). Over the last sixty years, lane widths have been pushed wider and wider, first from 10 feet to 11 feet, then from 11 feet to 12 feet. This change took place because wider lanes were shown to marginally increase throughput on highways(16). Today, it has been empirically shown that roadway capacity in urban areas is not diminished until lane width falls below 10 feet(17). Per the NACTO Urban Design Guide, 8 feet is a desirable width for new cycletrack construction, as it comfortably accommodates larger bicycles (trailers, panniers, child seats), passing, and social side-by-side riding(18).

Intersection Design: De-conflicting modes



Dutch Junction Design: unambiguous allocation of space.
(Source: A View From the Cycle Path)

One of the most common collisions between motor vehicles and bicycles is the “right hook” collision, where the motorist makes a right turn in the path of a bicyclist who is traveling straight through an intersection. The recently released NACTO Urban Street Design Guide invites more right hook collisions with its suggested “mixing zone” intersection design. Instead, North Bayshore will utilize Dutch-style intersections, where motorists making right turns across the path of bicyclists can clearly see the approaching cyclist, thanks to a small traffic island at each corner. The very first Dutch-style junction to be built in the United States is currently being planned in Salt Lake City, seen below.



The future of Salt Lake City. (source: CityLab)

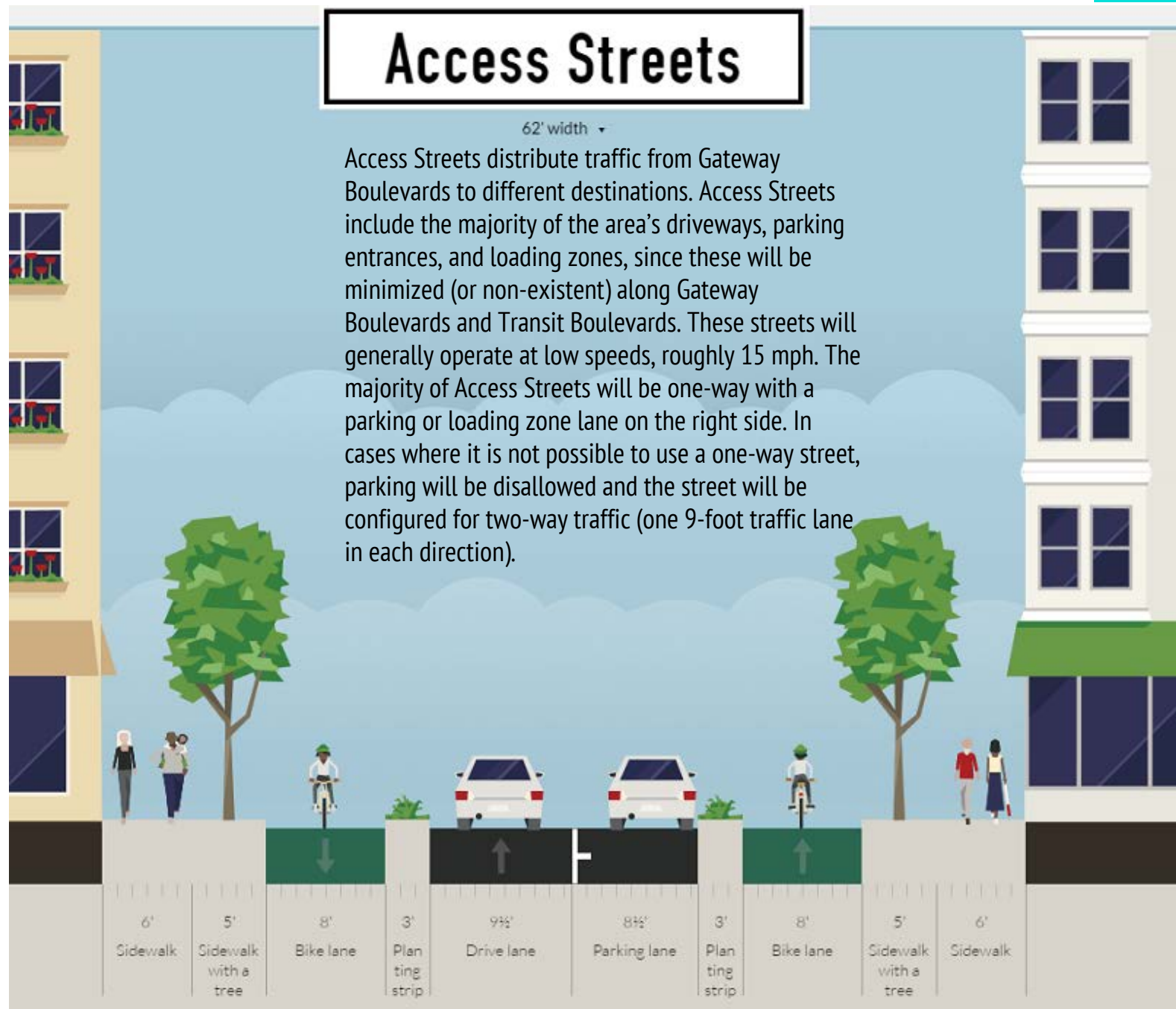
Conceptual Street Framework



Access Streets

62' width ▾

Access Streets distribute traffic from Gateway Boulevards to different destinations. Access Streets include the majority of the area's driveways, parking entrances, and loading zones, since these will be minimized (or non-existent) along Gateway Boulevards and Transit Boulevards. These streets will generally operate at low speeds, roughly 15 mph. The majority of Access Streets will be one-way with a parking or loading zone lane on the right side. In cases where it is not possible to use a one-way street, parking will be disallowed and the street will be configured for two-way traffic (one 9-foot traffic lane in each direction).



Paseos

16' width ▾

Paseos are streets that primarily serve as pedestrian and bicycle pathways, that can be designed into the construction of a parcel during the entitlement process. A 3.5 foot wide pedestrian-only space on each side is separated from the 9 foot wide mixed-use center space by decorative metal posts. They are an alternative to both Greenways and interior hallways in large buildings. The entire space is the same grade and permits all uses, motor vehicles, bicycles, and of course pedestrians. Motor vehicle use should be relatively rare, as there are no street parking spaces or garage entrances, and speeds will be moderated by the need to negotiate around pedestrians and bicyclists.



Greenways

38' width ▾ · Mar 4, 2015

Greenways are high priority pathways to serve pedestrians and bicycles. They should provide high-quality crossings where they cross major roadways, and should follow Caltrans' minimum pathway standards. Existing multi-use pathways include the Stevens Creek Trail, Permanente Creek Trail, and the San Francisco Bay Trail between San Antonio Road and the Stevens Creek Trail. Green Ways are also designed to accommodate emergency vehicles when needed.



Transit Boulevards (Shoreline, Charleston)

110' width

The Transit Boulevard typology covers portions of Shoreline Boulevard and Charleston Road, and all of Garcia Avenue and San Antonio Road. On these street segments, transit is planned to operate at high frequencies. Achieving this plan's ambitious mode split goals requires fast and reliable transit service. Therefore, transit needs are prioritized above other modes in this street type. Dedicated center-running bus lanes allow for transit to operate efficiently regardless of traffic conditions, and the physical separation of lanes allows pedestrians a greater sense of comfort when crossing. Transit amenities, such as high quality shelters, real-time transit arrival information and benches, should be provided at all stops on these streets. High priority must be given to creating excellent pedestrian conditions in the design of the streets, intersections and buildings. Good bicycle connections and bicycle parking facilities at major stops are also important to support commuters who take their bikes on transit. Driveways are disallowed along Transit Boulevards to reduce conflicts between pedestrians, cyclists, and automobiles.



