It Takes a Transit Village

How Better Planning Can Save the Bay Area Billions of Dollars and Ease the Housing Shortage

TRANSPORTATION AND LAND USE COALITION

Working together for a sustainable and socially just Bay Area

The Transportation and Land Use Coalition is a partnership of over 90 groups working for a sustainable and socially just Bay Area. We envision a region with healthy, walkable communities that provide all residents with transportation choices and affordable housing. The coalition analyzes county and regional policies, works with community groups to develop alternatives, and coordinates grassroots campaigns.

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Cover page image depicts Fruitvale Village. Photo by Evelyn Johnson, used with permission of the Fruitvale Development Corporation.

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Executive Summary

The Bay Area faces two worsening crises: a severe lack of affordable housing and a severely strained transportation system. Housing prices continue to skyrocket, as housing construction falls far short of demand. Most newly built housing sprawls over our precious greenfields and open spaces, requires a car for every trip, and is a major reason traffic congestion has spiked over the past 10 years.

To ensure the continued viability of the Bay Area's economy, environment, and quality of life, we must immediately take steps to link our regional transportation investments to local land-use decisions. And we must find ways to bring back the idea of traditional towns, where people can walk to local shops, the library, their friend's house, and public transit.

Fortunately, the Bay Area is perfectly situated to capitalize on the growing demand for transit-oriented development. We already have an extensive public transit system, and are on the verge of a massive $12 billion expansion, which will create new transit stations across the region. It is the areas surrounding these existing and future transit stations that present our best chance for simultaneously relieving the region's housing and transportation crises.

According to a recent study, of the one million new residents projected for the Bay Area by 2025, half can be housed in areas within a half-mile of transit stations. Creating walkable communities in these areas was also the primary recommendation from a visioning process for Bay Area growth that concluded in 2003.

Developing transit-oriented housing on this scale would have direct financial benefits. TALC calculates that, combined, Bay Area residents would save over $1.8 billion annually on transportation costs – an average of $600 per household. Residents would save billions more indirectly from reduced health costs, less time lost to congestion, and a stronger tax base. Perhaps most importantly, transit-oriented development can help increase the overall supply of housing and bring in a much needed mix of housing types and prices.

Unfortunately, too many of these areas near transit stations – identified in this report as Transit Opportunity Zones – are being lost to big-box stores and sprawling office parks, which do not attract many transit riders and, obviously, do not solve the housing crisis.

The BART extension to the San Francisco International Airport/Millbrae is a perfect example of land-use mistakes trumping good transit intentions. A Costco was built near the South San Francisco station that generates very few BART trips. If medium-density housing had been placed there instead, its residents would have generated nearly half a million dollars a year in fare revenue for BART. These mistakes add up. The operating subsidy for this line was originally expected to be low, under $2 million for 2004. Instead it is costing San Mateo residents over $20 million in 2004 (through their county transit agency, SamTrans). In stark contrast to the South San Francisco BART debacle is the success of Oakland's Fruitvale BART station, where smart-growth, mixed-use development around the station has turned an old parking lot into a vibrant new gateway to an existing urban community, along with new housing, stores, and community services.

The question now is what will keep us from repeating the mistakes of the past. Last year, for example, the city of Fremont approved a huge Wal-Mart just north of the future Warm

Springs BART station. Now they have a chance to do the right thing by approving a mixed-use, walkable transit village with 1,735 housing units, just east of the future station, which would guarantee better ridership for the extension. Yet, the city is considering a plan with no housing at all. A local decision to build more office parks and big box stores would mean that Bay Area taxpayers would pay for a $700 million one-station extension that forever requires massive operating subsidies because of low ridership.

In addition to planning for more housing in these transit station areas, we need to think about how to build great communities. For these efforts to succeed, cities must take into account each of the 3 "Ds" of smart growth:

- **Density** that provides the population needed to sustain transit investment, by ensuring ridership.
- **Diversity** in developments near stations that create vibrant and interesting environments.
- **Design** that enhances the quality of the public environment, particularly for pedestrians.

The Metropolitan Transportation Commission's (MTC's) *2005 Regional Transportation Plan* (also known as "Transportation 2030") offers a golden opportunity to undertake smart planning that links together transportation and land use plans. To ensure that the Bay Area's tax-funded transportation dollars aren't wasted due to poor land-use planning, TALC is calling on MTC to condition funds for new transit expansion projects on the adoption of city plans and codes that address all three "Ds" of smart growth. Cities that want to continue building big-box stores next to valuable transit assets could continue to do so. But since such land use will not benefit the region, they should not expect to receive regional transportation dollars.

Specifically, TALC recommends that MTC condition funds for Transit Opportunity Zones (areas within a half-mile radius of heavy rail, ferry, and light rail stations or within a quarter-mile of Bus Rapid Transit corridors) on the following criteria:

1. **Density:** Within Transit Opportunity Zones, minimum average net density for vacant land and redevelopment would be 30-45 units per acre for residential development, with floor-to-area ratios of 2-4 for commercial development.
2. **Land use:** At least half of the land within a Transit Opportunity Zone would be designated for housing, and of that 20% would be designated as affordable. Automobile-oriented uses, including retail stores over 50,000 square feet, would be prohibited.
3. **Parking policy:** Cities would set maximum parking limits for residential developments within Transportation Opportunity Zones but would not set minimum parking requirements.
4. **Bicycle and pedestrian access:** Jurisdictions would prepare street improvement plans to coordinate improvements in pedestrian amenities, street crossings, and bicycle lanes and paths, and create a network of bicycle lanes within a one-mile radius of transit stations.

Adoption of this policy will finally link the Bay Area's transportation investments with local land use decisions. It is a policy that will protect taxpayers, commuters, the environment, and our quality of life for generations to come.

Introduction

The Bay Area faces two worsening crises: a shortage of housing that middle- and lower-income families can afford, and an incredibly strained transportation system. The bulk of new housing is built beyond the edges of existing cities, destroying valuable open space. These far-flung subdivisions are too spread out to support transit service, so they add traffic to the region's already congested freeways. Meanwhile, land around transit stations, which is best suited for mixed-use housing and office space, is instead frequently developed with big-box retail and fast-food drive-ins. Transit ridership suffers, requiring taxpayers to contribute unnecessarily high transit subsidies, and the roads get little relief.

Office sprawl around the Santa Clara Valley Transportation Authority's (VTA) Tasman light rail line epitomizes the region's failure to make use of its transit investments.The circle surrounds a light-rail station.

To protect the Bay Area's taxpayers and quality of life, it is time to forge a closer link between transportation investments and land use decisions. Fortunately, the Metropolitan Transportation Commission's 2005 Regional Transportation Plan (RTP), which sets spending priorities for the next 25 years (also known as "Transportation 2030") offers an unprecedented opportunity to do just that.

MTC is considering a policy that would condition funding for major new transit expansion projects on commitments by local governments to ensure adequate ridership by creating walkable communities with significant housing near transit centers. This policy would apply only to new transportation investments, such as the eBART extension in eastern Contra Costa County, Bus Rapid Transit in Berkeley and Oakland, and rail service in Marin and Sonoma counties. (See Appendix 1 for included projects.)

Focusing new transit investment in areas with supportive land uses will reduce taxpayer subsidy of transit, reduce congestion and air pollution by giving people effective transit options, and conserve open space by intensifying development around stations.

