CREATING LIVABLE INFRASTRUCTURE: THE CONNECTOAKLAND VISION TO RECONNECT NEIGHBORHOODS AND CONNECT CITIES THROUGH FREEWAY REMOVAL

Andrew Faulkner[1], Jonathan Fearn[2], Chris Sensenig[3], and Brian Stokle[4]

INTRODUCTION

Throughout the second half of the 20th Century, our nation's cities were marred by the onslaught of unsustainable suburbanization and the expansion of limited access highways that ripped through urban centers and divided communities within them. Paired with systematic disinvestment from redlining and white flight, these forces combined to create lasting physical, social and economic hardships in cities across the US. Over the last 20 years, cities have rebounded in America and new patterns of thought focused on livability, walkability and urban form have started to sprout: from the Big-Dig in Boston to Octavia Boulevard and the Embarcadero in San Francisco, cities are reassessing the value of highways that solely move automobiles through cities, and have started to focus on how these pieces of infrastructure impact the daily lives and economic interests of a their residents and visitors.

In Oakland, California, through the efforts of ConnectOAKLAND, the city is taking up the mantle of this new pattern of thought and is beginning the planning process to reconnect West Oakland to Downtown by transforming an underutilized freeway (I-980) into a multi-modal transportation corridor that reestablishes the historic urban grid. The project's dual benefit will reconnect two of Oakland's historic neighborhoods while better connecting Oakland along with the entire East Bay to San Francisco, San Jose and Silicon Valley through the incorporation of a second transbay tunnel for Bay Area Rapid Transit (BART), commuter rail (Caltrain), and high speed rail (HSR). This article will explore the ConnectOAKLAND vision for I-980 as a case study for current and future patterns of highway removal, and as a part of the national movement to rethink the role of urban highways and holistically re-envision the US transportation infrastructure.

KEYWORDS

livable infrastructure, freeway removal, transit oriented development

1. Bay Area designer, urbanist, and advocate, LEED Green Associate at Van Meter Williams Pollack, Andrew@vmwp.com;
2. Oakland resident, Vice President of Development at SummerHill Housing Group, jfearn@shapartments.com;
3. Founder of ConnectOakland.org and Urban Designer-Associate at Van Meter Williams Pollack, sensenig@vmwp.com;
4. Transportation planner and urbanist, Planner at San Francisco Recreation and Parks, brianstokle@urbanlifesigns.com

THE VISION

The ConnectOAKLAND Vision

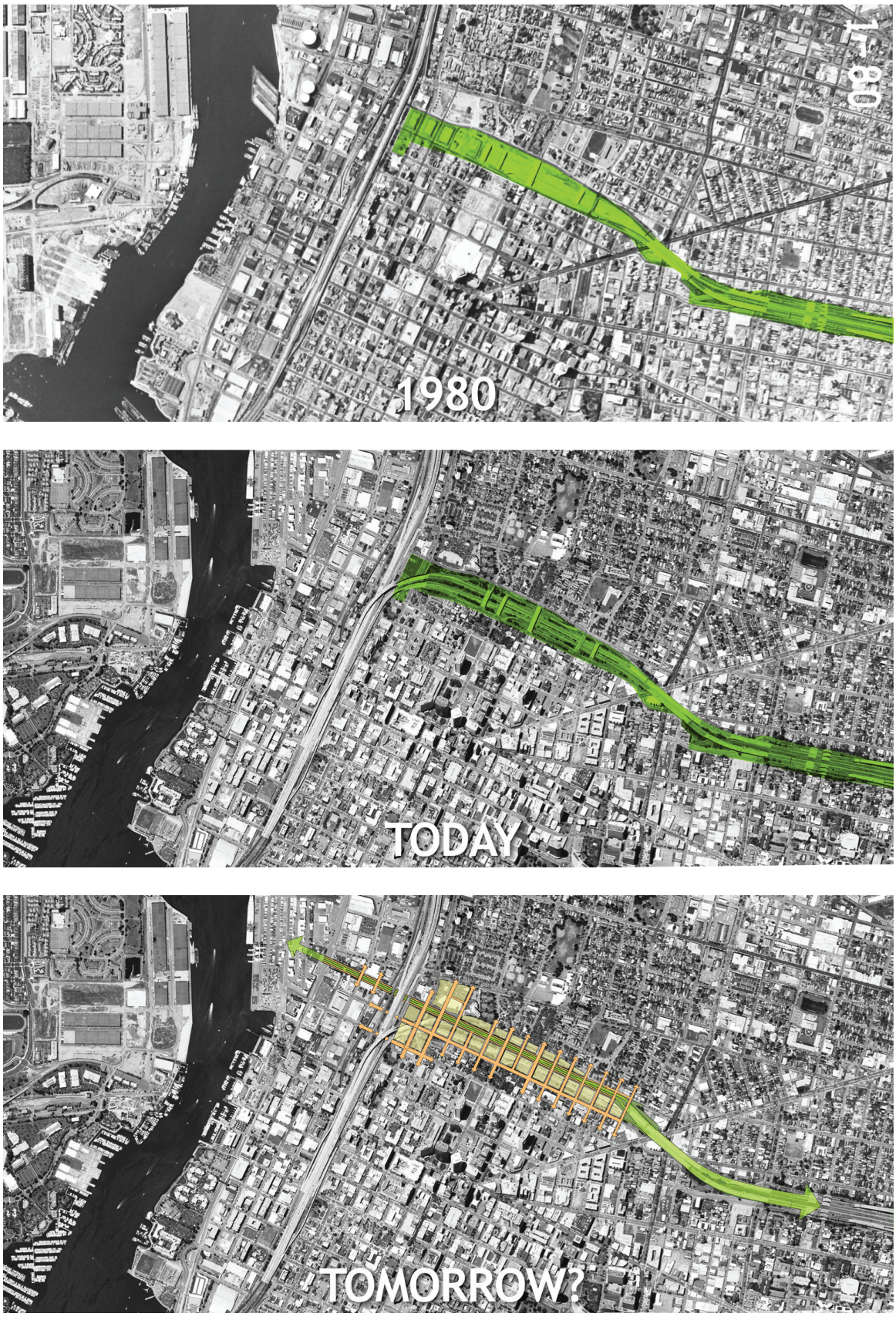
Sitting just to the west of downtown, a 560-foot wide gash divides Oakland. This wide canyon is created by I-980, a lightly-used highway that serves a select few and divides a great many. Since its inception and construction, there have been numerous grand ideas and plans to rethink the purpose and utility of this freeway. Over the past few years, ConnectOAKLAND, a group of concerned citizens (and authors of this article), have been working with key professionals, stakeholders, and community leaders to find a way forward with a vision to transform the highway into a multi-modal, pedestrian-friendly transportation corridor, one that reconnects West Oakland to Downtown, and sets the stage for Oakland to become the heart of the Bay Area's regional transportation network, and in turn the heart of the Bay Area.

The transformation proposed by ConnectOAKLAND will reintegrate West Oakland and its residents back into the fabric of the City of Oakland and heal an enduring wound that severed – both literally and figuratively – one of Oakland's most historic and dynamic neighborhoods from the City as a whole. The future vision for I-980 will also create new publicly-controlled land for housing, jobs, and open space, and will serve as a catalyst for future transportation connections throughout the region. The goals of the ConnectOAKLAND vision can be summarized as follows:

FIGURE 1: Historical aerial views showing past, present and potential future of the I-980 Corridor.