The Intersection of Shoreline Boulevard and Pear Avenue, looking Southwest



The Intersection of Shoreline Boulevard and Pear Avenue, looking Southwest



Gateway Boulevards (Rengstorff/Amphitheatre)

97' width ▾

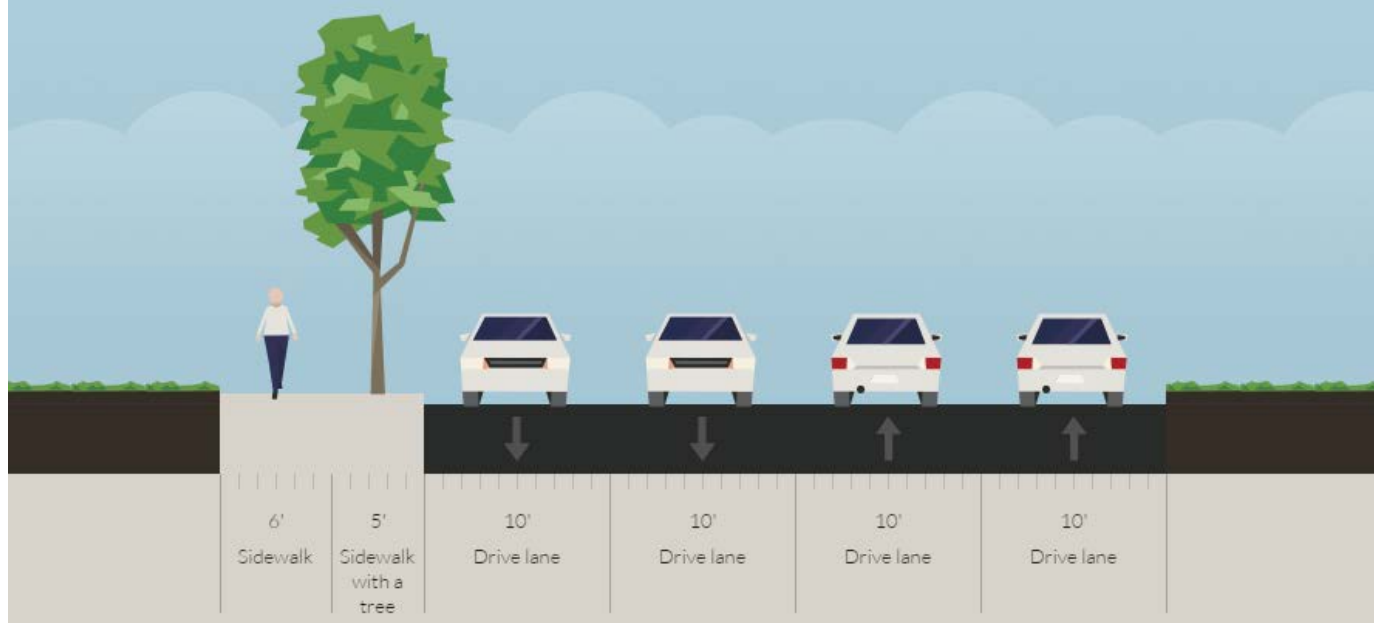
Gateway Boulevards are the main automobile entry points and traffic arteries for North Bayshore. Regional auto traffic is accommodated here before being distributed to other streets. While the defining characteristic of these streets is the high priority for through auto traffic, it is critical that these streets properly accommodate pedestrians, cyclists, and transit as well. Driveways along Gateway Boulevards shall be minimized to reduce conflicts between pedestrians, cyclists, and automobiles. Amphitheater Parkway and Rengstorff Avenue are identified as Gateway Boulevards.



La Avenida from Shoreline to Rengstorff

51' width ▾

La Avenida from Shoreline Boulevard to Rengstorff Avenue will function as an automobile-oriented frontage road to provide direct access to the densified Gateway and Core areas.



Planning for change in the allocation of street space

Access Streets (2035)

62' width ▾

As Professor Calogero noted in the introduction, energy-dense fuels may become prohibitively expensive over the next several decades. We already know that today's American youth are delaying obtaining their drivers licenses (Tefft, 2013), and that the public as a whole is driving less in recent years (Davis, 2014). Meanwhile, public transit ridership and bicycle use are both booming (Davis). As such, by the year 2035, it's possible that traffic will be sparse enough (and drivers tamed enough) to allow for the adaptive re-use of the protected bike lanes on some Access Streets as parklets, additional bike parking, street vendors, or other, more urban uses.



19. Tefft, Brian C. et al, 2013. "Timing of Driver's License Acquisition and Reasons for Delay among Young People in the United States, 2012." AAA Foundation for Traffic Safety, Washington, D.C.
 20. Davis, Benjamin et al, 2014. "TRANSPORTATION IN TRANSITION: A Look at Changing Travel Patterns in America's Biggest Cities." U.S. PIRG Education Fund.

8.2 Street Plantings and Water Conservation

With landscaping being mandated by the North Bayshore Precise Plan to make up a minimum of 25% of lot coverage, sustainable landscape practices that focus on the area's unique ecology are vital.

California is one of the most biodiverse regions in the world. The City of Mountain View lies within the California Floristic Province a large area that contains one of the greatest amounts of endemic and threatened flora in the world. The Mediterranean climate of this area and the current drought depend on the planting of native and drought tolerant plants, xeriscaping, Low Impact Development, and the use of recycled water and greywater within the North Bayshore neighborhood. Although the current Precise Plan recommends various landscaping and water recycling more stringent policies need to be put into place.



Amendments Proposed For The Precise Plan:

- ❖ Low Impact Development should be a required design goal for all public and private landscaping projects
- ❖ Total area of high water plants for new construction be reduced from current 25% ratio
- ❖ All new buildings/sites should feature required rainwater harvesting features for irrigation purposes
- ❖ Xeriscaping should be promoted over lawns for open space, when lawns are considered only low water varieties should be used.
- ❖ All public landscaping should be fitted with water usage meters

Low Impact Development (LID)

With the current extreme drought conditions across California it is important that the North Bayshore Precise plan advocate for mandatory water saving measures. Although the precise plan currently calls for many water efficient “recommendations” requiring them would instead assure that the North Bayshore Community is on the forefront of drought management and water conservation.

The Environmental Protection Agency (EPA) defines Low Impact Development (LID) as a development strategy that seeks to reduce or divert stormwater from the sewer system and direct it to areas where it can be infiltrated, reused or evapotranspirated. Soil and vegetation are used instead of, or in conjunction with, traditional drains, gutters, pipes and centralized treatment areas.

Examples of Low Impact Development Techniques:

- bioswales
- streetlevel/below ground cisterns
- green roofs
- rain gardens
- storm water planters
- bio filtration swales
- street trees
- xeriscaping
- "green redevelopment" landscaping



Case Study: 12th St. Portland, Oregon



Portland, Oregon is a city known throughout the country for its environmental policies. In 2008 the city's Bureau of Environmental Services Department releases a master plan detailing its "Gateway Green Streets"¹ program that focuses on the creation of "smart urbanism" by creating right of way stormwater management within the urban environment. The constraints of this program directly relate to some of the needs of the North Bayshore Community by making sure that the bioswale planters maintained street parking and enhancing pedestrian safety while "softening" the street and adding to the overall streetscape.

"The planters are designed to capture and infiltrate approximately 7,500 square feet of runoff from the street, driveways and sidewalk while maintaining a strong pedestrian circulation and on-street parking. The planters improve the existing urban streetscape by adding attractive greenspace and are designed to safely accommodate pedestrians, on-street parking, and vehicle access. Each facility can pond about 7 inches of stormwater runoff and retain it for onsite infiltration."²

Bioswale planters and medians should be used throughout the North Bayshore neighborhood as an low cost, low maintenance Low Impact Development and sustainable tool to ensure the greening of the area.

1. *Gateway Green Streets Master Plan*. Portland, Oregon: Bureau of Environmental Services, Feb. 2008. PDF.

2. Hohlfield, Ro, and Selina Hunstiger. *Portland's Green Streets, SW 12th Avenue*. Portland, Oregon: Bureau of Environmental Services, Autumn 2008. PDF

Photo Source: "Portland's Green Streets, SW 12th Ave Report."

Greening The Unexpected

Often times there are areas of the public space that are often overlooked because citizens are often simply passing through. One of the ways we can make sure that these areas (ex. bus stops, traffic medians, gutters, and storm drains) more ecologically sound is by taking some of the landscaping ideas of the North Bayshore Precise plan and applying them to these areas that are often left unlandscaped. When these small areas are taken into consideration for “greening” we create a patchwork of areas that can be utilized by not just humans but by animals and insects throughout the urban interface.