An October 2003 MTC staff memo to the MTC Advisory Council summarizes the rationale for a land use policy: "Any major transit investment must consider its ridership markets if it is to be economically feasible, and adjacent land uses to the transit infrastructure plays an enormous role in determining that viability. Therefore, the Commission should consider explicitly conditioning the award of those funds under its control … until local government demonstrates that plans are in place supporting some level of increased housing/employment density around transit stations/transfer centers."[1]

To accommodate these worthy goals, MTC's policy will need clear criteria and effective strategies for implementation. This report reviews some recent research on the effects of

community design and land use on transit ridership. It also reviews examples of agencies and cities that are implementing similar policies.

Finally, the Transportation and Land Use Coalition (TALC) makes specific recommendations for developing "Transit Opportunity Zones", to ensure that station area development supports transit ridership and helps alleviate the housing crisis.

MTC's adoption of TALC's recommendations would be an important step toward protecting commuters, taxpayers, and quality of life in the Bay Area.

Changing the Course of Growth in the Bay Area

The Bay Area possesses outstanding natural beauty and a dynamic economy – attributes that are expected to attract at least one million new residents and one million new jobs in the next 25 years.

If we continue to accommodate the growth in low-density sprawl developments on greenfields, we are assured of skyrocketing congestion, less open space near existing residents, and higher taxes to build and support the infrastructure for widening highways for such inefficient growth.

Unlike most other regions in the country, the Bay Area has a robust public transit infrastructure. In 2004, voters approved a bridge toll increase and sales taxes in several counties that will greatly expand these transit systems, demonstrating the public's willingness to address traffic congestion by investing in transit. These investments give us a golden opportunity to focus new growth around public transit, creating vibrant, walkable transit villages.

Current Trends Base Case

But do these investments automatically spur walkable, livable communities that can accommodate much of the new growth? Unfortunately, they do not.

Many cities have zoning and design codes that forbid towns from creating what we think of as the traditional Main Street. These cities have strong fiscal incentives to build big-box retail stores and auto dealerships instead of housing. Many lack planning funds to create a new vision of their downtowns and transit areas.

In 2001 and 2002, the Association of Bay Area Governments (ABAG), MTC, and the Bay Area Air Quality Management District led a series of public workshops and town hall meetings in each of the nine Bay Area counties, which produced a "Smart Growth Vision" for development in the Bay Area. The visioning process addressed transportation, air quality,

open space conservation, and social equity in a baseline scenario compared to three alternative smart growth scenarios.

Most participants expressed concern about suburban sprawl and the extensive traffic congestion predicted under the status quo scenario. Such concern is understandable, as the Texas Transportation Institute reports that the San Francisco–Oakland area experiences the second-worst traffic congestion in the country. In the past 20 years, the amount of time spent per year in traffic delays more than doubled for Bay Area residents — from 30 hours in 1982 to 73 hours in 2002.[2]

The conclusion from the Project's workshops and meetings was simple: the Bay Area must grow smarter, accommodating its future job and population growth in existing urban and suburban areas rather than continuing to extend growth outward.

The alternative preferred at the workshops, called a "Network of Neighborhoods," suggests putting about half of new development over the next two decades in and around transit hubs and corridors. Achieving the smart growth vision would save 79,000 acres of open space and agricultural land from development and give twice as many households access to frequent transit service compared to the status quo,[3] increasing transit patronage and allowing an additional 163,000 households to avoid automobile ownership altogether.

The decreased water use under the smart growth scenario would bring savings to the region's utilities by helping them avoid costly water-supply expansion projects. (See Table 1.)

Smart Growth Vision

Based on input from local governments that some housing densities were unrealistically high, ABAG revised the Network of Neighborhoods scenario. The final smart growth scenario became the basis for Projections 2003, a set of economic and demographic forecasts used by regional agencies to determine fiscal allocations for transportation and other infrastructure projects. Unlike earlier ABAG forecasts, which extrapolated from existing trends, Projections 2003 relies on assumptions that city and regional agencies will adopt policies that promote smart growth.

Table 1: Benefits of the smart growth alternative (with 1998 as a baseline)

	Base Case 2020	Smart Growth Alternative 2020
Greenfield development	83,000 acres	4,000 acres
Daily household water consumption	300 gallons	250 gallons
Increase in number of car-less households	42,925	206,291

Sources: Association of Bay Area Governments (ABAG), "Alternatives Report for Round Two Public Workshop Participants and Other Bay Area Residents" (April 2002), 8–11; ABG, "Regional Projections," ABAG Projections 2003, <http://data.abag.ca.gov/p2003/regional.htm>; author's calculations.

MTC's own preparations for the 2005 Regional Transportation Plan (also known as "Transportation 2030"), which included dozens of focus groups, workshops, and surveys, revealed strong public support for better integration of transportation and land use, more convenient transportation options, and housing affordable to all income levels. Now, MTC can help realize the public's vision by providing funding and technical support to cities that plan for walkable transit villages. By adopting a policy to condition transit investments on transit-supportive development and zoning, MTC would help the Bay Area realize the benefits of the smart growth vision.

MTC's Stake in Smart Growth

Land use decisions regarding the location, density, and design of local development are controlled by city councils and by county boards of supervisors. These decisions also have a tremendous impact on the financial viability of regional public-transit investments. MTC recognizes that the more people live and work near public transportation, the greater the ridership and the lower the annual subsidy required. Similarly, new or improved public transit is vitally important to providing access to new infill housing. Transit-oriented housing, in turn, offers greater mobility and lower personal transportation costs for residents.

With its Transportation for Livable Communities (TLC) program, MTC has already proved that there is local desire for greater coordination of transportation and land use. The program offers financial incentives to cities for projects that either promote a wide range of transportation options or provide compact housing development near public transit. Since the program's inception in 1998, MTC has provided planning grants, capital grants, and Housing Incentive Program (HIP) funds for more than 103 projects, transforming many neighborhoods from places people simply pass through to places in which they live and work. The

TLC program's success led MTC to increase its annual funding from $500,000 to $27 million.

Of course, there is no one-size-fits-all policy for what transit villages will look like. Appropriate development for a small town in Solano County will look very different from an appropriate development for a lot adjacent to an Oakland BART station. For cities that want to create walkable communities that better support public transit, MTC plans to provide technical and design assistance as well as planning funds to help them meet their needs. MTC will also give financial assistance at the county level.

The Transportation Planning and Land Use Solutions (T-Plus) program will help the nine county congestion management agencies (CMAs) to "pursue tailored efforts at the county level to promote livable communities, and enhance greater coordination between transportation and land use."[4]

MTC's various programs integrating transportation and land use are a clear indicator of the importance of coordinating planning in these areas. While these support good projects and programs, none of them guarantees that massive new transit investments will be supported by appropriate land use policy. To understand the urgency of linking transportation and land use more comprehensively, we must understand the high financial costs of maintaining the status quo.

The High Price of Low Density

Until the mid-1990s, most station-area development focused on maximizing station parking. Often, the design of nearby housing, offices, and shops bore little relationship to the transit asset. Financial boondoggles, such as the VTA's Tasman West light rail line and the BART extension to SFO/Millbrae, exemplify the consequences of bad planning around transit stations.

BART-SFO Extension

The $1.5 billion BART extension to the San Francisco International Airport/Millbrae is carrying only 52% of its projected passenger levels. The San Mateo County Transit District, SamTrans, is responsible for the operating subsidy for the extension, originally forecast at $1.3 million. However, the low ridership on BART necessitated a drastically greater subsidy of $20.8 million in 2004, forcing SamTrans to cut back its bus service. (See Table 2.)

