

Lit San Leandro Project

Background

San Leandro is a historic city that sits between Oakland and Hayward. It is principally a bedroom and retirement community today, but at one time it had considerable amounts of manufacturing including glass jars, tracked vehicles, lumber, food processing, trucks and others; many of these have moved or shut down. Some industries remain (Ghiradelli, Spunkmeyer) and some new ones have arrived (OSisoft, Energy Recovery Inc., Tri-Net) but the city is under pressure to support increasing demands of the population and could benefit from a revenue increase. I propose that the long term strategy for improving would be to attract the next generation businesses. Examples of new business are companies like Facebook, Twitter, Google and Apple but it is hard to envision the future of manufacturing. However we know that it will likely include a digital/communication element.

A number of years ago I acquired the site of our headquarters (777 Davis) and have built a company of 750 employees. The company has revenues of \$200MM and we have expanded to the point that we are out of room. We are located adjacent to the convergence of the fiber connections that run both within the city (City of SL Loop) and out (BART). Long term, I have to build a new building and soon have to decide if it will be in San Leandro or elsewhere.



Figure 1 – San Leandro

I prefer San Leandro and in my due diligence I have found a design that would benefit all of San Leandro. I call this project Lit San Leandro project because although there are many occasions of dark fiber in the

area, it is necessary to look at how it will be lit before it can deliver value to the city. Figure 1 shows an aerial of San Leandro. As a business development target, there are a few things to note. First of all, San Leandro is bracketed by the hills on one side and the bay on the other. All fiber rings, transportation, and power that ring the bay come through San Leandro. It is also notable, however, that a very large area in the center of the city (1300-1500 Acres) is light industrial land – much of which is now vacant or underutilized because, for manufacturing, the picture has changed and many are moving to areas where land, labor, housing, energy and food is much less expensive and air and water pollution law is more lax. It will be necessary to leverage the value of the SF Bay area to attract new clean, green businesses (and jobs) to replace these.

There are a number of advantages to the Bay Area including an urban environment for sales without large transportation costs, naturally mild climate, pleasant place to live, and the largest group of skilled and trained information workers in the world. The goal would be to build an infrastructure that would appeal to the next generation businesses especially those that deal in Software and Intellectual Property to the lower cost of the East Bay compared to San Francisco. These businesses could be processor, storage and communication intensive, possibly orders of magnitude more than we have today.