TRANSIT SHELTERS

Noe Camperi's Bird Bus Stops:

Noe Camperi's an Argentinian designer created this transit stop design with sustainability in mind. Using recycled plastic, metal and tires to create this shelter he also wanted to add plants to beautify and use the space to its fullest potential. With the large native bird population of the North Bayshore neighborhood this bus stop design serves not only water management ideals with its slanted design and water drainage pipes yet also allows for native plants to be put in a low maintenance environment that can provide food and habitat for numerous species.



“Bird Bus Stops” design by Noe Marcial Gonzalez Camperi, Argentina, 2009

GREENING THE UNEXPECTED: TRANSIT SHELTERS



Transit stop designs that focus on greening such as this one by WVTTK architects can also provide specific ecological benefits that can aide in public sustainability education. Imagine a shelter such as this being planted with California native plants chosen specifically for butterflies. Information placards could be placed on the shelter itself providing information to transit riders and passersby about the animals that might also be passing by.

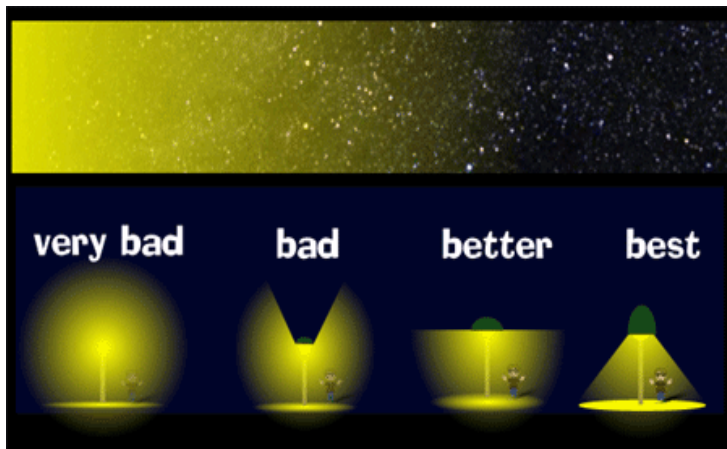
Bus stop design by WVTTK Architects, Eindhoven, The Netherlands. 2009

8.3 Street Furniture: Lighting: Why?

Besides the obvious reasons of being able to see at night. Street lighting makes a person feel more safe about walking out at night. Armed assailant of fallen tree limb: If exterior lighting is scarce, both are dangerous during nighttime hours. Poorly lit spaces after dark invite crime and increase the likelihood of accidents(1). Safety is important and lights provide visibility for a chance to avoid such accidents. It takes a lot of energy to run streetlights and there's the production of light pollution. Developing lighting strategies that minimize adverse ecological impacts while balancing the often conflicting requirements of light for human utility, comfort and safety, aesthetic concerns, energy consumption and carbon emission reduction constitute significant future challenges(2). While providing safety for people walking in the night. Having proper lighting fixtures which aim light towards the ground and away from the sky have benefits also. It reduces light pollution and allows us to see the sky and reduces light intensity that are projected towards the different species around us that are nocturnal creating a balance for all living things.



Lamppost lights up sidewalks for pedestrians as nightfalls
Source: shutterstock.com, citylab.com/ Oriontrail



Source :www.penny4nasa.org

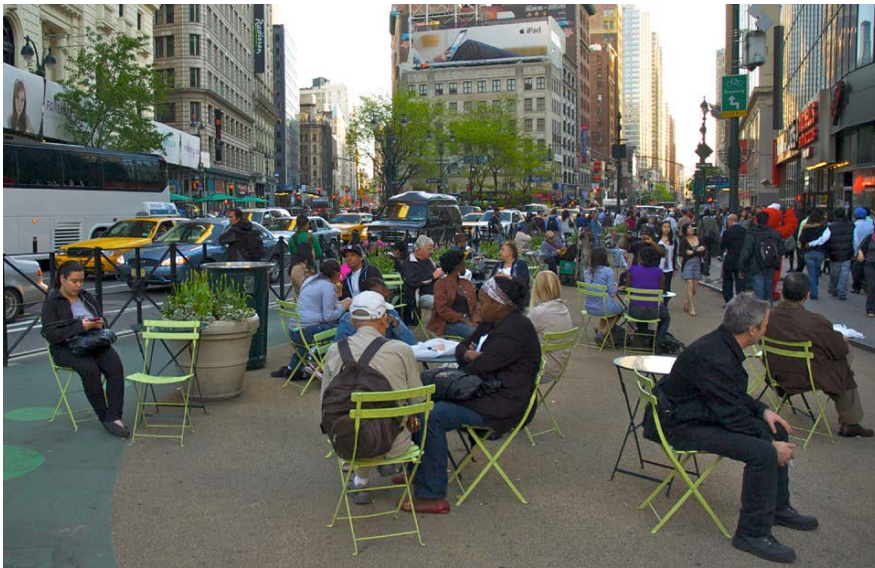
1. Madsen, Jana J. 2006. "Exterior Lighting for Safety and Security". *Buildings*, Volume 100 issue 5. PP180
2. Gaston, Kevin and Davies, Thomas and Bennie, Jonathan and Hopkins, John and Esteban Fernandez. 2012. "Reducing the Ecological Consequences of Night-time Light Pollution: Options and Developments". *Journal of Applied Ecology*. December 2012, PP. 1256-1266

4.1 Street Furniture: We need Seating

Benches in an urban setting provide a place that promotes relaxation and pleasure. Since benches allow many people to sit most people sit in the ends while the middle is unused. But the unused middles are functional for not being used(1). It provides buffer space (1). It's wasted space if its not used fully. While benches are a good place to sit and they are evenly spaced out it doesn't allow mobility to move seatings to join an area of social action interaction.



Source: CraigMeister Photography



Source: www.theagilelandscape.com

Chairs, especially if not permanently bolted down into the ground. Providing a comfortable place to sit and if it has arm rests its even better. In a social setting especially in a busy plaza or shopping center it brings forth social action when you are able to freely move these and join the action. Chairs enlarge choice: to move into the sun, out of it; to move closer to someone, further away from another(1). It gives choices and everyone loves choices.

1. Whyte, William H. 2004. "The Design of Spaces." Pp. 510-517 in *The City Reader*, edited by R.T. Legates and F. Stout. Taylor and Frances

4.1 Street Furniture: More Recycling & Garbage

We need recycling everywhere now. As the population increase we are going to naturally produce more waste. While recycling in our homes is a more common thing now. As landfill are used that we will need to turn to recycling to reuse and reduce our waste. You are starting to see that streets and public spaces implementing waste and recycling boxes that aim to provide the same thing you do at home and create a hope that public spaces can be a place for sustainability. Having such items in public spaces promotes waste management in a public setting where in a sense there will be prying eyes in how you were to sort out your garbage and if you are to do it correctly.

Aiding garbage and landfill will be the implementations of trashcans that also double as its very own compactor. Beneficial to landfill as they will be able to compress the garbage and recyclables so pick up from garbage trucks will be less frequent. Having these cans with the ability to compress its content will have a positive effect on the air quality. Since there will be less frequent pick up of these contents there will be less garbage trucks on the road.