Most of the underperformance can be traced to two factors: the throngs anticipated to transfer from Caltrain to BART never materialized, and land uses around the new stations don't support the extension investment. For instance, the Costco warehouse built near the South San Francisco BART station generates far fewer transit trips than would a well-designed residential or office development on the same plot of land.

In contrast, if medium-density housing had been put on the Costco site, it could have spurred $492,000 in fares, or ten times more than Costco, based on the assumptions listed in Table 4. TALC estimates that Costco generates only $44,000 per year in fare revenue for BART. Over 25 years, medium-density housing (45 units per acre) would have generated $10 million, or more, than the existing Costco.

The Costco parking lot (foreground) is a little over ¼ mile from the new BART station (indicated by the arrow).

Photo by John Reed

The region can ill afford to waste additional resources on transit projects with a weak link to land use. Many consumers and cities want big-box retail, but if Costco had been built at a different site it would have generated similar revenues for the city, and taxpayers and BART fare-payers would have $10 million more in their pockets. Residents would not have to sustain transit cuts such as SamTrans is now undertaking, which hurt seniors, youth, and low-income workers.

Table 2

BART-SFO EXTENSION	FY2004 Projected	FY2004 Actual	% Difference
Avg. weekday trips	48,961	25,363	–48%
Annual net revenue ($Millions)	$44.1	$24.5	–44%
Operating costs ($Millions)	$45.4	$43.7	–4%
Taxpayer subsidy ($Millions)	$1.3	$20.8	+1,500%

Source: Pam Herhold, BART Planning Dept. Ridership projection based on interpolation between 1996 EIR projections for 1998 and 2010. Revenue projection based on BART's estimate.

Table 3: Estimated ridership and BART revenue to/from Costco

Costco Factors	Totals
Number of employees	300[6]
Number of transit riders per day (employees plus customers)	40[7]
Average roundtrip fare	$5.90
Days per year	365
Annual BART revenue	$86,140
BART revenue over 25 years	$2,153,500

Table 4: Ridership potential if site had been residential

Residential Development Factors	Totals
45 units per acre × 15 acres	675 units
2.87 persons per household, of which 1.65 persons are employed[5] and commute to work	1,114 employed residents
30% of residents use BART	334 regular commuters
$5.90 roundtrip (BART from South SF to downtown SF) × 250 days per year	$1,475 per commuter per year
Annual BART revenue	$492,000
BART revenue over 25 years	$12,300,000

VTA Tasman West

The $325 million light rail extension from Santa Clara to Mountain View was meant to alleviate traffic congestion around the area's many large firms, including Cisco Systems, Lockheed Martin, and the NASA Ames Research Center. However, the spread-out, auto-oriented design of the office campuses, with expansive parking lots and lack of pedestrian features, has instead fostered auto travel to the area.

Although the 1995 EIR projected average daily ridership on the Tasman West line to be 5,800, actual ridership for fiscal year 2003 (through August 2004) was well below, at 3,671.[8] While some of the low ridership can be attributed to the economic downturn, in hindsight it is clear that light rail investment in this type of area was not cost effective without requiring new offices to be oriented toward the light rail stations. In a 2003 interview with the *San Jose Mercury News*, VTA board member and Gilroy mayor Tom Springer observed, "The differences in the [Caltrain and light rail] systems have a lot to do with geography. Light rail works in older, established communities with stable business zones, not places like [Silicon Valley] where the business community is spread out…"[9]

San Jose City Council and VTA board member Pat Dando affirmed the need for solid planning for transit investments, telling the *Mercury News*, "As we prepare for future lines, we have to build them to places that people want to go.… In the past, we've felt if we build them, operating and maintenance money would somehow flow. That was foolhardy. It was like immaculate revenue or something."[10]

Due to the failure to combine transit improvements with complementary land use strategies, commuters now face higher fares, less frequent service, and more traffic. VTA's Strategic Plan now specifically incorporates a TOD program that includes station-area planning, joint development with cities, and outreach and education to public and private interests desiring implementation assistance.

VTA's goal is to have TOD in place by the time new transit lines begin operation. But this is a voluntary program; cities do not need to demonstrate changes as a condition of the transit investment. To their credit, in fall 2004 the city of San Jose has proposed to build at densities needed to make the Guadalupe light rail line a success while addressing future housing needs.

With more careful planning in proximity of transit station areas, we can avoid costly taxpayer boondoggles such as these. Both VTA and BART acknowledge that coordinated effort between cities and transportation agencies regarding land use and transportation planning is necessary going forward. BART's System Expansion Policy will be described later.

Smart Planning Keeps the Bay Area Affordable

The Bay Area's acute housing shortage, skyrocketing housing prices, and an extensive public transit system make it an ideal environment for transit-oriented development. Indeed, good projects are being built all around the Bay Area. The project has received the most attention is the Fruitvale Village, in Oakland, pictured on the cover of this report and in the before-and-after pictures on the next page.

Fruitvale Village from the adjacent BART station. Before (left) and after (right).
Photos courtesy of Fruitvale Development Corporation.

At Fruitvale, a leading community group, the Unity Council, catalyzed the development and accepted a tremendous amount of community input in designing it. The Fruitvale Village is now nationally recognized as a leading Smart Growth initiative. Located directly between the Fruitvale commercial district on International Boulevard and the BART station, the transit village includes housing, shopping, and much-needed community services. The project is the culmination of a decade of planning and $100 million in public and private funding raised by the Unity Council.

The village, completed in spring 2004, has a large pedestrian plaza and includes 47 housing units. The project also includes comprehensive community services: a new Cesar Chavez public library with a computer center, a health care facility, a child care center, senior center, and several community organizations. The development also includes 39,000 square feet of retail businesses, including several restaurants, a coffee house, optical and dental offices, and a Curves gym.

Fruitvale Village helps to revitalize the corridor as well as link the diverse community and thousands of daily commuters to the services, businesses, and public transit options that are offered in the neighborhood.

But Fruitvale remains an exception. Cities face incredible pressure to develop in a way that increases tax revenues, with new office and commercial development, which generally require fewer city services. In many cities, general plans and zoning codes are simply outdated and don't adequately consider this future transit asset. Comprehensive planning takes money – something that is also in short supply right now in the cities.

To understand why it is so critical for MTC to reward communities that take full advantage of their Transit Opportunity Zones, this section reviews the proposed land uses near the future BART Warm Springs station. It analyzes the financial benefits that accrue from building a Transit Village instead of more office and commercial sprawl.

This section then takes a long-term view and quantifies the financial benefits that accrue to Bay Area residents by pursuing a smart-growth vision.

Case Study: Benefits of a Warm Springs Transit Village

Last year, the Transportation and Land Use Coalition awarded its "Worst Development in the Region" award to a proposed Wal-Mart in close proximity to the future Warm Springs BART station in southern Fremont. Given that Wal-Mart will generate close to no transit ridership, one would think that the city of Fremont would try to use some of the remaining land in their transit station area for housing that would increase transit ridership. Generating new ridership is crucial – especially since funding for the extension is shaky, and its proponents will likely have to demonstrate strong ridership to get funding from the federal government to complete the extension.