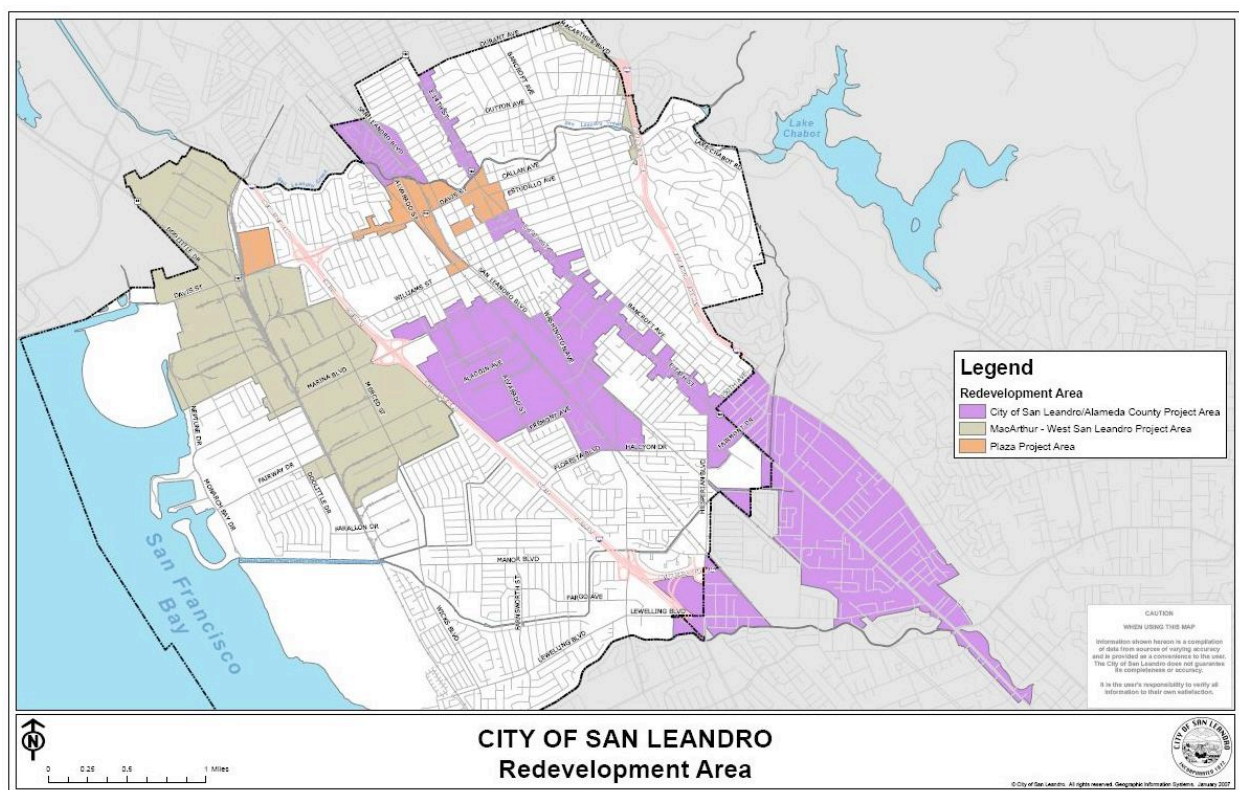


Figure 2 – SL Redevelopment Areas

SL Fiber Project

The basis of the plan would be to license the City conduit space and run dark fiber around the industrial redevelopment areas (Figure 2) of San Leandro. The control center for this ring would be our office building at 777 Davis.