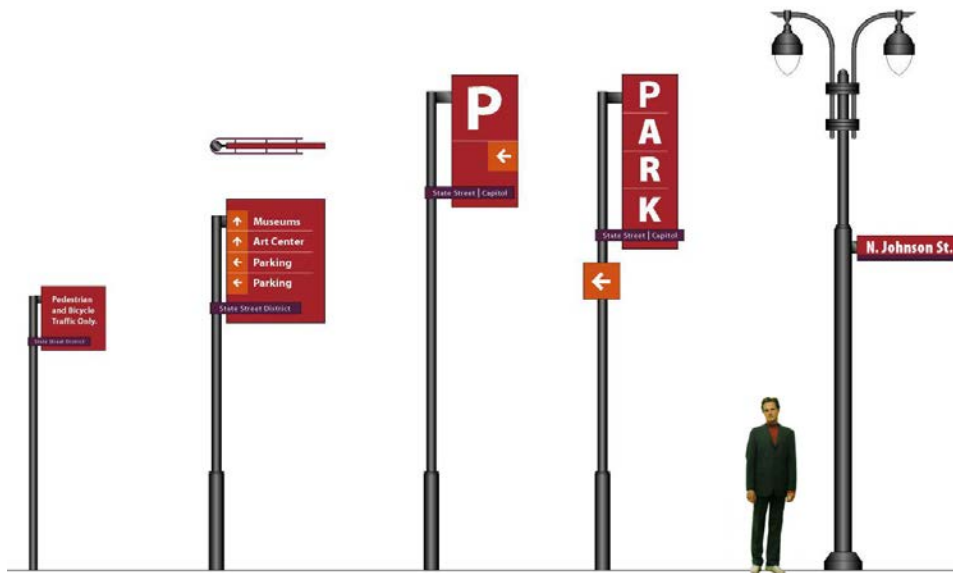
Recycling and solar compactor
Source: The Green Initiator Fund



Source: Planet Pals

4.1 Street Furniture: Bathrooms and Wayfinding Signs

When you make streets beautiful and inviting you will need certain amenities that caters to keeping people in the area you would like them to do. What is one thing that helps you keep people in an area during a major event or just any day of the week? Restrooms. "Safe, clean, widely-available public restrooms enhance the livability and walkability of a city, especially for people with medical conditions that result in needing to go more often than most". (1) A person with special needs will benefit greatly from such things as simple as just having more places to be able to relieve oneself. People shouldn't feel the need to go into a store and purchase item to access an elemental human need.



As inviting of a street you want it to be it should also be very efficient. You do not want clusters of people standing around blocking foot traffic. When there tends to be a lot of traffic it becomes more of a turn off to people and less of a place to spend time. "Wayfinding has the function to inform people of the surroundings in the (unfamiliar) build environment, it is important to show information at strategic points to guide people into the right directions." (2) When there are signs it guides peoples and gives them a sense that they know where they are going and aren't just wandering around aimlessly but gives them pleasure in knowing that the time they spending aren't mostly used finding where they want to go.

1. Schmitt, Angie. 2010 "The Pay Toilet: Coming Soon to a Street Corner Near You?" Streetsblog.net
2. <http://designworkplan.com/wayfinding/introduction.htm>

CHAPTER 9

TRANSPORTATION

This is the collective work of {please put your team names here}

9.1 Automobile Dependency is a Choice

Building sustainable street networks for a city comprised of those that helped change the world will require looking to our past for guidance. Our designs intent is to solve transportation problems that have led to a multitude of avoidable accidents, traffic congestion, and the on-going battle over the right to space in prominent cities.

North Bayshore can be built for everyone while reaching proposed target goals, because North Bayshore should be designed to make using a car a choice rather than being a necessity.

North Bayshore TDM Plan Guidelines | FINAL

City of Mountain View

Project Level Vehicle Trip Cap and TDM Plan

The Mobility chapter of the Precise Plan also establishes the following TDM requirements for all new development or building additions greater than 1,000 square feet:

Project-level vehicle trip cap. All new development or building additions greater than 1,000 square feet shall have an AM peak period vehicle trip cap, which will be established assuming a 45% SOV mode share and 10% carpool mode share, unless the applicant can demonstrate their proposed TDM program will result in a higher carpool mode share.

TDM plan. The applicant and/or property owner shall prepare a TDM plan with programs and measures as a means to reduce vehicle trips below the established trip cap.

North Bayshore TDM Moving Walkway Plan



http://en.wikipedia.org/wiki/Moving_walkway

THE NORTH BAYSHORE bonus FAR requirements has a “public benefit or district improvement” clause that can be used to lobby Proposition 514- Implementing walkalators in Mountain View with focus on the Google Campus.

North Bayshore TDM Moving Walkway Plan

In Stephen Wheeler's : Planning for Sustainability, Chapter 10, "Land Use and Urban Growth." he discusses changing land use patterns in order to preserve natural habitat and agriculture land. Also to reduce energy and material consumption as well as GHG emissions (Wheeler, Stephen 2013: 136).

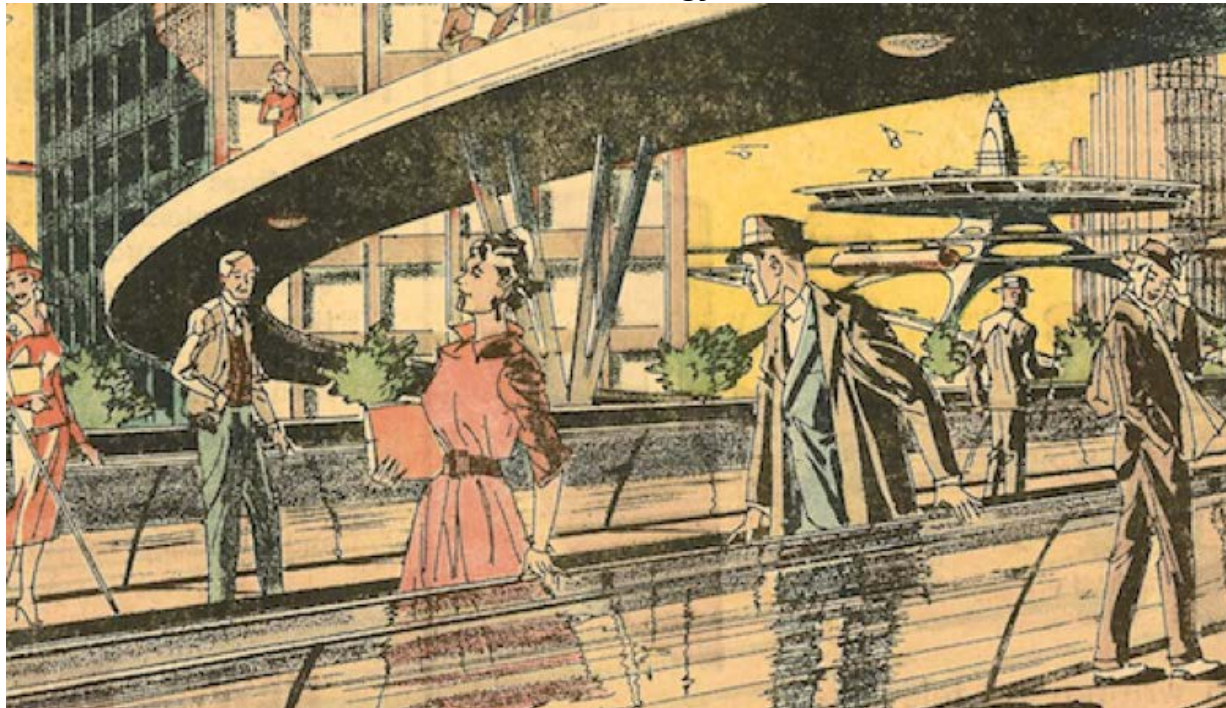
- Walkalators promote the compact city model
- Walkalators are a major public amenity
- Walkalators are tools for managing population growth
- The Walkalator Proposal is inline with the California Environmental Quality Act of 1970

Wheeler-Stephen "Planning for Sustainability" 2013

North Bayshore TDM Plan

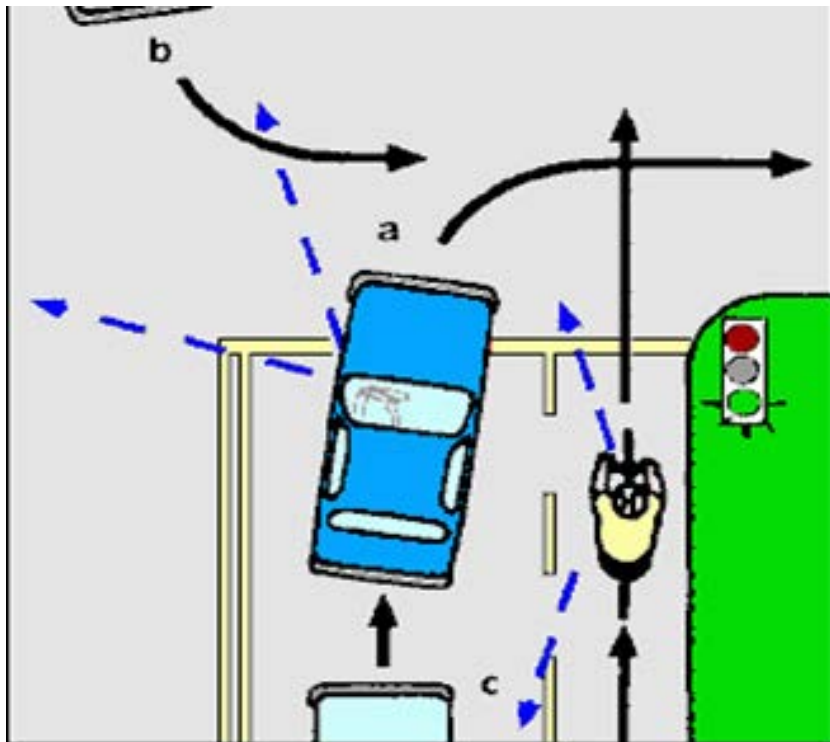
Guidelines – ADDENDUM

- **Proposal 514 of the Mountain View Precise Plan: Implement walkalators in place of, or next to existing sidewalks in Mountain View. This proposal will promote walkability in Mountain View and set an example for the rest of the state and hopefully the nation following. Seeing these walkalators in our cities and towns will cut out a sizable fraction of GHG emissions, save on fuel expenses, allows one to travel much farther on foot in faster time with lower energy.**