RECONNECTING NEIGHBORHOODS

- Transform an underutilized highway into productive, livable infrastructure
- Reconnect West Oakland to Downtown
- Improve the Health and Well-Being of Oakland Residents
- Create New Publicly Controlled Land for Future Improvements
- Increase Land Values/Tax Revenue adjacent to the I-980 Corridor



CONNECTING CITIES

- Solidify Oakland as the Transit Center of the Bay Area
- Improve the Resiliency of the Bay Area's transportation system
- Increase core transbay capacity
- Seamlessly connect the East Bay to the Peninsula and beyond
- Allow for 24-hour transbay rail service

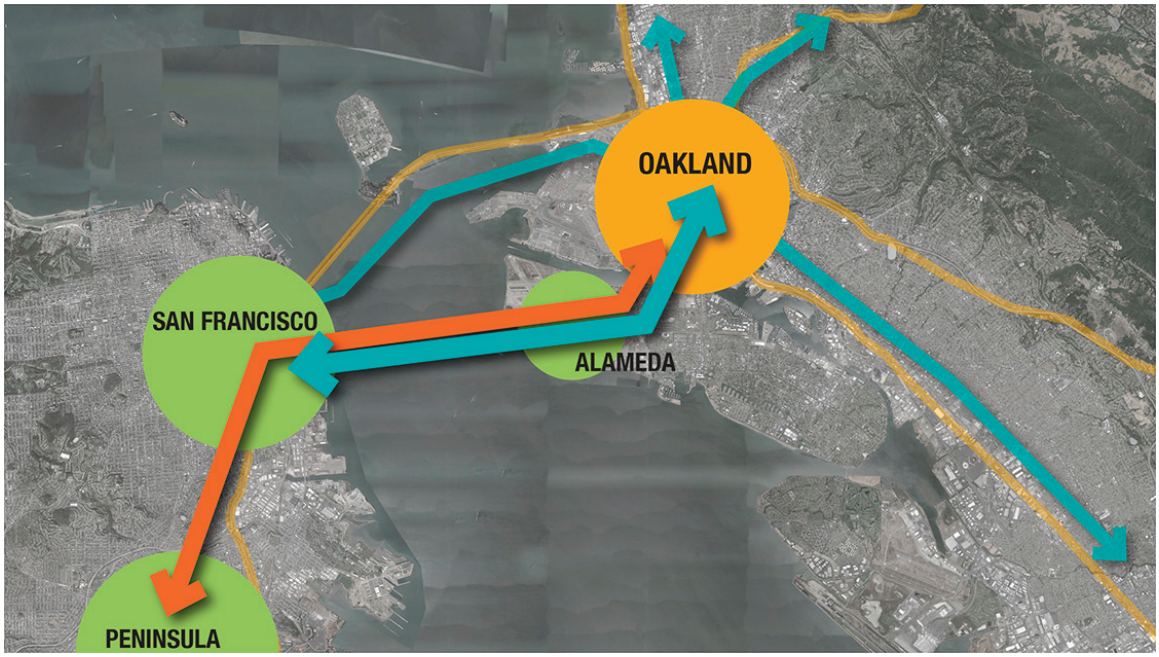


FIGURE 2: ConnectOakland sees the future Bay Area economy as a "dual core" system with Oakland and San Francisco as equivalent nodes rather than the single "central" node system of today.

WHY I-980, WHY NOW?

The Story of ConnectOakland

The ConnectOAKLAND vision is not the first proposal for rethinking this highway and very well may not be the last. ConnectOAKLAND was founded by Chris Sensenig, an urban designer for Van Meter Williams Pollack, a small urban design and architecture firm in San Francisco. In 2011, Chris happened upon the blogpost, "Occupy 980" (http://gondwanaland.com/mlog/2011/12/07/occupy-980/), by Mike Linksvayer that outlined the argument for why I-980 was redundant and challenged readers to "dream on!" for a new future for the highway. Captivated by the potential of the I-980 corridor, Chris formalized his thoughts in a Vibrant Bay Area blog post in December 2013 (http://vibrantbayarea.org/2013/12/tear-down-980-to-transform-oaklands-geography/), and developed a subsequent urban design study for the highway. The organization ConnectOAKLAND was founded in December 2014 and is committed to the advocacy necessary to change the status quo of the highway.

The ConnectOAKLAND vision and conceptual proposal is deeply influenced by the stark realities of living in the Bay Area, such as the high cost of living due to an uneven economic expansion, leading to an over-taxed transit system and congested highways resulting

in extreme commutes, extreme income inequality, and the displacement of residents that is occurring as a result. Oakland in particular has felt the brute force of the economic boom for both good and bad. Oakland is finally seeing new development and investment; however the city is also seeing rapidly escalating housing prices and rents reaching record highs, which is having a devastating effect on large segments of the population in the form of gentrification and evictions. These forces inform our push to think differently about the underutilized I-980 corridor and find a way to make it a productive, sustainable and livable piece of infrastructure for the many interests that live and work near it, rather than one that serves only motorists passing through it. Our goal is to bring to the attention of local politicians, the community, and regional planning agencies the unnecessary nature of I-980, and present a vision that will improve the social, economic, and physical health of the city and its residents.

ConnectOAKLAND's values are as follows:

- The project should focus on integration and investment in the surrounding community and should not lead to the displacement of existing residents.
- The transformation should be a catalyst to improve the health and wellness of the surrounding community.
- The transformation should first and foremost be about improving the quality of life of residents of Oakland and West Oakland in particular.
- The future vision should incorporate equity and sustainability as core tenants.

Over the past year and half, the ConnectOAKLAND team presented the project to West Oakland community leaders, local and regional planning and advocacy organizations, and local politicians. Oakland Mayor Libby Schaaf immediately understood the transformative potential of the project and directed city departments to work together to reconsider the highway in future plans for Oakland. The re-imagining of I-980 is now a part of the Downtown Specific Plan being undertaken by the city that will be completed in 2017.

"Infrastructure Mega-Projects profoundly affect people on the ground. Our I-980 is a cautionary tale – a broken promise of a 2nd crossing that remains a scare on our urban fabric. In its place, we want a Livable Infrastructure that creates Local Economic Opportunity, Reconnects Neighborhoods, and Connects the Region." – Mayor Libby Schaaf

THE HISTORY OF I-980

The existence of I-980 represents a complex story around race, class, and the rapid suburban expansion and highway construction that occurred nationwide during the decades following World War II. The rise of the automobile as the dominant form of transportation was fueled by massive federal investments in single-family housing such as guaranteed mortgages and the mortgage interest deduction, as well as the massive subsidization of highways. The enduring consequences of these massive government influences within cities that existed during that time cannot be understated.

Government policies such as redlining had fundamental impacts on post-war cities and the creation of urban freeways, and Oakland was no exception. As a result of a booming manufacturing economy and the lingering influence of war industries, Oakland's African-American population more than doubled between 1950 and 1970, from approximately 56,000 to 125,000. Between 1955 and 1965, however, approximately 163,000 white Oaklanders

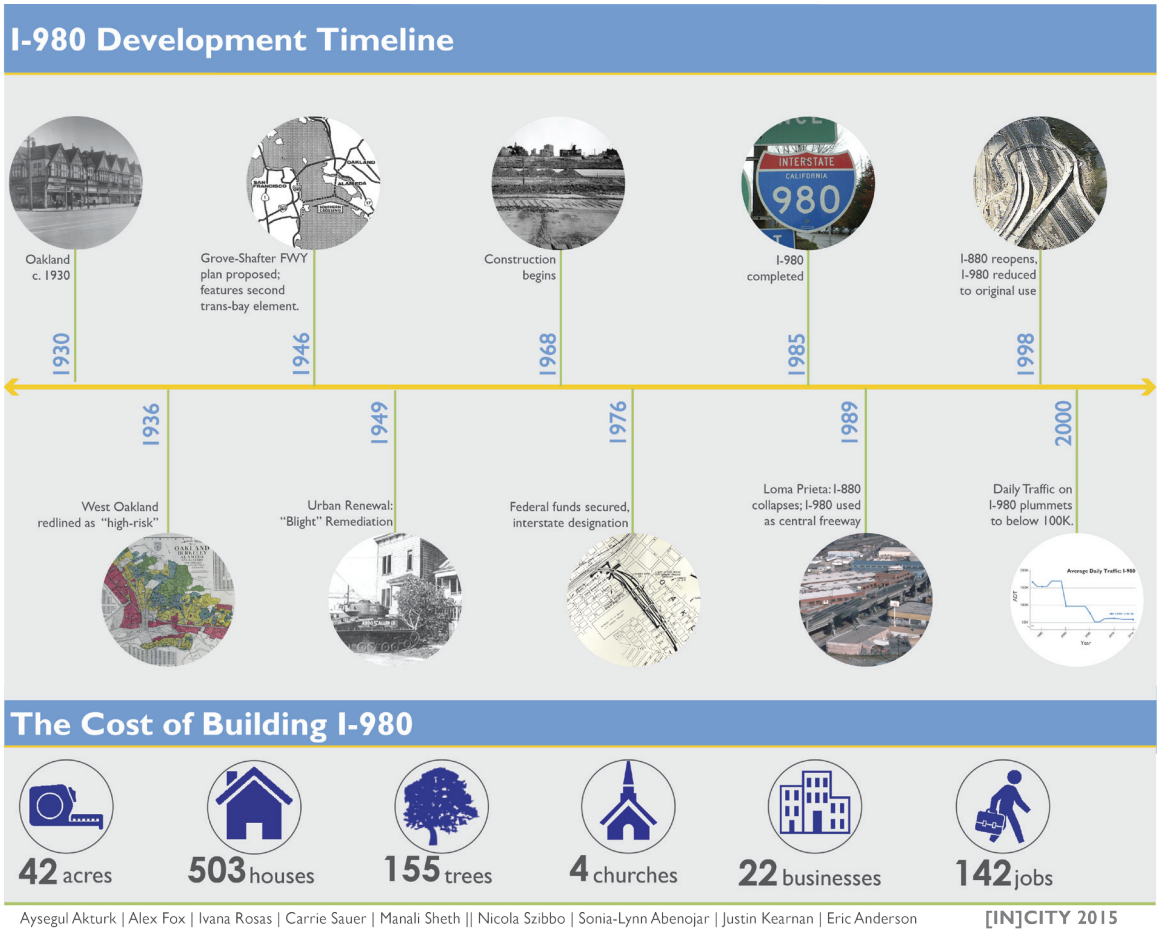


FIGURE 3: Timeline of I-980 construction as developed by University of California, 2015 Summer [IN]City team (NAMES LOCATED ON GRAPHIC).