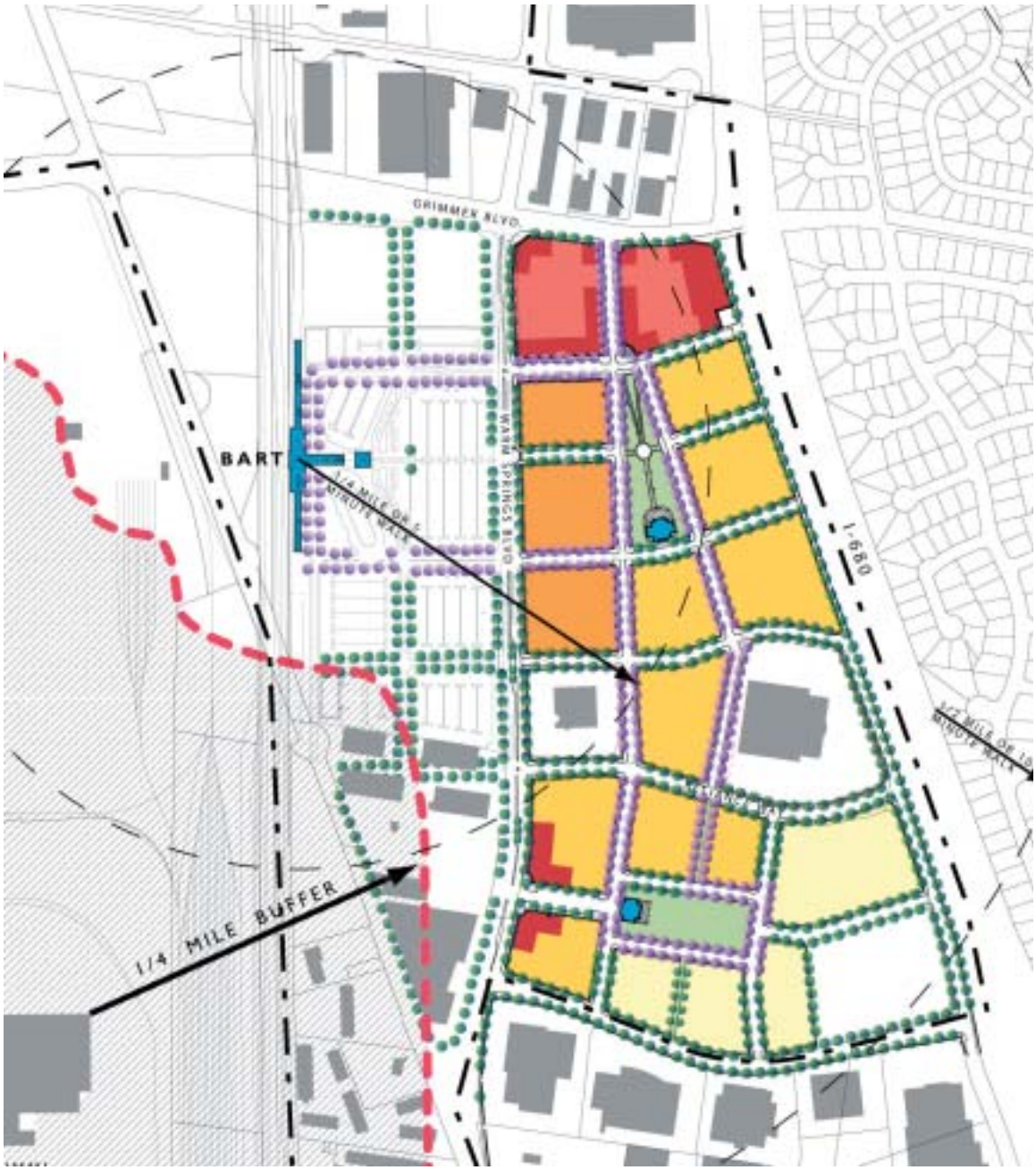
The city of Fremont will soon be making a decision about what types of uses will be across from the station. To its credit, Fremont has prepared the Warm Springs BART Area Specific Plan Existing Conditions Report and is undertaking the type of comprehensive planning process that can prevent piecemeal development from taking place. Unfortunately, one of the concepts put forward in the report would primarily focus on office and commercial uses ("Concept 2"), which would generate little transit ridership and do nothing to fill the region's housing need. Concepts 3 and 4, by contrast, both include housing components, with Concept 3 suggesting significant amounts of residential development on the East side of the station.

One proposal from a group including large property owners and local developers is for a mixed-use, walkable development, which would put more than 1,700 and some office and local-serving retail space directly across from the station. While housing in this area is opposed by NUMMI, which runs a large manufacturing plant on the other side of the BART station, this Warm Springs Transit Village proposal would provide a sufficient buffer. (See map on next page.)

If Fremont approves Concept 3, the proposed Warm Springs Transit Village would be able to move forward. From a regional perspective it would have the following benefits:

- 1,735 new homes, in a range of housing types that are badly needed in both the city and the region, including approximately 260 affordable units.
- Commercial uses to serve the new residents and residents of nearby neighborhoods, with the benefit of generating sales tax revenue for the city.
- Two sizable parks with recreational activities for the new residents, serving as a pleasant focus for the neighborhood.
- $1.5 million per year in new revenue for BART and VTA, just from residents in the housing units. (See Table 5.) Offices on site would generate additional riders, and revenues, which are not estimated here.

Proposed Warm Springs Transit Village



SITE STATISTICS

Site Area:	**74.5 acres**	
• Commercial/Mixed Use	7.38 acres 321,473 SF (.35 FAR)	
• 60 DU/AC Residential	7.15 acres	430 DU
• 45 DU/AC Residential	23.21 acres	1,045 DU
• 20-30 DU/AC Residential	10.37 acres	260 DU
Parks/Open Space	4.58 acres	
Streets/Roads and Pedestrian ROWs	21.81 acres	
Total DU:	**1,735 Dwelling Units**	

Source for graphic: Warm Springs Transit Village, *prepared by Van Meter Williams Pollack Architecture + Urban Design for Warm Springs Station LLC, November 2004, p. 14*

Table 5: Estimated transit revenues from residents at potential Warm Springs Transit Village

Residential Development Factors	Totals
Proposed development	1,735 units
2.87 persons per household, of whom 1.65 persons are employed[11] and commute to work	2,863 employed residents
30% of residents use BART or VTA's express bus[12]	859 regular commuters
$6.97 average roundtrip fare[13] × 250 days per year	$1,743 per commuter per year
Annual transit revenue	$1,497,237

Benefits at the Regional Level

To understand how all of these individual development decisions can add up to a tremendous regional impact, TALC has estimated some of the direct financial savings that would accrue to taxpayers and commuters from a more efficient use of our transportation system. We also list some of the indirect effects, although we do not try to quantify them here.

Reduced auto ownership

Achieving the smart-growth vision would give twice as many households access to frequent transit service compared to the status quo,[14] increasing transit patronage. As a result, Bay Area residents would own 252,000 fewer cars than under 'business as usual'.[15] This would mean huge cost savings, since car ownership is the main reason that transportation spending is the second-largest expense for California households (second only to housing). The American Automobile Association estimates that the cost of owning a car is $7,456 (excluding fuel costs, which are covered in the next section). **The combined financial savings to these residents would be $1.88 billion per year!**

Reduced gasoline costs

The lower levels of driving that can be achieved with smart growth doesn't just help reduce congestion. It also reduces the amount of gasoline that Bay Area residents would have to buy. In total we expect that under the smart-growth scenario, Bay Area residents would drive 3 million fewer miles *each day*. Even if we assume a 50% improvement in fuel economy (to an overall average of 30 mpg) and assume gas prices do not continue to rise, **Bay Area residents would save more than $85 million per year on gasoline.**[16]

Small increase in spending on transit fares

To fully capture the direct transportation costs of a smart growth future, we must also estimate how much more money Bay Area residents would spend on transit fares. Under the

smart growth vision, there would be 282,000 more transit trips per day, so **Bay Area residents would put an additional $76 million per year in transit fare boxes.**[17] Not all of this would necessarily be an additional cost. When transit agencies need additional revenue they often seek additional taxpayer funding. In November 2004 we saw both BART and AC Transit go to the voters for assistance with seismic safety and general operations, respectively. Greater fare revenue reduces the need for operating subsidies.