9.2 Flawed Design: Vehicle, Cyclist, Pedestrian Dangers

Imagery oftentimes doesn't best describe...



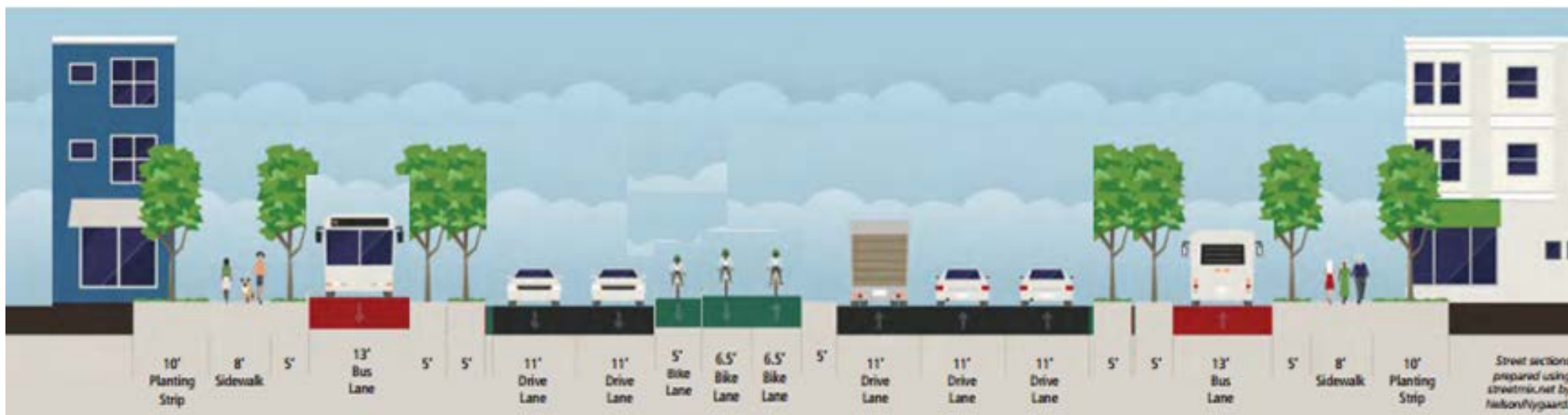
...how constrained right-side bike lane dangers can be.

California Ranks 5th in MOST pedacyclist fatalities in the United States (NHSTA)

According to the National Highway Traffic Safety Administration (NHSTA) 48% bicycle fatalities occurred between 4pm and midnight where 88% of them were male. Urban areas account for 69% of bicycle fatalities.

California Ranks 6th in MOST pedestrian fatalities in the United States (NHSTA)

9.3 Redesign: Safer Mixed-Use Commuter Space



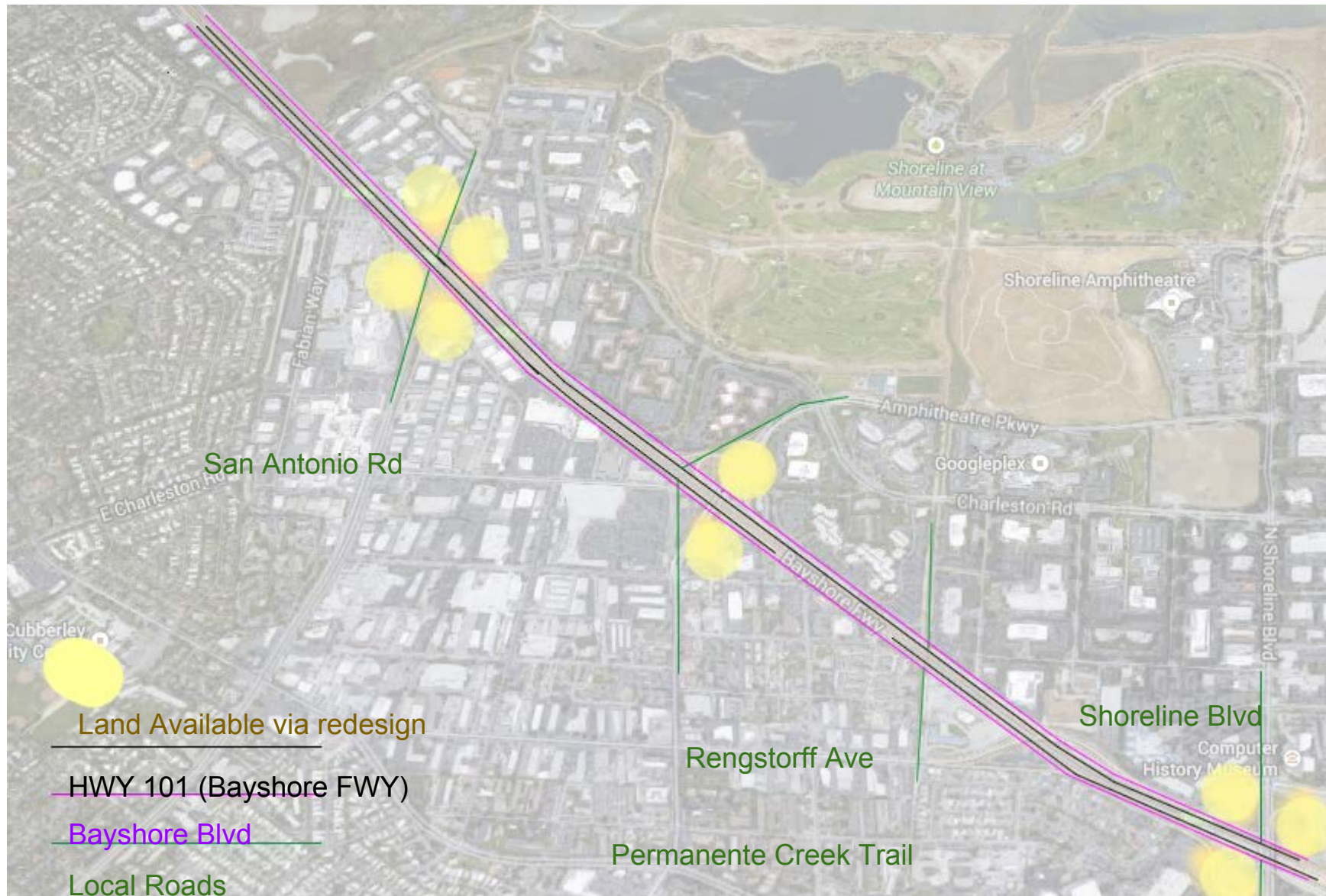
NBPP Fig. 30 (Modified): Gateway Boulevard: Potential Configuration of Shoreline Boulevard from La Avenida to Pear Avenue Looking South

Placing cyclists in the center of traffic with transit closest to sidewalks:

1. Places cyclists on driver's sides for better visibility
2. Allows cyclists better access to crosswalks for changing directions
3. Removes cyclists from being wedged between vehicles making right turns
4. Allows for safer, faster commuting
5. Allows transit vehicles ease of access for right turns
6. 5' pedestrian refuges add security for children, elderly, and disabled

An added sense of safety increases the chance to reduce single-occupancy vehicles to the desired 45%

9.3 Redesign: Elevate HWY 101 at Proposed Intersections



9.4 Current State of Mass Transit

North Bayshore is currently served by two Santa Clara Valley Transportation Authority (VTA) bus lines, namely:

- Line 40, a daily local service operating between the Cerone Bus Yard (at La Avenida & Inigo Streets) and Foothill College (daily except Sundays) or 1st & Lyell (Sundays) in Los Altos
- Line 120, a commute-only service operating between Fremont BART and Casey & San Antonio (from BART mornings, to BART afternoons), serving Google, LinkedIn, and other tech firms in the community

Given that Line 40 operates through Charleston Rd, San Antonio Rd, and Shoreline Pkwy, there is room for expanding service on this bus line. And it is expected that it will expand headways once the community is built out.