14th Street – circa 1959

14th Street – 2016

FIGURE 4: The 14th Street Corridor - transformed from a thriving community with housing and businesses into a desolate freeway crossing dividing West Oakland from the downtown economic center of the city.

left the city for the newly forming suburbs. (American Babylon, Robert O. Self, pp 160, 166) The large-scale suburbanization that occurred during the post war years dramatically impacted existing cities. Suburbs were not only in large part shut off from African Americans through restrictions on mortgages and sales, but largely confined to certain neighborhoods within cities through the redlining of African American neighborhoods by the federal government, banks and other lending institutions. These practices prevented African-Americans from moving out of declining neighborhoods but also from obtaining loans to improve their properties. This inevitable decline ultimately led to many neighborhoods – West Oakland in this case – being declared as "blighted" and targeted for large scale redevelopment with the use eminent domain – mainly for the purpose of freeway construction. African-Americans were simultaneously prevented from moving from or improving the neighborhoods in which they lived, and the resulting lack of maintenance was cynically used as the excuse to demolish these neighborhoods.

The rapid post-war suburbanization also shifted transportation thinking from the streetcars, trains and mass transit of the early 20th Century to the era of the automobile. This thinking prioritized ease of private automobile travel over all else – pedestrian comfort, walkability, and viable, urban commercial corridors to name a few examples. The most visible and impactful manifestation of this thinking was the construction of urban highways.

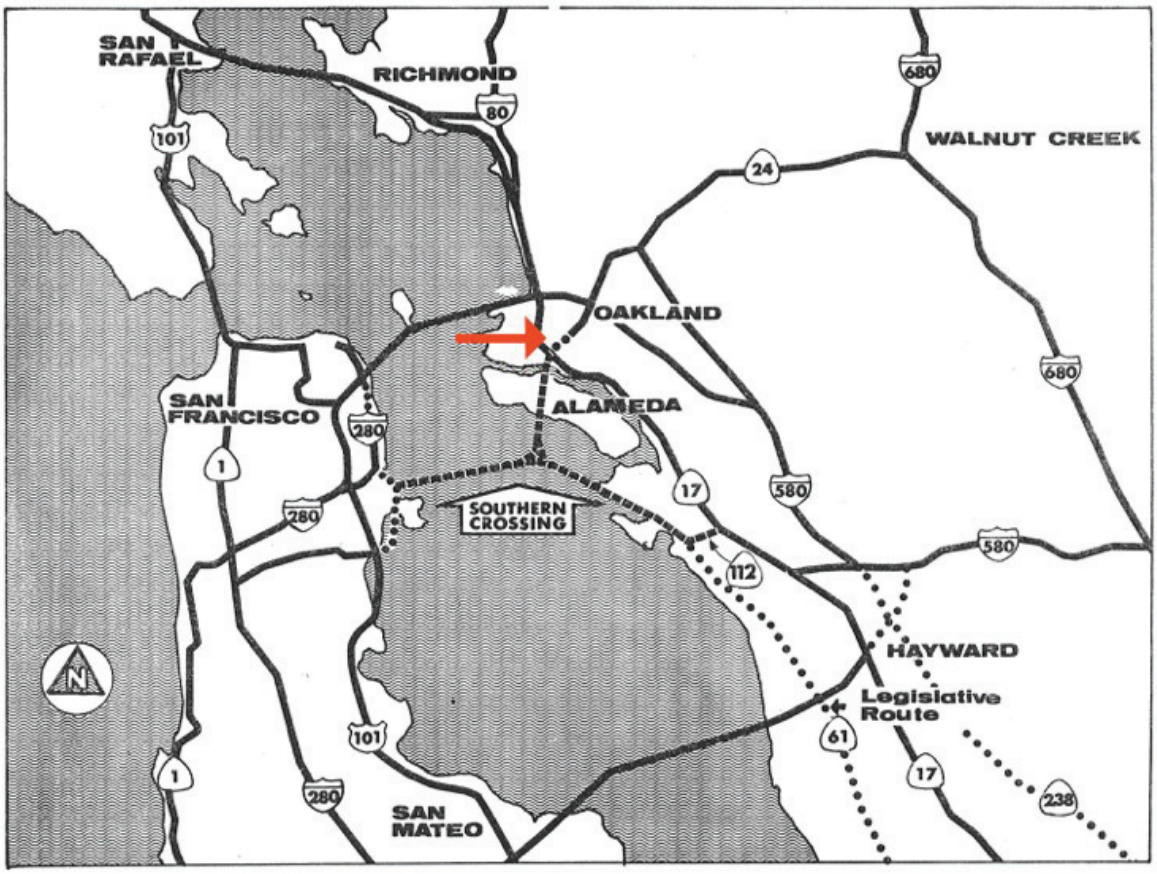


FIGURE 5: The I-980 freeway (highlighted with arrow in picture) was originally conceived as an onramp to a second Bay bridge that never materialized.

Highways were the arteries that fed the hearts of the growing suburbs. They allowed for easy access between a region's job centers and the bedroom communities sprouting from surrounding greenfield areas. I-980 was no different. Initially planned as the eastern approach to the San Francisco Bay Southern Crossing – an unrealized second Bay Bridge – it was part of the larger transportation network laid out for the Bay Area, and one that prioritized the needs of suburban commuters above those of urban residents.

Highways came to both define and girdle West Oakland. I-980 is now viewed as the eastern border between West Oakland and downtown. I-880 forms a barrier wrapping around the west and south sides of the neighborhood, and separates it from the Port and the redeveloping waterfront. The MacArthur Freeway (I-580), completes the loop on the north side by spatially and psychologically separating the entire neighborhood with freeways.

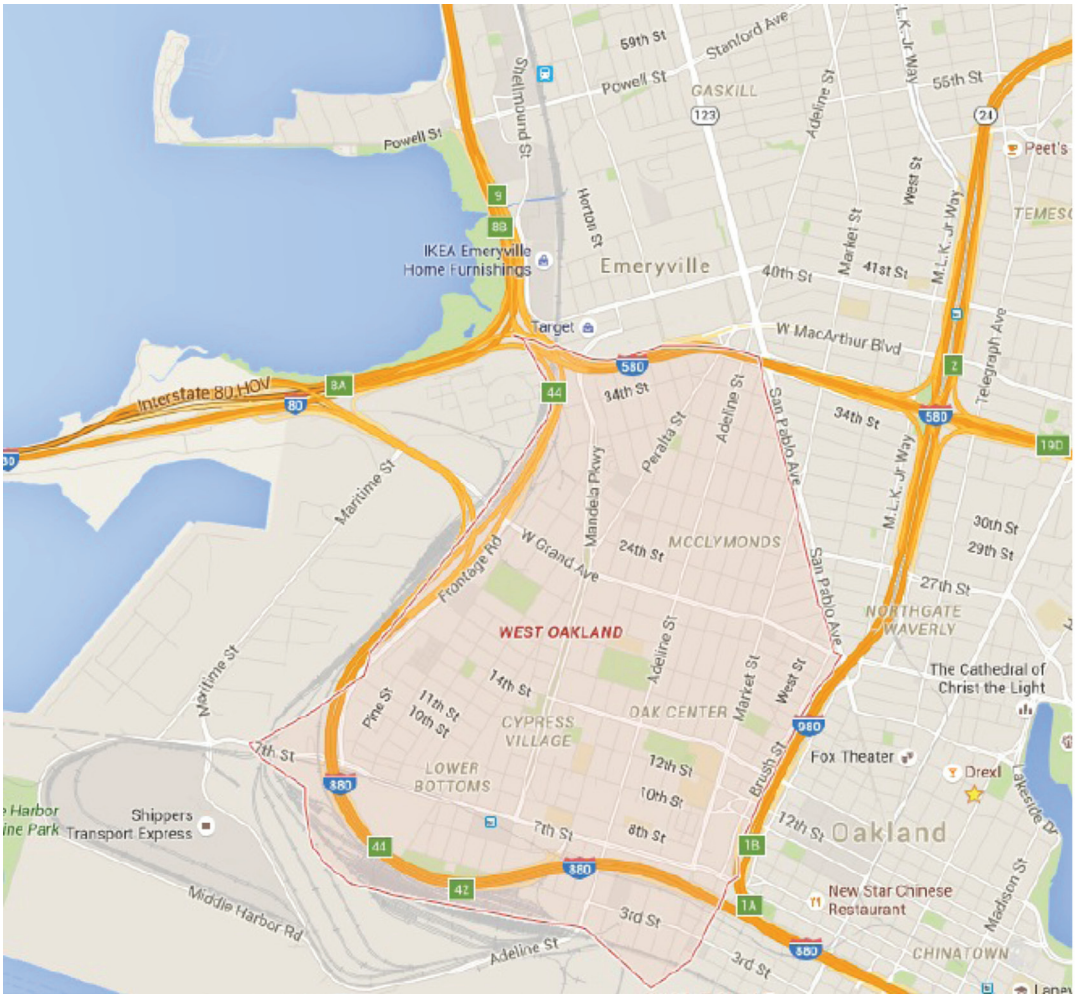


FIGURE 6: A neighborhood surrounded and isolated by freeways.