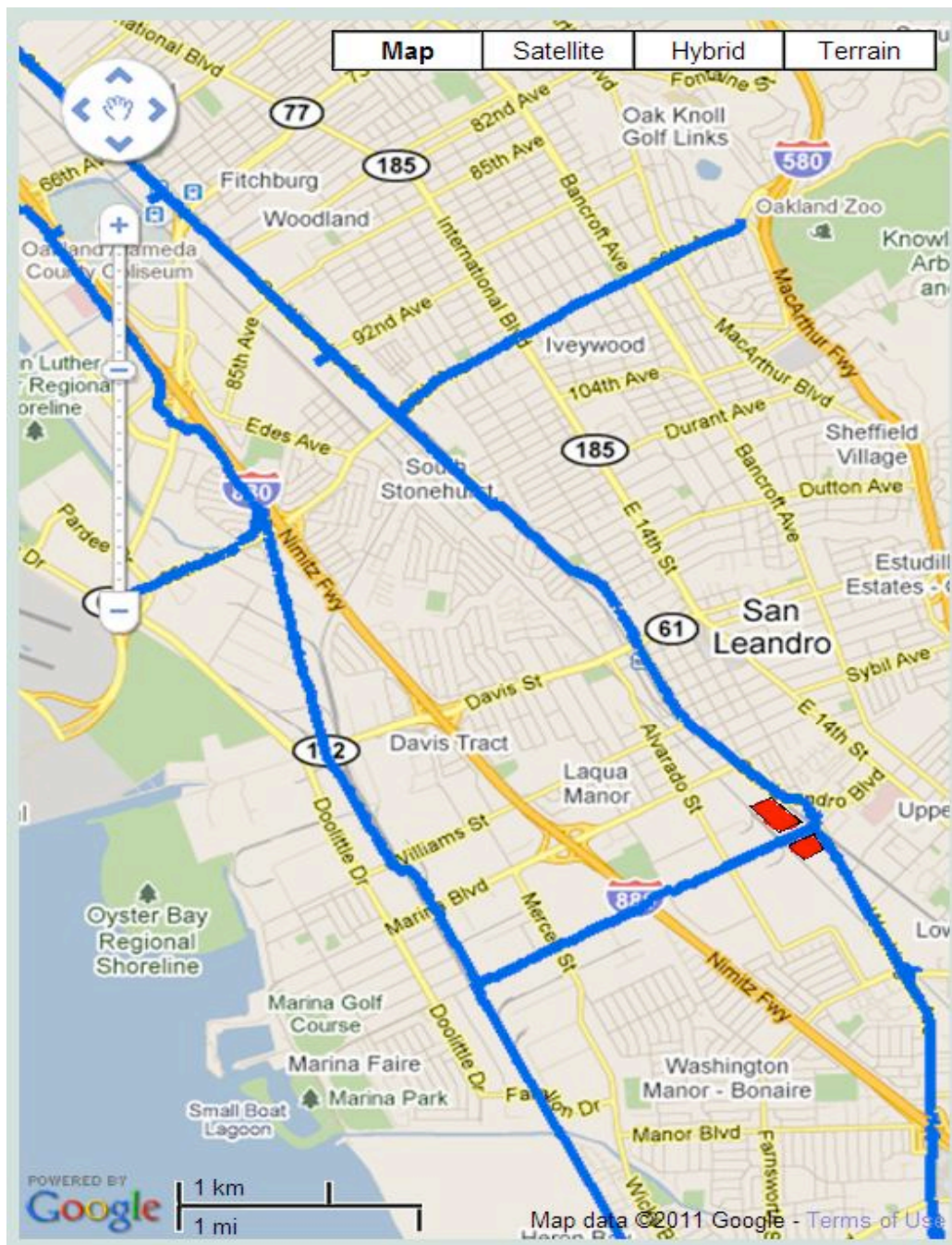