However, in the Precise Plan, it does not specifically address any future plans on either expanding local bus service to the “new” focal point of the neighborhood nor address the future of the Cerone Bus Yard that will ultimately be crucial on making North Bayshore more transit-friendly than today.

9.5 Challenges on Accessibility

While the **Mountain View Shuttle** provides daily service between North Bayshore and Mountain View Caltrain and VTA Light Rail Station, it may not be enough to sustain the future growth of the neighborhood.

With the presence of the Cerone Bus Yard, the **Santa Clara Valley Transportation Authority** will need to find a new bus yard location to take into account downsizing of its current yard to give way to future development.

Given its proximity to US-101, CA-85, and CA-237, the neighborhood may experience significant growth in vehicular traffic, hence the need for transportation alternatives.



9.6 Improved Transit: Dedicated Right Lanes, Employee and Nightlife Shuttles

Standard practice in transportation operations is planning routes to incorporate as many right turns as possible, because right turns are not restricted by traffic lights as often as left turn. Therefore, it allows for continuous movement of such vehicles. Motorcarriers and delivery service providers have reduced travel times by incorporating this method. One such example is UPS (Shontell 2011).

Planning for dedicated center lanes for transit, as most commonly seen with light rail Muni in the Bay Area, is not the ideal location for public transit. Doing so increases traffic light times at intersections to allow for dedicated center-lane transit vehicles to then cross 2-3 lanes of traffic for a right turn.

- ❖ Promoting shuttle bus options provided by employer and private industry providers is highly desirable
- ❖ Shuttle buses to accommodate local employees
- ❖ Daily employee shuttles to operate every 15 minutes during peak hours 6am-10am, 3:30pm-8pm; 30 minutes during off-peak hours
- ❖ Weekend nightlife shuttles operating every 30 minutes until 3:00am to help reduce prospective drunk driving (Abratt 2012)

9.7 Looking at Transit-Oriented Development (TOD)



To address congestion concerns along US-101 near North Bayshore, we can look into **transit oriented development** (TOD), which can eventually help lessen vehicular trips along one of the region's most heavily-traveled highways.

Perhaps Mountain View can consider adopting BART's definition of TOD, which is defined as a moderate to higher-density development, located within a transit stop, generally with a mix of residential, employment, and shopping opportunities for pedestrians without excluding the automobile. (Cervero et al.)

In 2013, the portion of US-101 between CA-237 and San Antonio Road has seen one of the highest average vehicular hours of congestion delays in the Bay Area: (MTC)

AM commute (6 to 10am): 1,300 hours
PM commute (3:30 to 8pm): 1,150 hours

A Transit Center for the Gateway District



VTA's light rail service to Mountain View currently operates from Mountain View Caltrain station and stops at three stations within the city limits: Whisman, Middlefield, and Bayshore/NASA. This service continues further to serve Sunnyvale, Downtown San Jose, and Saratoga.

If we look into the current alignment of the light rail, an opportunity exists to provide new light rail service northwestward from Bayshore/NASA and ultimately serve the North Bayshore community, with a transit center serving as the Bayshore Branch terminus near the current Cerone bus yard.

By converting the current Cerone bus yard into a transit center, it could spark potential development, not only for the VTA, but also other developers wanting to shape North Bayshore and make it into a true transit-oriented development.

9.8 A Call for Expanding Transit Options

As North Bayshore's development is underway, we need to understand the different options available that will ultimately help the neighborhood evolve into a thriving community.

Possible options include:

- Expanding service hours on Line 40 to take into account the future residential and commercial growth
- Building a spur line on the current Mountain View-Winchester light rail service to serve North Bayshore and give commuters more options to travel further into the county (with Bayshore/NASA station being the transfer point)
- Enhancing Google Shuttle service by serving more routes and communities to augment service provided by Line 40
- Mounting a new express service, operating all-day to Warm Springs BART, to reduce dependence on Line 120. This route will serve Lockheed Martin Transit Center, Alviso, and Great Mall Transit Center in Milpitas

CHAPTER 10

FEASIBILITY

This is the collective work of Austin Gates & Kevin Wilson

10.1 Jobs / Housing Balance

According to current Census Zip Code Data there are 74,959 people employed in Mountain View. The number of jobs has likely passed the population of the city since the 2010 Census. Subtracting the number of Mountain View residents employed in the city (9,035), equals 65,924 people in-commuting from other cities to work in Mountain View. Nearly every new job in Mountain View creates a new in-commuter.

The Mountain View General Plan and the North Bayshore Precise Plan fail to address the need for housing despite over 5,000,000 square feet of office development projections. This commercial development will add approximately 25,000 new jobs in the North Bayshore. Current Housing Supply Inventory and Housing Development Projections are not adequately addressed by either plans or the RHNA.



10.1 Jobs / Housing Balance

The preferred land use and transportation investment strategy for Plan Bay Area is largely based on the information and projections established for each jurisdiction within the Jobs-Housing Connection Strategy.

We suggest rezoning the Gateway area to include residential at medium to high density. Included are suggestions for raising FAR ratios and building height limits to allow more dwelling units per acre and increase feasibility to housing development.

Through the Mountain View BMR housing policy there is the potential for funding and building hundreds of inclusionary housing units by such a rezoning in the North Bayshore.



10.2 NBPP for Feasible Transit Oriented Residential Development

The Gateway

Intent & Character: Create Intense, High-Density Mixed-Use Center

Building Intensity

Base FAR= 1.0 (minimum)

Maximum FAR= None

Transferable Development Rights: Receiving Area (Purchase Activity)

--Encourage Office Developers

Maximum Building Height: None

Lot Coverage

Building Coverage: 25% Minimum (Medium-High Rise Office)

80% Maximum (Low Rise Multifamily)

Paving Area: Maximum 40% Coverage

Landscaping/Open Area: Minimum 20% Coverage

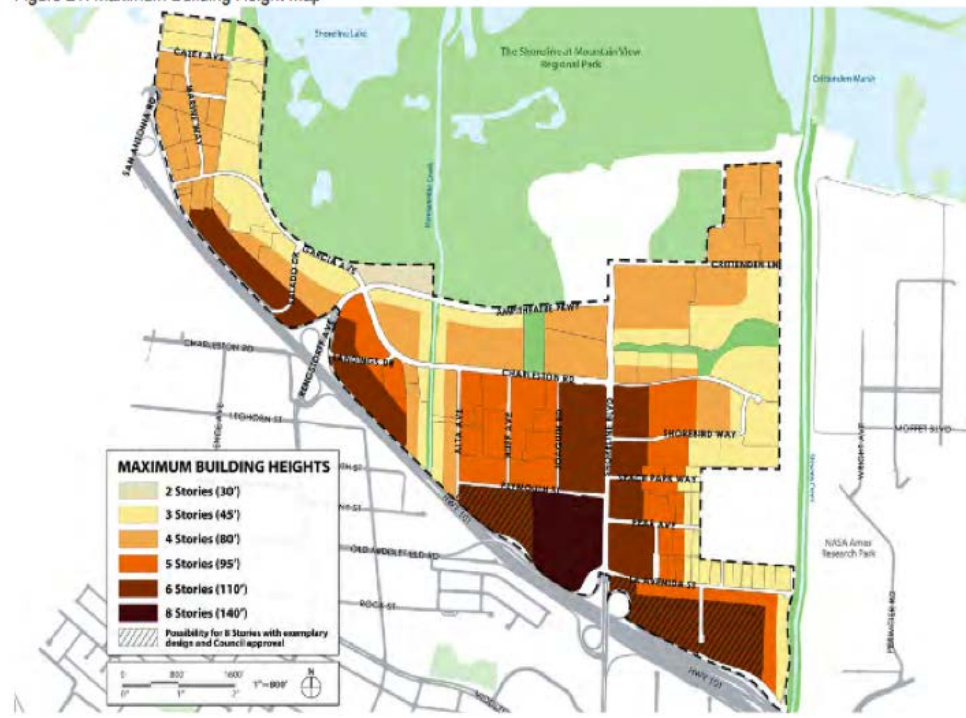
Restrict surface parking.