In the case of I-980, what was once a 15-block city grid replete with homes, business, churches and residents, was replaced with a sunken highway consisting of five desolate overpasses over an expansive system of on-ramps, off-ramps, and lightly used through lanes. In aggregate, these highways serve as "concrete" examples of the legacy big infrastructure projects have had on low-income communities. Under the banner of "blight removal" and transportation

efficiency, these highways were constructed not to serve the communities they displaced, but to create easy automobile access for suburban communities to reach the central business districts of both Oakland and San Francisco.

In the 1960's, San Francisco and the Bay Area saw the emergence of a new movement. San Francisco led the nation in opposition to the excessive highway construction of the post-war period and successfully opposed several planned highways. The residents of Oakland initially fought the construction of the I-980 freeway as well. While construction of the highway began in 1968, resident opposition, a series of lawsuits, and successful opposition to a second Bay Bridge delayed its completion until 1985. In the end the freeway was only completed as a result of a repositioning effort that tied the project to a downtown development and in turn changed the attitude of the local power structure.

In the 1970's, the City Center project -- a vast indoor mall located between the future I-980 freeway and the Broadway corridor – was proposed. After years of disinvestment, the mall was cast as the savior of Oakland. The project envisioned connecting parking structures to the I-980 corridor with direct on-ramps and off-ramps into downtown. This new vision was championed at the time by the City, not only by white residents, but by also the West

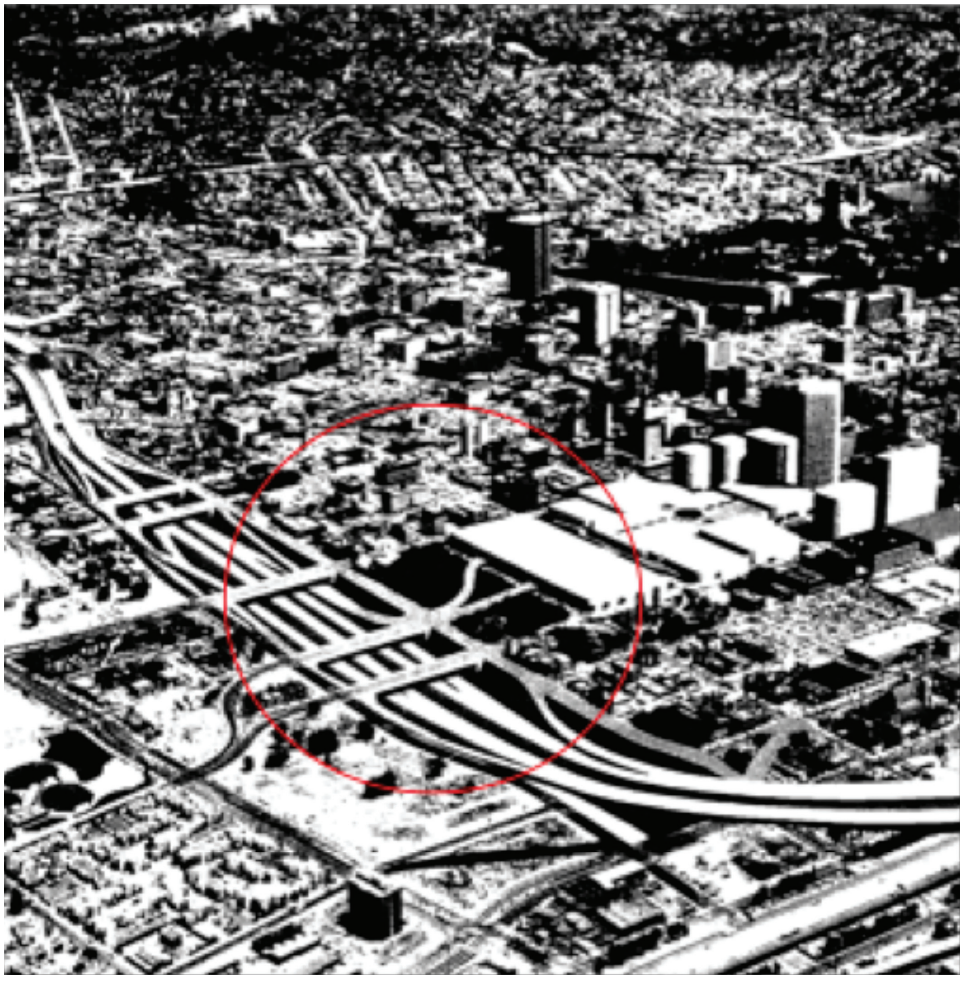


FIGURE 7: The late 1970's vision for downtown Oakland included the City Center Project, a grand indoor mall and office complex with on-ramps and off-ramps directly connection to the yet to be completed I-980 freeway.

Oakland African-American community, particularly the Black Panthers who saw the development as a potential source of jobs. Like so many grand visions, the full realization of the mall never came[1], leaving the freeway and its destructive path through Oakland without any tangible remaining purpose. The legacy of a divided city and the large swath of disinvestment that resulted continues to be a drag on the social, economic and physical well-being of Oakland as a whole. Today I-980 primarily serves as a bypass to drivers that saves approximately four minutes when compared with a similar street route. Interestingly, one of the primary uses of the highway is to allow drivers to connect from highways to the east to surface streets during the morning commute on the westbound Bay Bridge.

REGIONAL AND LOCAL PRESSURES, OAKLAND AND THE BAY AREA

Regional Context

The Bay Area has experienced explosive growth in both transit and highway use over the past half-decade. With no new added capacity to rail or highways expected for at least the next 10 years, extreme congestion in all modes of transportation is the new normal. Congestion creates harsh impacts on regional mobility and economic growth as employees must wait for two trains to pass before they can board, or when driving is not feasible between the hours of 2pm and 8pm due to saturated and congested highways. We must look at the limited capacity of our transportation corridors and see them not solely as conduits for vehicles, but as arteries that move people. Looking to the future, we must ask if the Bay Area is truly preparing for the estimated two million additional residents expected in the next 25 years. Either way, we must focus development and investment in our core cities to ease these capacity constraints, seek to use existing transportation corridors more efficiently, minimize environmental impacts, and maintain and improve the quality of life for residents.

Building a second transbay transit crossing would address much of the high ridership demand on the Bay Area's transit agencies, but also better accommodate more population growth, growth that would be focused around stations and realistically choose transit over cars. Oakland is not only the region's most central and transit-connected city, it also has the most potential for future growth. By transforming I-980 into a dual-use corridor comprised of a transit tunnel below an at-grade boulevard, it can be used not solely for automobiles, but can become a regional mass transit hub for future BART, Caltrain, HSR and commuter rail lines such as Amtrak that can connect far more residents to opportunities in cities throughout the region in the same space used by the freeway today.

Plan Bay Area

Plan Bay Area, the regional planning vision for the nine county Bay Area, calls for accommodating the Bay Area's future population growth in Priority Development Areas (PDAs) or areas that are best able to support and link housing and transportation. The Plan calls for expanding housing and transportation opportunities in concert with the goal of reducing greenhouse gas emissions, creating healthier communities, and building a stronger regional economy. The

1. A scaled down, much less expansive retail complex was finally built in 1990 – without the originally planned department stores. The current Oakland City Center "features an upscale fitness and racquet club, in addition to numerous take-out restaurants and other stores." (Oakland)

re-imagining of I-980 addresses all of these goals through increased regional transit capacity and connectivity, and also through an intensification of land uses (i.e. housing, office, retail) along the I-980 corridor.