Table 6: Total Annual Savings at the Regional Level

Direct Benefits/Costs	Amount ($Millions)
Reduced auto ownership (benefit)	$1,880
Reduced gas costs (benefit)	$85
Increased transit fares (cost)	-$76
Total direct cost savings	$1,889

Indirect Benefits

Less congestion

In the latest report from the Texas Transportation Institute, the San Francisco-Oakland area again was the second-worst in terms of congestion. In total, Bay Area travelers lost 153 million hours to congestion in 2002. This created total costs of $2.78 billion in lost time.[18] Without effective public transportation it would have been much worse. The same report suggests that the Bay Area's mass transit system saved 83 million hours of additional delay, hence $1.5 billion of additional cost.

Better air quality and public health

Reduced driving will lead to cleaner air, even if everybody is driving supposedly zero-emission vehicles. That is because the greatest threat to public health is from particulate matter that is kicked up by tires as people drive, and this cannot be controlled by any pollution-control technology. Less driving will reduce instances of asthma and related illnesses.

Direct economic benefit to municipalities

With current growth patterns, an additional 270,000 of the region's workers will be commuting from other regions – from places like Tracy, Stockton, or Monterey. Not only has this created brutal commutes and clogged Bay Area traffic, a significant loss of potential sales tax and property revenue could otherwise go to many of our core cities that need an infusion of revenue.

Integrating Transportation and Land Use: Case Studies

There is now widespread recognition of the critical impact of station-area land use on transit ridership. In developing a specific policy proposal, TALC looked at the experience of other governmental agencies that are working to complement transit projects with appropriate land development. This section reviews examples of:

- BART System Expansion Policy
- Portland, Oregon's Metro Code
- Phoenix, Arizona's transit-oriented zoning districts

BART System Expansion Policy

The Bay Area Rapid Transit District, or BART, now takes land use into account when considering the viability of system extensions. BART's extension policy seeks commitment from those communities considering extension projects to develop plans for transit oriented development. According to BART Director Tom Radulovich, "TOD is good for BART because it increases transit ridership.… TOD regulations are something that from now on we will be requiring of communities who want to see a BART station constructed.… [W]e want the land rezoned before we even come in, for uses that are compatible with transit. What we're pushing for is mixed-use neighborhoods that are walkable and fun to visit, not just big parking lots that can only be navigated by car, or big box retail plazas…"[19]

BART has developed criteria that create performance categories based on ridership and density projections (see Tables 7 and 8). Ridership performance at the medium level is considered the minimum necessary for extension to cover 65% of operating costs, the target recovery ratio for the existing system.[20] This land use policy was an important factor in the rejection of the location of the proposed Livermore station in the I-580 median.

A downtown Livermore station would have attracted 6,000 daily riders, assuming additional transit-oriented development, but the city of Livermore rejected this alternative in favor of a highway-median station that would have guaranteed far fewer trips for BART, a proposal that BART then rejected.

Table 7: BART land use guidelines: office buildings

	Performance levels				
Office building, large	**Low**	**Low-Medium**	**Medium**	**Medium–High**	**High**
Units per net acre	<10	10-20	20-50	50-100	>100
Est. employment within 1/2-mi. radius	<5,000	5,001-10,000	10,000-25,000	25,001-50,000	>50,000
Est. trips (10% work mode share, 2 ways)	<1,000	1,001-2,000	2,001-5,000	5,001-10,000	>10,000

Table 8: BART land use guidelines: residential buildings

	Performance levels				
Residential building	**Low**	**Low-Medium**	**Medium**	**Medium–High**	**High**
Units per net acre	<15	16-25	26-45	46-75	>75
Est. units within 1/2-mi. radius	<2,500	2,501-5,000	5,001-7,500	7,501-12,500	>12,500
Est. trips (30% work mode share, 2 ways)	<1,800	1,801-3,600	3,601-5,400	5,401-9,000	>9,000

Portland, Oregon

The Metropolitan Planning Organizations (MPOs) are the institutions responsible for programming federal transportation funds. Metro, the MPO for greater Portland, has more land use authority than any regional agency in the United States. In order to ensure compliance with regional goals, Metro's elected council can overrule local land use and transportation plans under a charter granted by the state of Oregon.

Metro developed the 2040 Growth Concept, which seeks to concentrate future growth in seven "regional centers" connected by rail transit and 30 smaller "town centers" with at least frequent bus service.[21] By focusing development in areas served by high-quality transit, Metro hopes to meet the state Department of Land Conservation and Development's Transportation Planning Rule, which calls for reductions in vehicle miles traveled in Oregon's metropolitan areas.[22]

The Metro Code requires each city with a regional center to work with Metro to formulate a development plan for the center and to provide incentives for development.[23] The Code

recommends residential and employment densities of 60 persons per acre for regional centers and 40 persons per acre for town centers.[24] For lower-density transit station areas, the Code requires cities to approve accessory dwelling units (aka "in-law" units) for single-family homes.[25]

The code sets maximum parking requirements for the entire region, with lower maximums in transit station areas.[26] Metro's 2000 Regional Transportation Plan includes further guidelines for station area development: street networks must provide a high level of connectivity in order to encourage bicycle and pedestrian access to stations, and new buildings must be sited near streets in order to create a pleasant environment for pedestrians.[27]

Phoenix, Arizona

The city of Phoenix has created "transit-oriented zoning districts" that supersede standard zoning guidelines in areas around stations for a planned light rail system.[28] The city's explicit intent in changing zoning within a quarter-mile radius of stations is to increase ridership by encouraging compatible development.[29] The rules prohibit automobile-oriented land uses, such as big-box retail, drive-in eateries, tire stores, funeral houses, and plant nurseries.
Design specifications regarding setbacks, facades, entrances, and the placement of parking aim to improve conditions for pedestrians. Finally, the zoning overlay imposes slight constraints on parking for commercial buildings.

In contrast to the region-wide mechanisms in Portland and those proposed in the Bay Area for MTC, Phoenix was not required to institute the zoning standards by a state or regional agency, but did so voluntarily to ensure the success of light rail and to save taxpayer money by promoting high ridership. Despite Phoenix's commitment to land use planning in support of its transportation policy, other jurisdictions along the regional light rail line have not adopted similarly stringent zoning rules, suggesting weak links will persist in Phoenix's regional transportation system. If MTC relies solely on voluntary participation from Bay Area cities, we can expect some good station area development but ultimately a similar failure to realize fully the benefits of integrated transportation and land use policy.

Transit-Oriented Development: The Details Make All the Difference

While MTC may focus on ensuring that sufficient numbers of people can live near transit, building great communities requires that people want to live there. Robert Cervero identifies three major criteria for successful transit-oriented development. The "three Ds", as Cervero calls them, are density, diversity, and design. These refer to the densities needed to sustain transit investment: diversity in the mixture of enriching land-use compositions, which creates a vibrant environment and decreases auto dependence; and design that enhances the quality of public environment, especially in the area of pedestrian access.[30]

In a recent study, Caltrans defined Transit-Oriented Development (TOD) as: "moderate to high density development, within an easy walk of a major transit stop, with a mixture of uses." It is "designed for pedestrians, without excluding the automobile" and can be achieved by either "new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use" (Business, Transportation and Housing Agency and California Department of Transportation, 2002).[31]

Over the past 10 years, dozens of studies have looked at station-area factors, such as density, physical design, pedestrian and bicycle accessibility, and parking requirements, to identify the factors that optimize transit ridership while supporting walkable, livable communities. The characteristics noted here are critical to ensuring that new development creates places that people want to live, work, shop, and play. The following section provides an overview of recent research that creates the foundation for TALC's policy recommendations.