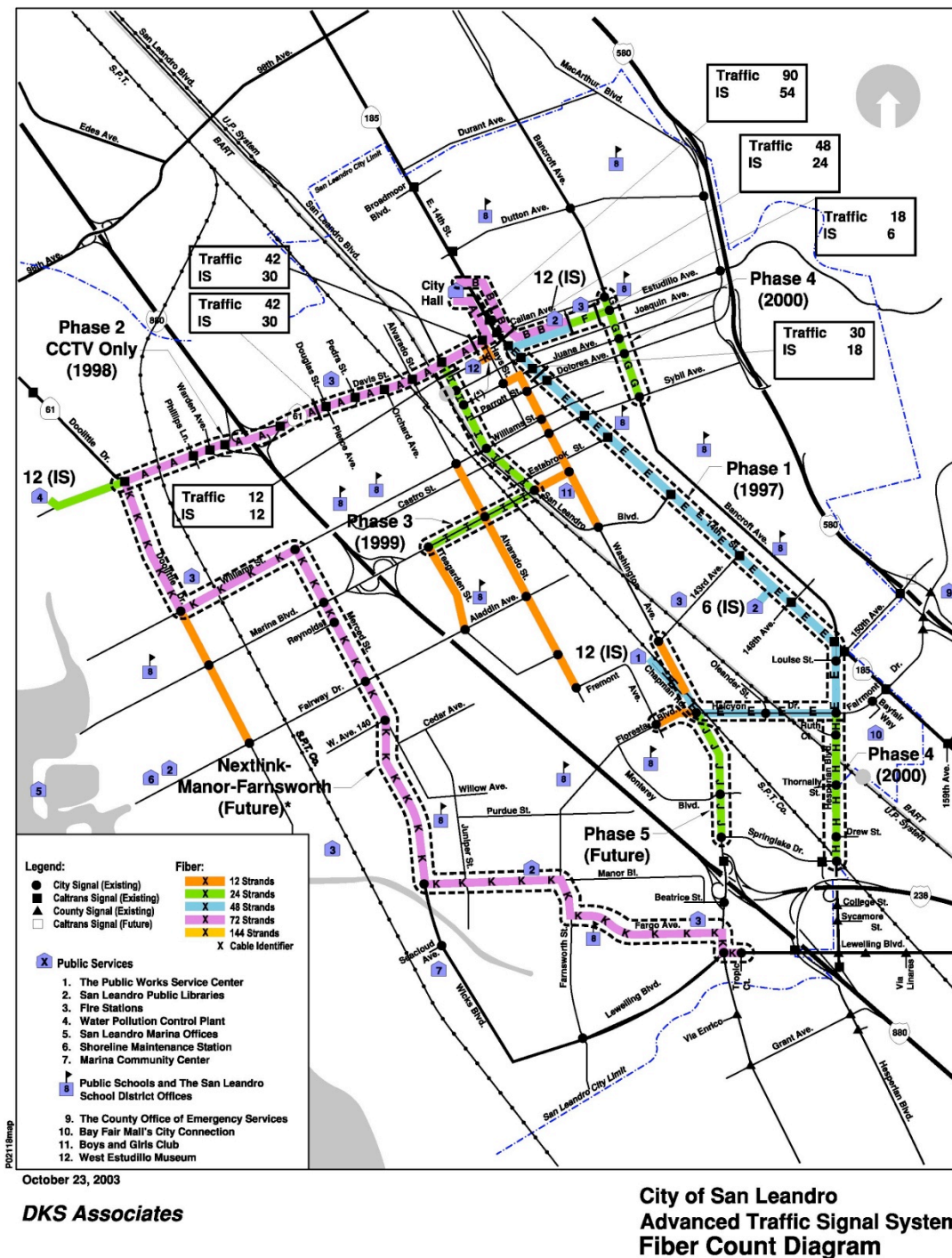