SPUR Transbay Report/Bay Area Council Report

SPUR, a local planning and urban policy think tank, as well as the Bay Area Council, a public policy advocacy organization, recently drafted white papers examining the need for the region to build a second transbay rail crossing, and the logistics required to build it. The reports outlined key reasons why this crossing is an urgent necessity for the region now:

1) Capacity constraints in the existing Transbay corridor,
2) Unreliable service due to age
3) Risks to system from breakdowns and disasters,
4) The inability of the current transit network to accommodate the growing regional population,
5) The necessity of late night and 24 hour service.

Based on SPUR's research and analysis, it made seven recommendations for planning the second transbay rail crossing:

1. Fund and implement near-term and mid-term transportation solutions to make better use of the bridges, the existing Transbay Tube and the Bay itself.
2. Fund and initiate a planning and design process for a second transbay rail crossing.
3. Define regional priorities and form a state-level task force to secure funding and create an appropriate governance structure.
4. Study both standard gauge rail and BART gauge rail for the second crossing.
5. Begin incorporating a second crossing in local plans and projects.
6. Start planning for great stations areas today.
7. Prioritize designs that minimize construction impacts.

SPUR Oakland – Vision for Downtown

SPUR also released a report examining how to plan and foster growth in Downtown Oakland. The ConnectOAKLAND vision for 980 was included as one of the "Big ideas for the Future." The report called for reimagining "the I-980 right of way as a multimodal transportation corridor that opens up publically owned land to other uses and reconnects West Oakland to downtown." In addition the report endorsed building the second transbay crossing as a big idea, with the new crossing linking to the I-980 corridor.

UNDERUTILIZED INFRASTRUCTURE: THE CASE FOR RETHINKING I-980

Major pieces of transportation infrastructure, like freeways, airports or rail lines, are costly and complicated, so most people rightly assume that they will be heavily used. Most Bay Area freeways fit this assumption with high traffic volumes and congestion. The I-980 freeway in Oakland, however, is a clear exception to the rule. While not a highway to nowhere, I-980 has a questionable purpose since it was originally designed to access a never-to-be-built, second Bay Bridge[2]. As a result, the below grade portion of I-980 is one of the least busy freeway

2. A second Bay Bridge is often referred to as the Southern Crossing in much of the regional reports and articles.

FIGURE 8: Existing I-980 from freeway overpass

sections in the Bay Area for daily traffic, and may have the lowest peak hour traffic of any interconnected Bay Area freeway.

From a vehicular traffic perspective, I-980 is well-suited to a boulevard conversion. Although built to handle nearly 19,000 vehicles per hour, it currently carries only 5,200 cars during peak periods, and only 73,000 vehicles *per day* in its below grade segment between West Grand Ave and I-880. Despite the current congestion on I-80 and I-880, which carry 280,000 and 242,000 vehicles per day, I-980 carries less than 31% of their traffic — a clear indication that this infrastructure is poorly positioned and deserves reconsideration.

Many streets and boulevards in the Bay Area, such as Octavia Boulevard in San Francisco, have capacity to handle 6,000 vehicles per hour. The former Central Freeway, which Octavia Boulevard replaced, previously carried 90,000 vehicles per day. With access to the street grid to disperse traffic, Central Freeway traffic was diminished by nearly 30% with the boulevard replacement to only 63,000 vehicles per day. With interconnections into the Oakland street grid, a multi-way boulevard with a similar 30% dispersion into the street grid would conservatively require a maximum of 60,000 vehicles per day.

With new rail infrastructure included in the same alignment, trains could carry over 50,000 people per hour through the corridor – more than double the capacity of the existing highway. Cities like Oakland are growing and becoming denser, yet we do not have the capacity to build new highways without significant displacement of existing residents and businesses. Transforming the I-980 corridor from a low volume highway to a high volume transit corridor will address the current and future transportation demands of the Bay Area in a manner that is sustainable and benefits all.

The ConnectOAKLAND Proposal

The vision of ConnectOakland is to both right a past wrong by reconnecting West Oakland to Downtown, repairing a decades-long gash that separates the two neighborhoods, and look

to the future by connecting Oakland to the greater region via mass transit, recognizing that the future of transportation in America must be multimodal. The ConnectOakland proposal outlines how this vision can be achieved in practical steps:

The ConnectOAKLAND Concept

- Transform I-980 from its current form as a depressed, subgrade highway into an at-grade multi-way boulevard along Brush Street from 20th Street to I-880 and through to the Howard Terminal.
- Provide a rail "box" to house a new High Speed Rail (HSR), Caltrain and Bay Area Rapid Transit (BART) rail infrastructure below and along the boulevard.
- Reconnect West Oakland to Downtown by re-establishing 12 city streets and reducing walk distances across the public right-of-way (ROW), improving access between the two neighborhoods, and establishing a pedestrian-oriented urban fabric.
- Create approximately 17 net acres of new publicly-controlled land by creating 14 new city blocks between Castro Street and the newly-created multi-way boulevard and repairing seven blocks west of the boulevard.
- Remove the I-980 on/off-ramp overpasses connecting to I-880 and replace with new on/off-ramps connecting to 5th and 6th Streets. This will open up the Oakland skyline to view from I-880 and narrow the I-880 highway.
- Extend a new BART line under the new boulevard continuing from the existing MacArthur Station that connects to a second transbay crossing with new BART stations at 14th Street, Jack London/Howard Terminal and Alameda Point, and connect Caltrain and HSR to the I-980 corridor from San Francisco.
- Construct a "Central Station" at 14th Street that will serve as a regional transit connection hub.

The Multi-way Boulevard Solution to I-980

An at-grade boulevard will accommodate ample throughput for cars while reconnecting 12 cross streets connecting West Oakland to Downtown. Eliminating automobile traffic entirely is not the goal of the proposal, but a similar volume of automobile traffic can be accommodated while creating a more pedestrian-friendly, human-scale roadway with through lanes for through traffic, better connections to and from Oakland destinations, and new local travel lanes for local traffic and bicycles.

Key aspects of the multi-way boulevard solution:

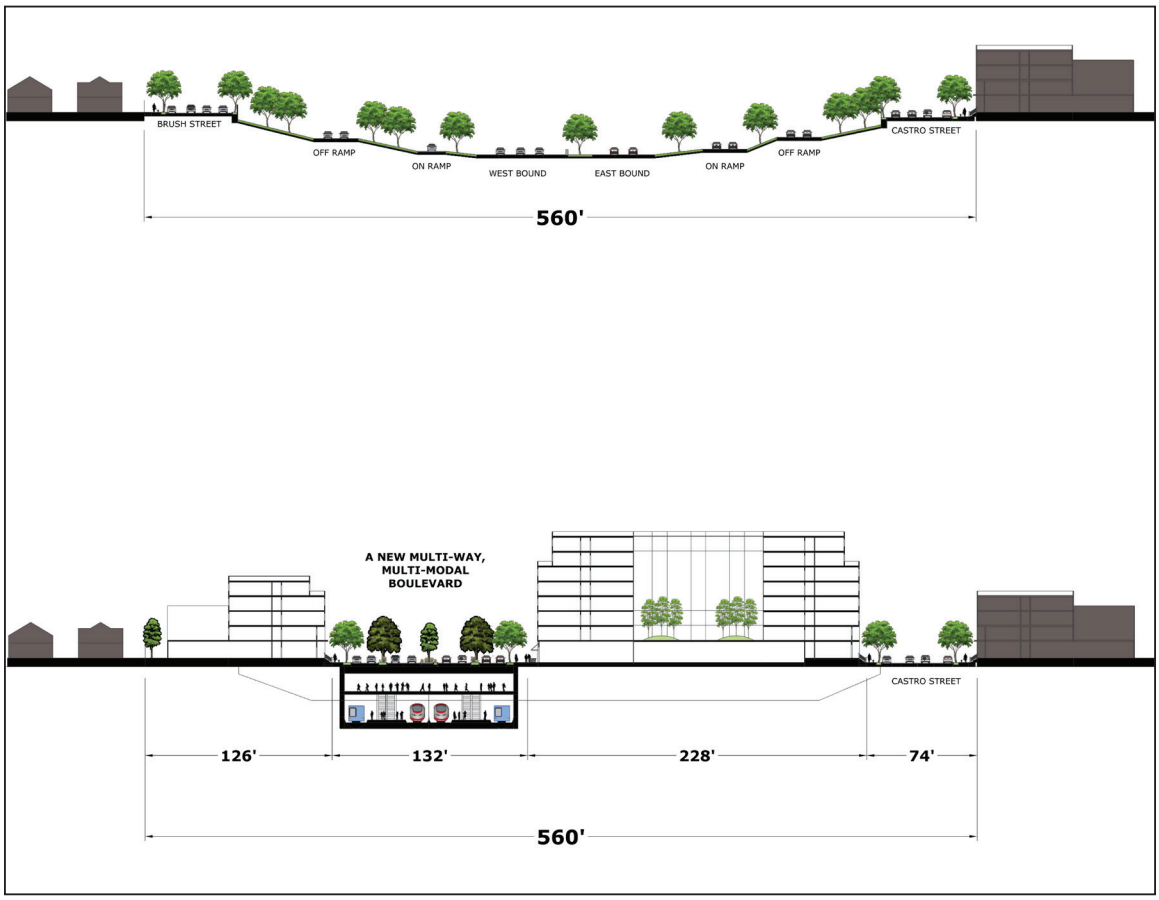
- I-980 becomes a new 6-lane multi-way boulevard between 20th Street and I-880 with two through lanes in each direction plus a local lane in each direction and left hand turn pockets. The details of the boulevard design can be determined upon a thorough traffic, pedestrian, transit, and bicycle movement analysis.
- The new boulevard lines up with the historic alignment of Brush Street allowing for the repair and re-establishment of the blocks to the west of the boulevard.
- Castro Street becomes a two-way, two-lane local street that will be more pedestrian friendly than its current form as a one-way three-lane frontage road.