Why Half-Mile Radius?

People who live or work within walking distance to transit are more likely to use it. For instance, Lund, Cervero, and Willson (2004) studied sites in California and found that "residents living near transit stations are around five times more likely to commute by transit as the average resident worker in the same city"[32] This same study also concluded that 38 to 40% of commuting residents within walking distance of a BART station use BART to commute to work.[33]

In the Lund et al. study, office workers commuting to job locations close to transit were more than three times more likely to commute by transit than those working in buildings farther from transit. The share of trips taken by transit fell dramatically beyond a distance of 3,000 feet, just over a half-mile, from stations.[34] Experts generally agree that land use guidelines should apply within a half-mile radius around rail and ferry stations, since residents living within these zones will be within a comfortable walking distance.

Moderate to High Densities

Increasing housing and employment densities around transit stops consistently ranks as the most important factor in generating higher transit ridership. Density is one of the definitive criteria for BART's System Expansion Policy.[35] Simply put, the more residential, employment, and commercial activity there is around transit, the greater potential there is for ridership. Data collected from the National Personal Transportation Survey has shown that residents in high-density urban neighborhoods make twice as many transit trips as the national average. Increased densities combined with a mixture of uses and pedestrian-oriented amenities can also reduce auto travel by 25% while doubling pedestrian travel. [36]

Pedestrian-Friendly Design

Safe and convenient pedestrian access to transit centers is crucial, since poor station accessibility at the starting or ending point of a trip reduces ridership.[37] Street networks within transit zones should be dense and interconnected, to accommodate a variety of transportation modes, including walking and biking. Street design elements such as wider sidewalks, narrower streets with bike lanes, and walking and biking paths balance the needs of motorists, pedestrians, and bicyclists.

Neighborhood design at a human scale enhances residents' perception of a safe and pleasant environment and can increase the attractiveness of walking to transit as part of the trip to work.

An acceptable walking distance for most Americans is 2,000 feet, or about 3/8 of a mile. That distance can be as much as doubled if they walk through appealing spaces.[38] Lund, et al., found some evidence that shorter block lengths and the presence of sidewalks, trees, lights, and street furniture may correspond to higher transit patronage.[39]

A vibrant and diverse urban landscape can foster positive community identity, promote physically active lifestyles, and boost transit ridership.

Getting the Parking Right

Balancing the need for sufficient parking and the benefits of walkable, low-traffic station areas is perhaps the most vexing and important issue facing TOD. Too often, cities err on the side of requiring too much parking. When cities set parking requirements too high, the resulting expanses of surface parking replace opportunities for more vital and lucrative land uses, often creating bleak pedestrian environments and decreasing transit ridership.

Minimum parking requirements also impose a significant financial burden on potential transit-oriented developments: the construction of surface parking costs at least $5,000 per space[40], with prices rising significantly once land value is considered. Parking structures can be even more expensive, with the cost ranging from $10,000 to $30,000 per space.[41]

These high costs and the complex design issues faced by putting parking in small buildings is often cited as a tremendous deterrent to TOD. Reducing levels of required parking could significantly increase the profitability of moderate- and high-density TODs. Even modest reductions can make a big difference: The last 15% of parking spaces constructed usually produces less income per space and costs more than average to build.[42]

Transit access can reduce car ownership and parking demand per household by more than 20%, compared to non-transit-oriented land uses, by attracting residents who specifically choose to live in TOD locations.[43] Additionally, commercial parking needs in TODs are able to be reduced by 12% to 60% because of reduced need for vehicle trips.[44]

Parking requirements should also reflect that automobile ownership varies with household characteristics. Currently, some Bay Area cities require the same amount of parking for

all housing units, from studios to three-bedroom apartments. Nine out of 16 cities surveyed by TALC in Santa Clara County required at least two parking spaces for all sizes of units.[45]

Smaller households, for example, do not require as many parking spaces as do larger households. Automobile ownership is positively correlated with income, so buildings with low-income households can reduce parking supply needs.[46] The parking lot for Alma Place, an affordable-housing development in Palo Alto, is underutilized, despite having more than 60 percent fewer spaces than are typically required.[47]

Alma Place, Palo Alto

While reducing minimum parking requirements is an oft-mentioned strategy for TOD, such seductions do not preclude developers from building excessive parking. Thus, some cities, such as Portland, Oregon, have set maximum levels of parking to guarantee that excessive land is not dedicated to housing automobiles near transit.

One strategy cities can use to reduce parking requirements while meeting demand in TODs is shared parking, which uses publicly and/or privately owned parking spaces more efficiently by encouraging coordination among multiple users. Shared parking is feasible when adjacent land uses with different activity periods and peak demand patterns share their parking spaces. For example, an office building with high daytime demand could share parking with a cinema complex with higher evening demand, allowing more land to be used for other purposes.[48]

Appropriate parking policies that ensure automobile access without destroying the pedestrian environment and wasting valuable land are critical for ensuring the success of TOD. Any comprehensive TOD plan must take both transit and parking strategy into active consideration.

Recommendations: Transit Opportunity Zones

With the proposed land use component of the 2005 RTP, MTC has an important opportunity to encourage development near transit stations that increases transit use and helps meet the region's acute housing shortage. Land use choices today will affect the quality of life in the Bay Area for decades to come. Each automobile-oriented development near a station represents a missed opportunity to build walkable, livable communities, save open space in the region's periphery, and stem otherwise skyrocketing congestion. Cities that do not want to develop appropriate TOD will not be required to do so, however if jurisdictions want dollars from MTC and for transit they will have to provide a "local match" in the form of walkable station areas with significant housing.

This section summarizes TALC's specific recommendations for station area zoning. (See also the full land use policy proposal at the end of this report.) It applies to all MTC investments in major transit expansion, including dedicated-lane Bus Rapid Transit, but not express bus and "enhanced" bus service that does not have a dedicated lane. This proposed policy was developed over a seven-month period. The process included a working group and outreach meetings in Contra Costa and Sonoma counties, to ensure input from suburban and rural leaders. TALC member groups Greenbelt Alliance and Non-Profit Housing Association of Northern California contributed significant staff time to this effort.

Density

The land within a half-mile of light rail, and a quarter-mile of Bus Rapid Transit is considered to lie within a "Transit Opportunity Zone," with exceptions for existing open space, parks, and single-family homes. Within a Transit Opportunity Zone, zoning must specify minimum densities or floor-area ratios (see Tables 9 & 10). The minimum densities apply to vacant land and to parcels that will be redeveloped.