Figure 3 – PGE Substation and Hudson Lumber site (Red) plus Gas Transmission (Blue)

Reasonable cost and capacity of power and gas are critical elements needed to encourage development in San Leandro. In addition to space, SL has these in relative abundance because of the loss of our industrial base thus utilities are not fully loaded. There is also sufficient space to add more transformers

A key this project is the existing City of SL fiber loop. Normally these are a huge expense and time, but due to historic use of fiber for City infrastructure, these exist in SL and are shown in Figure 4. The main



loop goes by our building and circles the redevelopment area. The combination of these factors results in single hub shown in the overview map shown in Figure 5 including the long haul carriers and BART.

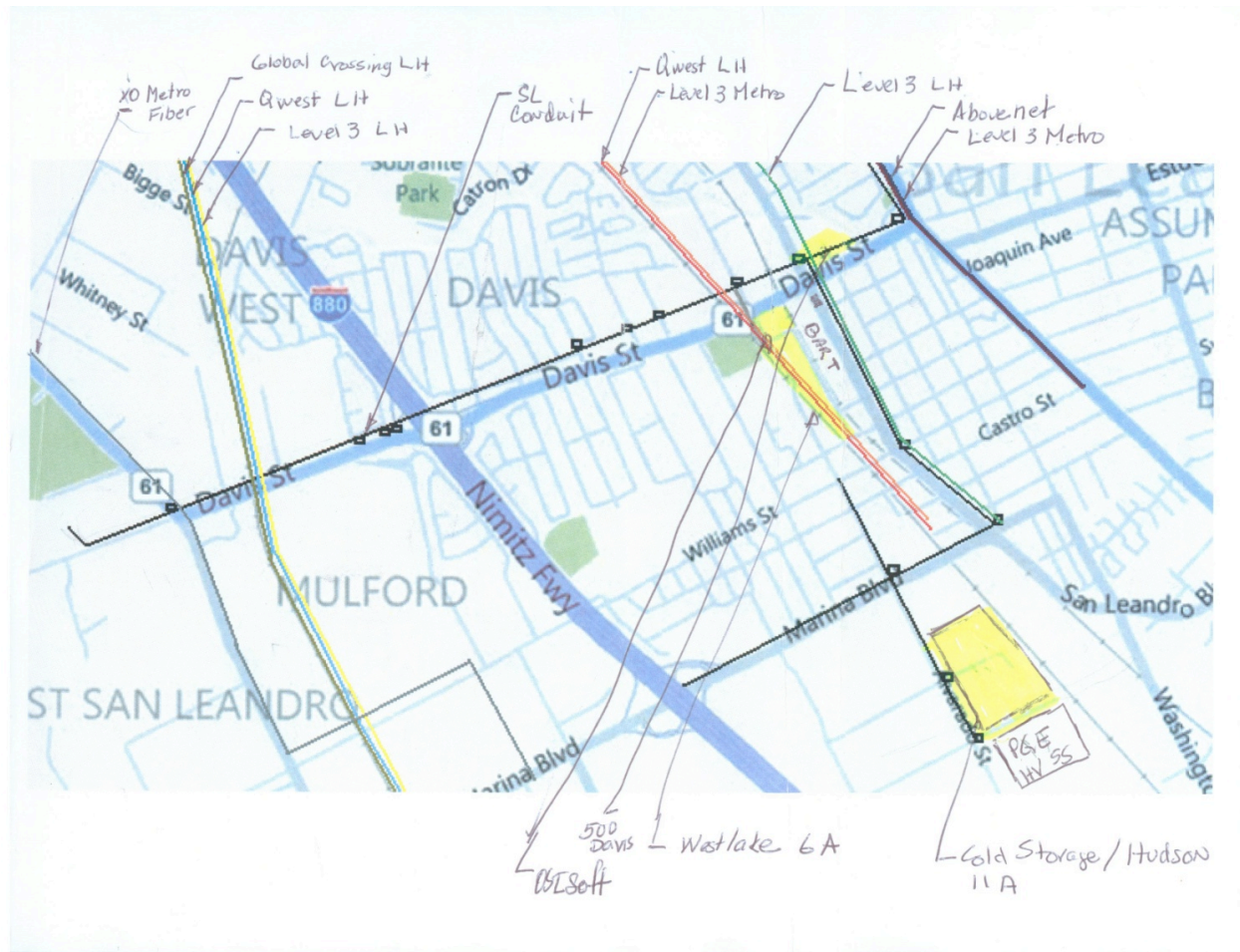


Figure 5 – Location of Fiber around the Hub

Missing Resource – Data Center

Nearly all of the next gen businesses use the concept of a data center or a “cloud” but these are real facilities, typically called Tier IV low latency, carrier neutral data centers. They contain all the processors and storage for the new businesses and feature things like modular construction, redundant power, and environmental systems, but power remains the #2 TCO of a data center and is the prime reason that many data centers have left California. The PGE Substation in SL has spare capacity and is serviced by two 115KV loops and Skanska (<http://www.skanska.com/>) has tentatively agreed to fund and build one of their new modular data centers here. Their design allows incremental build out, natural cooling (to take advantage of our moderate climate) and use of a Adsorption chiller loop to utilize the waste heat

from the computers and disks making it sustainable. The size has not been set, but a large data center would require 40-60 mw of power.

Business of Business Development

The “attractant” to business would be the promise of low cost land and rental, private fiber to the data center and telecom, and fast and easy entitlement. This would be a joint effort of the City of SL, BART, OSIssoft, PGE and Skanska. Each would expect some return so we first look at return and then what is expected of each:

City of SL – gains from redevelopment of old warehouse and industrial structures to viable, profitable long term business and the tax gain both in property and sales that results. In the financing of city services, businesses generally pay more than the services they receive in order to supplement the citizens similar to the power tariffs.

PG&E – gains from the addition of next generation industrial users in a lightly loaded area. If desired, the BOA (Business Owners Association) requirements could include vehicle charging and solar cells. If this could be incorporated into a Microgrid project it could also supply demand response and other ancillary services, avoiding the aggregator.

OSIssoft – gains from the appreciation of the land from the addition of the BOA to the deed (which also provides minimal cost private fiber access to the data center and telecom). This would require buying and selling land and some entitlement – a function better handled locally.

BART – gains from the increased access and market for their fiber service and increases ridership on BART.

Skanska – gains from the addition of a new modular data centers.

In return what is expected of each:

City of SL – use of conduit, expedited entitlement procedure. It is possible that the City could also assist (but wait for a user to demand it) with Foreign Trade Zone status, EB 5 Regional Center, or Buy America Bonds.

PG&E – good rate for power to the data center (e.g. negotiated rate at or near cost of production with demand charges waived) and help with the power engineering.

OSIssoft – concept, part of the funding and design as well as any land needed to site the hub and data center.

BART – access to their fiber system for telecom, long haul, and dark fiber at good rates.

Skanska – engineering of the site plus possible funding assistance.

In conclusion I think this is an excellent project and will be willing to invest both time and money in it.