No off-street parking min Limit max to 1 space per 3,000 sf commercial and .25 per unit residential.

Link VTA create station off Shoreline.

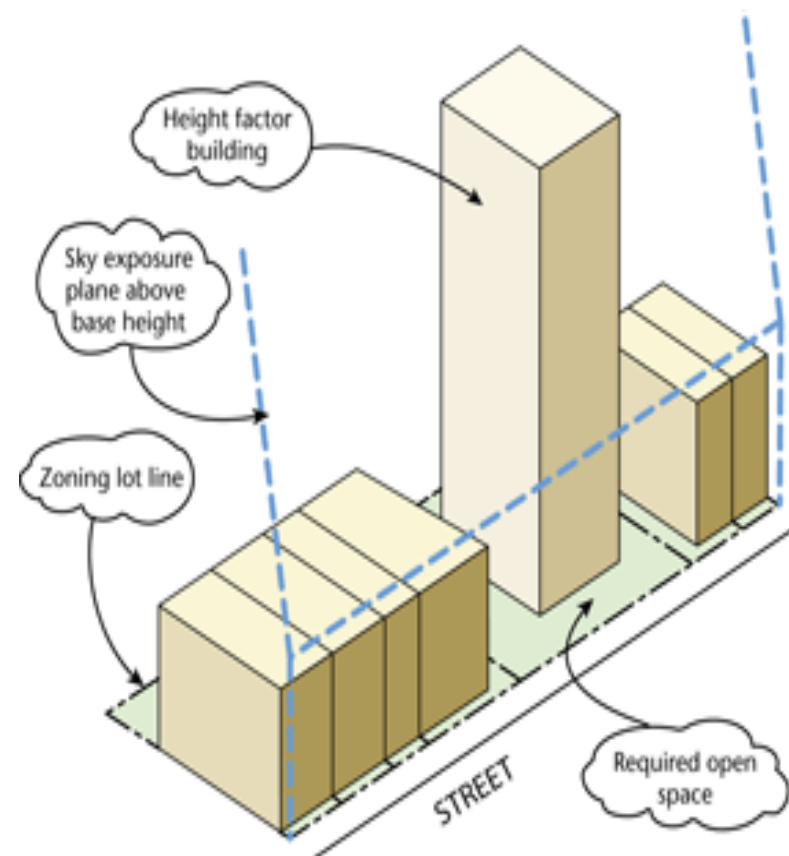
Car free "green zones"

Figure 21: Maximum Building Height Map



Give Incentives for Development: Gateway

- ❖ Density Bonuses: Create incentives for developers with allowing greater density level than allowed under existing zoning standards.
- ❖ Fast Track Permitting: Mtn. View currently focuses on Fast Track Permitting towards Commercial and single family home development projects. Create Special FTP in the NBPP towards Mixed-Use/Multifamily Residential Projects
- ❖ Create Smaller Numbers for Lot Building Coverage: Narrow, Tall Buildings---Take Advantage of the air (more units/development projects), not the land, leaving the majority of the land on the lot to be used for pedestrian corridors and landscaping/open area (Medium to high-rise Office Only)



Link FAR to Impact Fees & Funds

City of Mtn View Benefits

- Link FAR Increments to Specific Planning Code

- Tall Office Buildings=More Community Benefits and Revenue From Impact Fees

- Impact Fees help city fund open space, transportation and street improvements etc

- Funds Help City create purse for parks, affordable housing reserves, etc

- Office Developers will offset cost through TDR Program, Density Bonuses and relieved height limits if allowed



1 OAK STREET SAN FRANCISCO

37 Story, 300+ Unit Residential Tower



L.A. LIVE BY RITZ CARLTON & J.W. MARRIOTT

224 Luxury Residences
1,000 Hotel Rooms



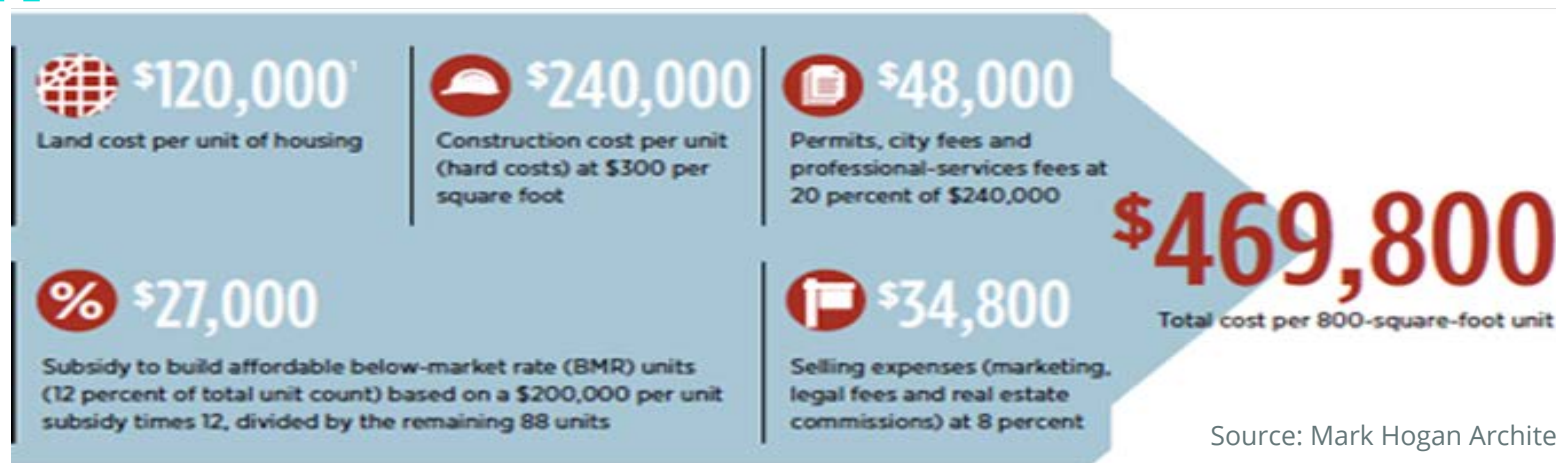
Development Trends show patterns towards affluent residences with lavish amenities geared to highest sales tiers and revenue for developers.

An Upscale hotel would increase retail and tourism opportunities in the North Bayshore.

Over 35 inclusionary housing units will be generated from 1 OAK.

A project like the LA LIVE would bring millions in impact fees for affordable housing and community benefits.

10.3 Determining Feasibility: Estimating Building Costs & Capitalization Approach



Typical 100 unit wood construction building over concrete ground floor podium with light retail and limited parking
\$587 per sf building cost

AVG MONTHLY RENT 100 UNITS @ \$2800 / MO
 $2800 \times 100 \times 12 = 3,260,000$ (yearly gross rent)
 Subtract 12% (mngmnt fees / maintenance / utilities) = \$2,868,800 (net yearly rent)
 Divided by 46,980,000 (total building cost)
 = 6.1% Capitalization Rate

Higher density allows for more economically feasible projects for developers.

10.4 Mountain View Real Estate Values & Relation to Average Income

Median Sales Price Single Family Res



Mountain View Average Household Income: \$82,648

❖ Will qualify you for about \$400,000 based on conventional lending guidelines.

❖ The average Mountain View household can afford \$2,295 monthly housing costs.

❖ Most housing is built at a cost the average resident cannot afford.

❖ Rental Subsidies vs. Subsidized Ownership.