Table 9: Residential densities within Transit Opportunity Zones

Mode	Distance from stop (mile radius)	Minimum net density for a parcel (units/acre)	Minimum average net density (units/acre)*
Heavy rail; ferry	1/2	25	45
Light rail	1/2	20	40
Bus Rapid Transit	1/4	18	30

**Defined as the lowest allowable density for the aggregate of all of the developable and redevelopable land within the transit zone.*

Table 10: Commercial densities within Transit Opportunity Zones

Mode	Distance from stop (mile radius)	Minimum floor-area ratio
Heavy rail; ferry	1/2	4
Light rail	1/2	3
Bus Rapid Transit	1/4	2

Land Use

- At least half of the land within a Transit Opportunity Zone must be designated for housing, except where office or retail space already occupies 80% or more of the land within the Zone.
- Affordable units must comprise 20% of residential development within a Transit Opportunity Zone.
- Automobile-oriented uses, including retail stores measuring over 50,000 square feet and warehouses and other low-employment-density facilities, are prohibited in Transit Opportunity Zones.

Parking Policy

- Within rail/ferry and Transit Opportunity Zones, cities would set maximum parking limits on residential developments.
- Within rail/ferry Transit Opportunity Zones, jurisdictions may not set minimum parking requirements.
- For Bus Rapid Transit corridors, TALC proposes that cities set minimum parking requirements based on local studies.
- Parking may not exceed defined ceilings (see Table 11).
- For retail and office developments, parking may not exceed 2.5 spaces per 1,000 gross square footage.

Table 11: Residential parking requirements.

Housing type	Maximum spaces per unit
Studios and 1-bedroom units	1.0
2-bedroom and larger units	1.5
Senior housing	0.25

Bicycle and Pedestrian Access

- Jurisdictions will prepare street improvement plans to coordinate improvements in pedestrian amenities, street crossings, and bicycle lanes or paths.
- Sidewalks with at least a 4-foot clearance will be provided on both sides of all streets within 1 mile of a transit station.
- Transit Opportunity Zone street networks must offer good connectivity for bicycle and pedestrian access.

- Block lengths may not exceed 600 feet.
- A network of bicycle lanes and paths will be provided within a 1-mile radius of all transit stations that are the center of the Transit Opportunity Zone.

Conclusion

Ensuring that cities allow and promote development at the policy's specified densities is essential for justifying transit projects that involve high capital investments and operating costs.

MTC should develop clear procedures to ensure accountability and help fund corridor and specific plans to assist cities in conducting necessary planning to meet proposed criteria. Ideally, funding for planning could come from overall project funding, including federal funds, if approved by the FTA.

Focused residential and commercial development around transit stations will bring dual benefits of reduced automobile use and improved housing affordability. Transit operators will experience higher ridership and better farebox cost recovery. Air quality also will improve as more people find it convenient to travel by public and non-motorized transportation modes.

Given the magnitude of these investments, MTC is justified in taking a strong, proactive approach in guiding patterns of land use in the Bay Area.

Appendix 1: New transit investments in the Bay Area

Project	Sponsor	County	Project Cost (2004 $; in millions)
AC Transit Berkeley/Oakland/San Leandro Bus Rapid Transit: Phase 1	AC Transit	Alameda	167
Major corridors enhancements-Bus Rapid Elements	AC Transit	Alameda	97
BART/Oakland Airport Connector	BART	Alameda	254
Tri-Valley Transit Access Improvements to BART	BART/ACCMA	Alameda	445
BART East Contra Costa Rail Extension	BART/CCTA	Alameda	390
BART to Warm Springs	BART	Alameda	678
BART: Warm Springs to San Jose/Santa Clara	VTA	Santa Clara	4,149
Caltrain Express: Phase 1 (OPEN FOR SERVICE)	Caltrain JPB	Regional	128
Caltrain Express: Phase 2	Caltrain JPB	Regional	482
Caltrain Electrification	Caltrain JPB	Regional	602
Caltrain Downtown Extension/Rebuild Transbay Terminal	TJPA	San Francisco	1,817
Capitol Corridor Phase 1 Expansion	CCJPA	Regional	158
Capitol Corridor: Phase 2 enhancements	CCJPA	Regional	96
Regional express Bus Phase 1 (OPEN FOR SERVICE)	MTC	Regional	102
MUNI third street Light rail Transit Project Phase 2- new Central Subway	MUNI	San Francisco	694

Altamont Commuter express (ACE): service expansion	SJRRC, ACCAMA,VTA	Regional	128
Sonoma-Marin Rail	SMART	Sonoma/Marin	288
Dumbarton Rail	SMTA, ACCMA, VTA, ACTIA, Capitol Corridor	Regional	300
Downtown/East Valley: Santa Clara/Alum Rock Corridor and Capitol Expressway LRT extension to Nieman	VTA	Santa Clara	550
Expanded Ferry Service Phase 1: Berkeley, Alameda/Oakland/Harbor Bay, and South San Francisco to SF, Downtown Ferry Terminal Improvements, and Spare Vessels	WTA	Alameda/San Mateo	100
Expanded Ferry service Phase 2: Alameda to South San Francisco, and Hercules, Antioch, Treasure Island, Redwood City and Richmond to San Francisco	WTA	San Mateo	139
TOTAL			**$11,764**

Appendix 2: TOD is Economic Engine in Virginia

Development around transit good for drivers, too

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By Hank Dittmar
Contributing Writer

It's a perennial debate: On the one hand advocates of mass transit argue that transit is an essential strategy for combating congestion. On the other, road advocates maintain that since only a minority of travelers use transit, we're better off expanding roads, which serve most people. What if there was convincing evidence that building transit benefits everybody, whether or not they use the system?

New evidence just developed for the forthcoming book, "The New Transit Town", begins to make this case. The catch is that it requires both the construction of a transit system and an effort by local government to encourage development around stations. When that's the case, everybody wins, even people who choose to live in single-family neighborhoods and drive everywhere.

The example is Arlington County, which has pursued a program of focusing commercial development and multifamily housing within walking distance of the Rosslyn-Ballston Metrorail Corridor for 30 years, while protecting adjacent single-family neighborhoods.

The study, by the consulting firm TransManagement for the national Center for Transit-Oriented Development, looked at population, traffic and development trends in Arlington County. The approach has been quite successful, with 22.5 million square feet of office development now in place in the corridor, more than three million square feet of retail within walking distance of the five stations, and a doubling of households over 30 years. What's more, the trend shows no sign of abating. Office rents command a premium over other suburban locations, and vacancy rates remain lower. New housing starts are booming, with more than 1,500 units under construction at this time.

At the same time, traffic on arterial and neighborhood streets has not increased commensurate with the development around the stations. In fact, a survey of new multifamily housing in the corridor yielded only one auto trip for every six units in the morning peak and one for every eight units in the afternoon peak hour, far lower than the average for such projects.

All this development is good news for Metro, which has seen ridership grow by more than 50 percent. Unlike neighboring Orange Line stations, where 57 percent of riders arrive by automobile, necessitating the construction of expensive parking, 73 percent of Rosslyn-Ballston patrons walk to Metro, with only 13 percent driving. This is a huge savings for Metro and the taxpayers who subsidize it, as patrons who walk are the cheapest form of access, requiring neither a parking space nor subsidized bus service.

The financial results are equally impressive. The development around the five stations has an assessed value of more than $9 billion, generating 32.8 percent of the county's real estate tax revenue from only 7.6 percent of its land area. As a result, Arlington County has the lowest real estate property tax rates of any county in Northern Virginia – and that's one way that transit benefits every resident of the county, whether they use transit or live near MetroRail.

In fact, the enduring popularity of transit-oriented real estate in Arlington County is beginning to cause concern for county officials, as the high demand is driving prices up. Demographic evidence and common sense support the conclusion that this comes from demand exceeding supply and not some insidious takeover by the gentry. Dowell Myers of the University of Southern California has estimated that up to one-third of the demand for new housing over the next couple of decades is likely to be for townhomes, apartments and other forms of dense housing, far more than the market is supplying.