Reconnecting West Oakland to Downtown

Perhaps the greatest justification for the transformation of I-980 is the context of its creation. Re-establishing the street grid that was disrupted by I-980 will do much to heal this lingering

scar. The current design of the right of way (ROW) has only five pedestrian and vehicle connections that cross the highway and connect West Oakland to downtown. These provide inhospitable, uninviting, and infrequent connections between the two neighborhoods. The new design of the ROW will re-establish 12 pedestrian, bike and auto connections between

FIGURE 9: Existing, sub-grade, 560' automobile-only right of way (above), and proposed, reduced 132' right of way with at-grade, multi-way boulevard, below-grade transit, and new development blocks (below).



West Oakland and Downtown. The new connections will improve pedestrian safety and physically, economically, and socially reconnect the two neighborhoods.

- Improve pedestrian, bike and auto connectivity between West Oakland and Downtown
- Increase the number of street connections from 5 to 12 between 20th and 6th Streets.
- Reduce the maximum street ROW from 560' to 132-150'

New Publicly-Controlled Land

The reduced width of the new ROW has the added benefit of creating new, publicly-controlled land. The ConnectOAKLAND multi-way boulevard solution repairs seven blocks west of the new boulevard and creates 14 new city blocks to the east, creating approximately 17 net

new acres of publicly-controlled land. This new land can be developed for any type of use or intensity that will best serve the interests of the City of Oakland.

Establish a New Front Door to Oakland: Remove the I-980 on/off ramp overpasses over I-880

The removal of the large overpasses connecting I-980 to I-800 can improve the view of the City for travelers along the I-880 Freeway and improve the entrance character to Downtown. A new, more appropriately scaled on/off ramp structure will also provide a new front door to West Oakland and the Jack London District while reducing the impact of I-880 as a divider between Downtown and the Jack London District. By reducing the overall width of the I-880 freeway, eliminating these overpasses will have the added benefit of allowing many of the empty and blighted parcels created by the current connections to be better utilized.

New Transit Tunnel below the Boulevard: Extending BART, HSR and Caltrain

Placing transit infrastructure underground is typically the most preferred – but most costly – method of construction. By leveraging the current existing subgrade ROW, the undergrounding of future transit lines is greatly simplified. There is no need to dig a trench or bore a hole for a tunnel[3] as the "trench" is already there. In fact, the transit tunnel would likely be built as a large, long rectangular box the length of the corridor – from 20th St to I-880. Backfilling the ROW with the future transit tunnel box already incorporated is a vastly less costly method than excavating or tunneling into existing earth. A multi-level design of this transit box will exponentially increase the amount of travelers the ROW can accommodate within a significantly smaller space, while allowing flexibility for future service, and enabling construction to start before the regional scale operational details are finalized for all transit agencies.

In addition to existing BART service, the new connection of Caltrain and HSR to the East Bay through the second transbay tunnel will give East Bay residents much better access to employment opportunities in the San Francisco Peninsula and Silicon Valley (e.g. Google in Mountain View, Genentech in South San Francisco) and will allow Peninsula residents to gain access to the East Bay with a more convenient transfer station to the Bay Area and points throughout the state.

Providing the space, flexibility and capacity for future rail in the form of a "rail box" located under the multi-way boulevard is as integral to the ultimate vision of the transformation of the I-980 corridor as the reconnecting of West Oakland to downtown Oakland. The rail box/transit tunnel under the boulevard would house the 14th Street station, some train storage, and possibly the Jack London / Howard Terminal station.

The I-980 trench is over half a mile long (2,850 feet). Consequently, 1,400 foot high-speed rail platforms are easily accommodated within the right-of-way, plus some modest train storage would be available depending on the ultimate length and number of tracks of the rail box.

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3. Some minor excavation will likely be required for the floor of the transit tunnel. If two track levels are built, more excavation would be necessary. However, in all, dramatically less excavation or tunneling would occur in the 980 corridor compared to any alternate new rail corridor.

FIGURE 10: Development capacity study with land regained by replacement of freeway with boulevard.

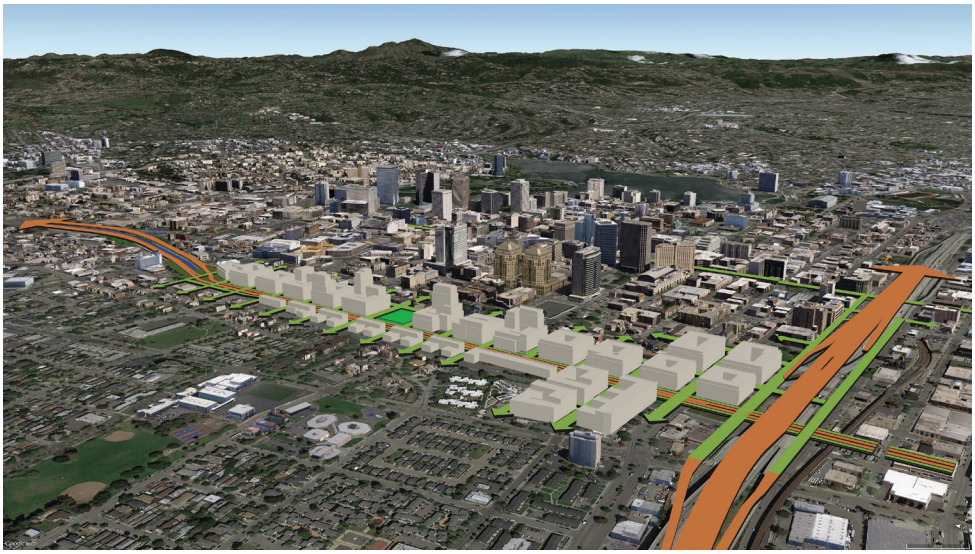


FIGURE 11: Removing the I-980 overpass connection to I-880 shown here would create a new front door to Oakland and render useful the parcels that are now undevelopable due to the freeway.