Median Sales Price Condo



10.5 1431 Plymouth Street Currently the “Sports Page”



- 37,897 sf parcel built at 50% coverage= 16,950 sf floor plate
18,950 subtotal (account for core/utilities/hallways etc)
- FAR 10:1 = 20 stories 379,000 gsf
- No off-street parking minimum. .5 per unit max.
- 18,950 sf ground floor retail
- Potential for over 300 housing units at roughly 600 du / per acre.
- Link VTA train and create station across the street on Shoreline.
- Restrict curb cuts and surface parking lots.
- Zone for high density neighborhood serving parking structure(s) with ground floor retail.
- Create bicycle and pedestrian infrastructure linkages to transit and existing network..

Gateway District Multifamily Development : Market Study & Feasibility Analysis

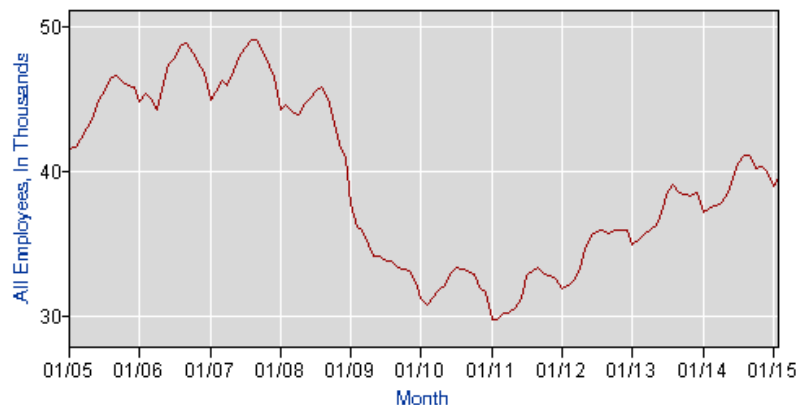
Market Analysis: Development companies analyze the following to seek out potential demand for an income producing asset...

A. *Employment Trends* in the San Jose-Sunnyvale-Santa Clara Metropolitan Area (Mountain View, CA)

Data extracted on: April 10, 2015 (10:09:55 PM)

State and Area Employment, Hours, and Earnings

Series Id: SMU06419402000000001
 Not Seasonally Adjusted
 State: California
 Area: San Jose-Sunnyvale-Santa Clara, CA
 Supersector: Construction
 Industry: Construction
 Data Type: All Employees, In Thousands



Employment Trends (cont.)

- Wages, Sector concentration (Tech) and occupational title all impact employment characteristics.
- Developers key in on these characteristics
- Heavily influences the decision making process for supplying units at given prices
- Huge impact on rental income

Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
15-0000	Computer and Mathematical Occupations	major	113,340	8.1%	116.425	4.10	\$58.24	\$59.57	\$123,910	2.8%
15-1111	Computer and Information Research Scientists	detail	2,050	22.1%	2.109	11.77	\$58.67	\$67.15	\$139,670	7.6%
15-1121	Computer Systems Analysts	detail	12,190	11.7%	12.519	3.20	\$50.65	\$52.16	\$108,500	2.3%
15-1122	Information Security Analysts	detail	1,080	36.6%	1.112	1.87	\$54.45	\$54.57	\$113,510	2.2%
15-1131	Computer Programmers	detail	6,780	12.3%	6.968	3.12	\$39.77	\$45.20	\$94,020	5.8%
15-1132	Software Developers, Applications	detail	33,990	10.1%	34.917	6.87	\$66.21	\$68.45	\$142,370	4.6%
15-1133	Software Developers, Systems Software	detail	27,080	7.0%	27.816	9.83	\$64.78	\$66.54	\$138,410	2.4%
15-1134	Web Developers	detail	2,590	25.2%	2.656	2.97	\$49.45	\$51.24	\$106,580	1.8%
15-1141	Database Administrators	detail	1,260	21.3%	1.296	1.56	\$46.71	\$49.11	\$102,160	2.9%

Market Study (Cont)

B. *Population: Growth Rates & Demographics* (Mountain View)

-2010: 74,066

-2013: 77,846

-2016: 81,746

-2019: 85,746 (roughly 5% annual increase)

-Supply of housing units needed in North Bayshore

-Bachelors Degree or higher, percent of persons age 25+
(2009-2013: 63%)

Market Target for **Majority** (Not all) of Housing units

-Age group: 25-45 years old

Primary Customer=Tenants

-Professionals in the Technology and Medical Field
Job Sectors



Market Study (Cont.)

C) *Size of the units for the Proposed Development*

- 80% Building Lot Coverage on 30,000SF Parcel
- 24,000 SF Floor Plate
- 19,000 SF/FL Occupiable Space
- 5,000 SF (Stairways/Utilities/Core)

Unit Breakdown Per Floor

Unit	SQFT	Type	Total SQFT
6	500SF	Studios	=3000 SF
6	650 SF	1 BRs	=3900 SF
6	750 SF	2BRs	=4500 SF
8	950 SF	3BRs	=7600 SF
26 DU/ Floor		19,000 SF/Floor (Floor Plate)	



Market Study (Cont.)

D) How many units can the market absorb, at what price and over what length of time?

Absorptions Rates: Provide information on the leasing rates of a rental market/individual property over a time period called **the absorption period**.

-Reveals demand for a property and whether rental activity is increasing or decreasing

-Developers project absorption rates to forecast cash flow when preparing proforma's

D(cont). Residential Development Proposal: NBPP Gateway District

- 1) 104 units
- 2) Absorption time period (Assumption)
July 1st to August 31st
- 3) Determine the # of units rented during the absorption period (Assumption): 30 units are rented
- 4) Divide the # of units rented (30) (during the absorption period) by the total units available for rent: **$30/104=28.8\%$**

Market Study (Cont.)

*E) How much operating revenue/income can this project expect to generate over a certain time?
(Hypothetical Situation Calculations)*

-Market Rate Annual Rental Income:
(83 Units Fully Occupied): \$ 3,907,920

-Below Market Rate Rental Income: (21 Units Fully Occupied): \$ 714,500

-Ground Floor Retail Rental Income: Safeway The Market at Mountain View Gateway (Small front store, fits great underneath residential)



Market Study (Cont.)

F) What are the regulatory controls placed on the development?

BMR Policy: City of Mountain View Below Market Rate Units are affordable to households earning 50%-80% of the Area Median Income (\$97, 338).

-21 of the 104 units proposed will be reserved for households earning \$48,669 (50%)-\$77,870(80%) annually.

Current-New Development Projects = 10% Set Aside

Proposal- Increase to 20% Set Aside due to Office development impact fee revenue. This will help finance the construction for 16,300 net rentable below market rate square footage. Create new Development Agreement between Developer and City of Mountain View obtaining legal security of BMR Units 50%-80% over specific amount of time frame.

Other Regulatory Controls: Zoning, Impact Fees

Financial Feasibility

Will Expected Revenues Exceed the Expected Cost?

Annual Rental Income from BMR Units

\$714,500

Annual Rental Income from Market Rate Units

\$1,483,200

Annual Rental Income: Safeway The Market at Mountain View Gateway--19,000SF Net Rentable Space @ \$24.75/SF = \$470,250

Total Building Revenue= \$2,667,950 (Subtract by "potential" 5% Vacancy)

Effective Gross Income=\$2,534,522 (Subtract by "hypothetical" 7% for Maintenance, Mgmt, Taxes, Insurance)

Total Development Cost (Hypothetical)

Cost/SF to Build = \$400/SF i.e...

-Land/Infrastructure

-Architecture & Engineering

-Financing Cost

Gateway District Multifamily (Project Valuation)

120,000SF Building= \$48,000,000

-5.2% Capitalization Rate

-Permanent financing depends on the NOI.

-To determine if a project is financially viable, a development company begins with an assessment of the project's projected net income, which ultimately leads to its value.

-Basic metric for analyzing the value and the amount of debt that an income-producing asset project can potentially support.

-For income-producing projects; the loans are paid off in monthly installments. After the **debt** is serviced...

-**Equity** investors receive their return from the revenues that are available after paying installments and operating costs.

-If this can all happen accordingly, it will make the development project financially feasible.



NORTH BAYSHORE FOR ALL

USP 514 SUSTAINABLE DEVELOPMENT IN CITIES
SAN FRANCISCO STATE UNIVERSITY