14th St. Oakland Central Station

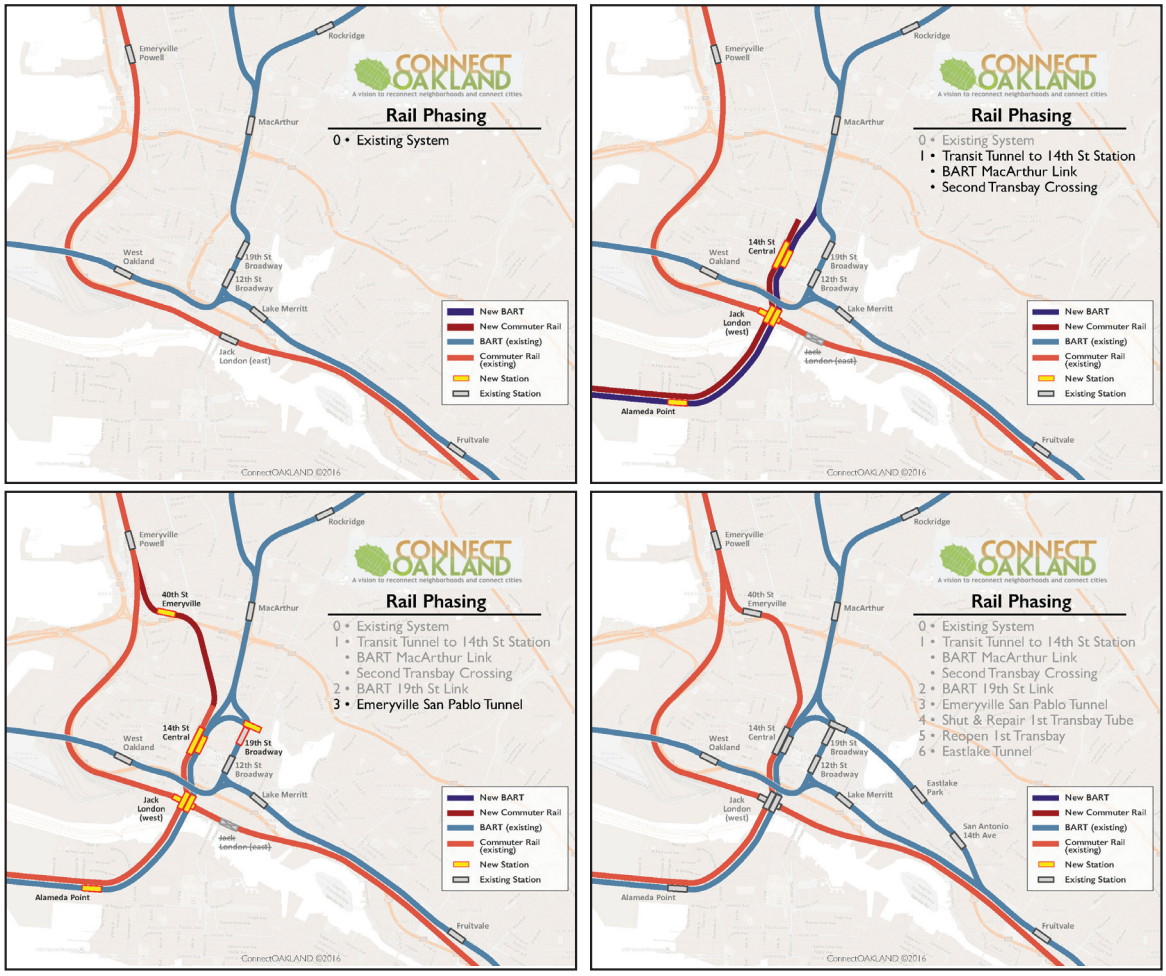
The transfer station for mass transit within the reconfigured corridor would allow for BART and commuter train service on a 700-foot long upper platform level. With four tracks and two center platforms, BART passengers from Walnut Creek and Richmond, for example, would simply cross the platform to take Caltrain to San Francisco, San Mateo, Redwood City and points beyond. This cross-platform transfer would be seamless — not requiring long walks or going up or down stairs and escalators. BART provides this type of transfer at its MacArthur and 19th St stations with great success. The lower platform level would provide two to four tracks with much longer platforms to accommodate the 1,400-foot long high-speed rail trains.

ADDITIONAL CONNECTOAKLAND BENEFITS

Potential location for Rail Storage

The I-980 ROW offers a potential location for a possible rail yard or at least some moderate amount of train storage, which would be necessary for expanded BART, Caltrain, and/or HSR

FIGURE 12: New Transit Tunnel below the Boulevard: Linking BART, HSR and Caltrain via a new 2nd Transbay Tube. Connecting the rail lines to the 980 transit tunnel would be phased in over time.

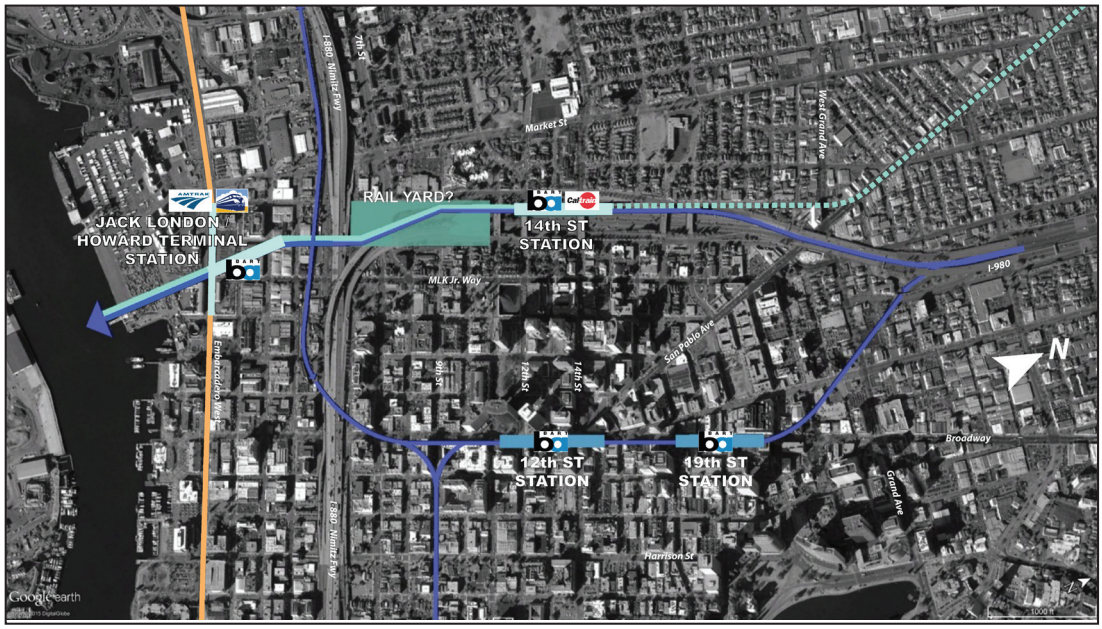


service. No Bay Area location has been selected for a HSR rail yard at this time. The I-980 ROW should be included in discussions concerning where to locate, store, and maintain rail vehicles. Even if a full-scale rail yard is not needed or not financially feasible, the transit box can accommodate temporary storage for some commuter rail and possibly HSR. With a box that follows the width of the boulevard, room for side tracks are available north and south of the 14th St station. Approximately 1,500 feet of storage track distance is available north of the station. This would allow minimum storage for 8 BART or Caltrain full-length trains and 4 HSR full-length trains. South of 14th Street Station, 700 to 1,500 feet is available depending the length of the box or at least 4 BART or Caltrain full-length trains. In other words, the transit tunnel box can have a moderate amount of train storage built into it.

Connecting to the Second Crossing

A second transbay crossing is accepted as being critical to the region's growth needs. I-980's location was already studied and deemed desirable for this kind of future use given its original vision of connecting to a second Bay Bridge. Leveraging I-980's current ROW takes

FIGURE 13: The 14th Street Station is ideally located just west of the urban core of Oakland west of Broadway. The Jack London/Howard Terminal Station would connect to inter-state Amtrak rail, and provide new regional access to the Jack London and Howard Terminal areas.



advantage of an existing corridor that would allow for the extension of BART south from MacArthur Station without the need to acquire significant amounts of expensive privately owned property. In addition, construction of the transit tunnel and the station at 14th Street displaces no buildings or residents. Building a station here is much less disruptive than placing it under a major street in Downtown Oakland where the street would have to be closed or severely constrained during years of construction.

A More Resilient Bay Area

A second crossing will improve the resiliency of the Bay Area's transportation network. One of the well-known, major "weak links" in the Bay Area's transportation system is the existing transbay tunnel – a single pinch point that all BART lines pass through, and on which the entire Bay Area commute pattern relies. Currently the Bay Area is unprepared for an inevitable seismic event or unplanned service interruption, and the region needs a second tunnel for redundancy in case the current tube is rendered inoperable.

Compatibility with Other Transit Networks

The Capitol Corridor and other Amtrak intercity lines pass through the Jack London district, as could future high-speed rail service. The ConnectOAKLAND proposal ties in well with improving access to these services. Intercity rail from Sacramento and points beyond could stop at the 14th St Station, or at an intermodal Jack London/Howard Terminal station at Market Street. A new Jack London Amtrak station could be an intercity terminal station in the medium term, with BART and Caltrain passing underground running north and south, while the current Amtrak intercity and Capital Corridor services would continue to operate on the surface tracks running east and west. In a later phase, a tunnel under San Pablo Ave could link

Capitol Corridor trains from the Transit Tunnel under the boulevard to Emeryville's existing intercity rail lines.

Multimodal stations at 14th Street and the Jack London district could potentially provide a stronger economic nucleus than the two existing BART-intercity rail transfer locations at the Richmond and Coliseum BART stations, which are not walkable nor proximate to a major regional downtown district.

Linking Amtrak and BART at the 14th Street Central Station is only a seven minute walk from Oakland City Hall and Old Oakland, and twelve minutes to the Uptown Oakland entertainment district and the Oakland Convention Center. In short, a 14th Street station is a perfect location for a full multi-modal transfer center. Serving subway, commuter rail and intercity rail, the station and the surrounding neighborhood will become a significant destination and major connection point.

As envisioned, a Central Station will benefit Oakland, the Region and the State exponentially more than the current use that only benefits around 70,000 cut-through commuters. People traveling from as far away as Sacramento will have access to any BART line, but also to Downtown Oakland itself. People living a few blocks away could take a train to visit family in Los Angeles. This station, coupled with the newly built Transbay Terminal in San Francisco, will create a "dumbbell node," elevating Oakland's centrality in the Bay Area economy, and seamlessly tie together the Bay Area's transportation network, and tie that network to the State.

Compatibility with Regional Planning Goals

The ConnectOAKLAND Vision will meet the goals of *Plan Bay Area*, the Association of Bay Area Governments' guiding planning document in the following ways:

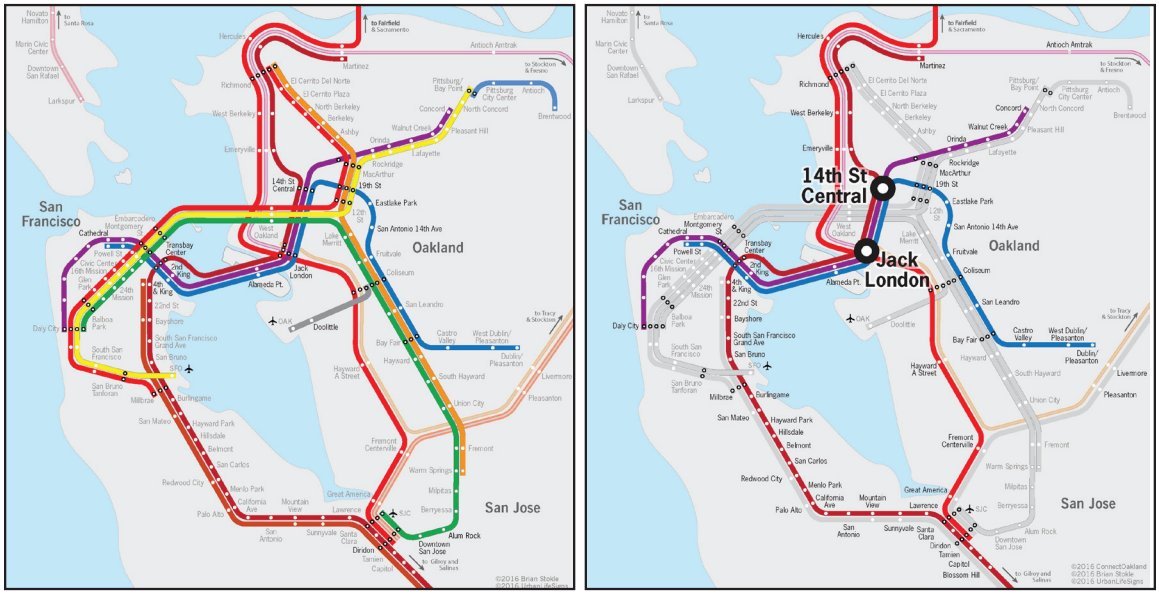
Housing: the reduction of the needed right of way for transit use will open up 17 acres of land and allow construction of hundreds of new housing units in close proximity to transit in a neighborhood that does not require residents to own a car. With Downtown Oakland at their doorstep they can shop by foot. With train access to the entire region, residents can access employment centers nearly everywhere.

Transportation: creating a second transbay rail crossing will increase transportation options for Bay Area residents to get between San Francisco and Oakland, and points beyond. A new Caltrain connection would greatly increase transit access between the East Bay and the jobs-rich Peninsula. Expanded rail service along the current Capitol Corridor would provide regional access to Plan Bay Area's priority development zones in Oakland, Emeryville, Berkeley and beyond.

Added Transit Capacity: The added capacity of the second transbay tunnel, along with other rail improvements will reduce congestion on existing rail corridors. Residents in Richmond will have the choice to take *either* BART or a Caltrain to get to San Francisco. Residents in Walnut Creek will be able to get a seat on a BART train because more trains will pass through to San Francisco in two tunnels. A Fremont resident will be able to attend a morning meeting in Downtown Oakland and then on to the Capitol Corridor to her job in Sacramento.

Connectivity: Reconnecting West Oakland and Downtown would create a healthier street environment not only for residents but for the City of Oakland. Re-knitting the two

FIGURE 14: Bay Area Rail system incorporating the ConnectOakland Rail Plan. Left: Full built out plan with a 2nd Transbay Crossing passing through Oakland. Right: rail lines that stop at 14th St Station and Jack London Station go to all points in the region.



neighborhoods together would encourage a more pedestrian-friendly, walkable and livable environment, and could also spawn local businesses and retail opportunities around the transit station.

Greenhouse Gas Reduction: The creation of new housing, commercial space, park space, all within close proximity of a major regional rail station is directly in line with the goals of Plan Bay Area, AB 32, and SB 375. It will greatly benefit the region's economy by enhancing mobility and access to Oakland and the region. It will benefit the local economy not only with jobs required during the phased construction period, but also with the permanent jobs created by the presence of an active transit station, new residents, and new neighborhood businesses.

The Next Steps for ConnectOAKLAND

Over the past year and a half, ConnectOAKLAND has been able to achieve many of its initial goals. Locally, we have gained support from community leaders and government officials, and have moved forward the discussion with neighborhood groups. Mayor Libby Schaaf has shown great support for the initial idea and concept and has directed her staff to further explore the possibility of reconfiguring the freeway. The removal of I-980 is now in the process of being debated and vetted by the community as part of the Downtown Specific Plan.

On the regional level, the ConnectOAKLAND vision has helped Oakland lead the larger discussion around the need for a second transbay tunnel. The City and ConnectOAKLAND has participated in discussions with the MTC, Bay Area Council, SPUR and attended the McKinsey Global Infrastructure Initiative in November of 2015 where global experts discussed strategies to design, build, maintain and operate a second transbay tunnel within 15 years. While admittedly it would be a monumental task to design, fund and build the second tunnel in such a short timeframe, the Bay Area and Oakland

desperately need to solve its transportation needs. Our economic health and resiliency, both locally and nationally, depends a great deal on the ability of Bay Area residents to solve its commute patterns across the San Francisco Bay. It is time to make big investments in our infrastructure.

The next steps for ConnectOAKLAND is to continue the discussion of highway removal both locally and nationally and continue to advocate and push for local and national government institutions to fund projects like the I-980 and the 2nd Transbay Tunnel. We will continue to work with local community groups to explore ideas and visions regarding the future of the highway. We also see ourselves as the storytellers of the past, present and future of the I-980 freeway, and are currently in the process of creating a documentary or series of documentaries highlighting the history of I-980 as an example of urban freeway construction and provide a voice to the people it affected and continues to effect on a daily basis.

CONCLUSION

The ConnectOAKLAND vision is but a small piece of a much larger movement of urban highway redevelopment that is gaining momentum throughout the nation and around the world. This movement has arisen in response to a simple reality: limited access highways are spectacularly incompatible with the functioning of sustainable and livable cities. The human city is the product of ten millennia of evolution and optimization to maximize the efficiency of economic exchange, cultural interchange, and infrastructure by minimizing distance. Highways, by definition, reverse this relationship to privilege speed and distance over exchange. This vision of modernism assumed that increased speed would have no effect on the exchange and efficiency crucial to sustainable urbanism, but with the benefit of hindsight we realize that this was hubris.

Freeways are the transportation equivalent of coal-fired power plants. Nobody denies their current utility and necessity, but those concerned about sustainability recognize that we as a society must pivot from this dated mode of mobility much like we are pivoting from wasteful sources of energy generation. The essence of sustainability is the challenge of meeting the needs of future generations. In a world growing increasingly warm, and a nation growing more congested and interconnected, the fundamental imperative of sustainability demands that we rethink our troubled history of city building, challenge the equity of our decisions, critically look at our land use patterns, and question infrastructure and modes of transportation that we might otherwise take for granted or see as a "natural order".

Geographical limitations, ever more punishing commutes and congestion patterns, resulting in greater globe-altering emissions mean we can no longer afford to sustain transportation monocultures or continue to implement single-purpose solutions. Our investments, as citizens, residents, and professionals must be focused on designing solutions that resolve a whole range of problems and creating flexible and redundant systems. In order to live up to the mantle of sustainability we must learn the lessons from our past, while prudently incorporating new technologies and vision without hubris, and we must build our efforts around a diversity of perspective. We at ConnectOAKLAND are grateful for the tireless work of so many neighbors, advocates, and professionals in communities throughout the country to advance the debate on urban highways to this point. We encourage you to join us and to collaborate in the sustainable re-envisioning of our national transportation infrastructure.