As a result, since transit-oriented neighborhoods in Arlington, the District and Bethesda are in demand, prices go up. The answer is to increase supply overall through transit-oriented development, and happily, many jurisdictions are proposing to do just that. Often, though, nearby residents oppose such projects, fearing added traffic.

Perhaps the Arlington County example can help to convince opponents of transit-oriented developments that they too gain – in reduced taxes, less traffic, and increased access to amenities. Indeed, the untold part of the Arlington County story is that increased density near Metro has provided the county with the tax base that allows it to sustain and enhance existing residential neighborhoods.

The Arlington experiment shows that development around transit is a key part of the region's tool kit for growth. With MetroRail long established in the region and the desirability of housing near transit proven in the marketplace, it is time to get past the auto vs. transit debate and begin to recognize that the region's transit system is a world-class asset for the Washington region.

(Hank Dittmar is president of Reconnecting America, a national nonprofit organization that seeks to better connect communities through transportation. Their website is www.reconnectingamerica.org.)

Appendix 3:
Endorsers of TALC's Transit Opportunity Policy

As of November 3, 2004:

BayRail Alliance
Bay Area Bicycle Coalition
Central Labor Council of Alameda County
Eco-City Builders
Greenbelt Alliance
Green Party of Alameda County
Hayward Area Planning Association
Internet Caucus, California Democratic Party
Non-Profit Housing Association of Northern California
Planning and Conservation League
Rails-to-Trails Conservancy
Rail Passengers Association of California
Redefining Progress
San Francisco Department of Public Health
SEIU 790
Silicon Valley Bicycle Coalition
Sonoma County Transportation Land Use Coalition
Surface Transportation Policy Project
Urban Ecology
Urban Habitat
Transportation for a Livable City
Wellstone Democratic Renewal Club

Appendix 4: Full Text: TALC Transit Opportunity Zone Proposal

Proposed Criteria

These recommendations would promote land use patterns consistent with the Smart Growth Vision, patterns that promote social equity, a better environment and a sound economy. The primary focus of the criteria is on:

- Facilitating transit-supportive development at existing and new rail stations and along heavily used bus corridors.
- Providing incentives for housing construction near transit, with a strong affordability component.
- Protecting open space and discouraging sprawl development.
- Ensuring transit investments are supported by sufficient housing and job density as well as good design and appropriate parking requirements.
- Encouraging an environmental justice approach for transportation access.

Section I: Land Uses and Residential Densities Around Transit Stations and Stops
Goals:

1. Improve accessibility to transit and increase transit ridership, by providing for higher density / higher intensity, walkable communities near transit stations and stops slow.
2. Encourage a mix of transit-supportive residential, commercial, and employment opportunities, to make transit-oriented development attractive to a wider market.

Policies:

1. TRANSIT ZONES. Jurisdictions shall designate in the General Plan land uses within a walking distance, defined here as a minimum of a half-mile radius, of a transit station or ferry terminal and a quarter mile of a major bus stop as Transit Zones (see table below). Jurisdictions shall revise their zoning ordinances so as to protect these areas from incompatible or low-density development and to encourage transit-supportive uses, including:
    - Higher-density residential and mixed-use projects, as described in Table 1.
    - Neighborhood-serving retail and community services primarily drawing from within the transit zone and not relying upon vehicular traffic from outside the transit zone for a majority of their patrons
    - Commercial and office development that generate transit ridership

TABLE 1: Residential Density Requirements

Type of Transit	Distance from Transit Stop	Minimum Density Required for Residentially-Zoned Land
Regional/heavy rail; ferry	Within 1/2 mile radius	Avg. net density of 45 units/acre. Minimum Net Density of 25 units / acre
Light Rail/DMU	Within 1/2 mile radius	Avg. net density of 40 units/acre. Minimum Net Density of 20 units / acre
Bus Rapid Transit	Within a ¼ mile radius of stops along corridor	Avg. Net Density of 30 units/acre. Minimum net density of 18 units/ acre

A. SINGLE FAMILY RESIDENTIAL EXEMPTION. Parcels within a Transit Zone in which at least 80% of the parcels are already occupied by detached single-family residences as of the adoption of this policy shall be exempt from the requirement to rezone for higher density. Second units shall be allowed without requiring additional parking.

B. NON-DEVELOPABLE LAND EXCEPTION. Parcels that are not developable land as of the date of the adoption of this policy shall be exempt from the requirement to rezone for higher density in the Transit Zone. Land that is not developable is defined as open space sustaining wildlife habitat or significant natural resources, parks, land outside of a city- or county-approved urban limit line, or a historic structure listed on a national, state, or local registry of historic places. If a parcel that is not developable becomes developable, then the parcel will become subject to this policy.

C. DEFINITION OF MINIMUM NET DENSITY. The Minimum net density is the minimum density for developable parcels within the Transit Zone. Residential permits below the minimum density may not be issued after the date of the adoption of this policy.

D. DEFINITION OF AVERAGE NET DENSITY. Average net density is the lowest allowable density for the aggregate of all of the developable and redevelopable land within the Transit Zone. (Note: for parcels that are already developed it is the zoning and permitting for re-development, not the existing density, which is counted towards the average for the transit zone.)

2. DEVELOPMENT STANDARDS. Development standards in the zoning ordinance, such as Floor-Area Ratio (FAR), height, setbacks, parking and other standards or conditions must not be set at levels which would make the development of the proposed densities not feasible, either from a design or a financial/financing perspective.

3. COMMUNITY INPUT. In order to determine how a community can best structure its Transit Zones and achieve their goals, the jurisdiction will lead a community planning process when establishing the Transit Zones, if such community participation and input has not been previously solicited for such purposes.
4. URBAN LIMIT LINE COMPATABILITY. The jurisdiction must approve an urban limit line, and the boundaries of the transit zone must be within the approved urban limit line.

Section II: Infill Housing and Housing Affordability

Goals:

1. Efficiently utilize the land within walking distance of a transit station to provide housing, meet regional housing needs, and better encourage transit ridership.
2. Provide housing that meets the needs of people at all incomes and that includes both rental and sale units.

Policies:

1. RESIDENTIAL USE. At least 50% of the remaining developable land within a Transit Zone shall be designated for residential uses. "Residential use" is defined to include structures with more than 60% of gross square footage for residential or live-work use.
2. EXCEPTION FOR EXISTING RETAIL AND OFFICE CENTERS. Transit Zones with more than 80% of the land within the Transit Zone already occupied as of the date of the adoption of this policy by retail, commercial, office, or other nonresidential uses shall be exempt from the requirement to rezone for at least 50% housing in the Transit Zone.
3. INCLUSIONARY HOUSING. At least 20% of the units in the transit zone must be designated as affordable housing.

Section III: Retail and Office

Goals:

1. Provide for neighborhood-serving retail that is primarily supported by households and office workers within the Transit Zone.
2. Encourage uses with greater employment density and design that encourages transit ridership
3. Prevent incompatible uses, such as big box and other regional retail that generates vehicular traffic and discourages transit use.

Policies:

1. For land designated by a jurisdiction as commercial, office, retail, or a similar use, jurisdictions shall revise their zoning ordinances to require the minimum Floor Area Ratios in the table on the next page.

Type of Transit Zone	Minimum Floor-Area Ratio
Regional/Heavy Rail; Ferry	4.0
Light Rail/DMU	3.0
Bus Rapid Transit	2.0

2. AUTO-ORIENTED USES PROHIBITED. Auto-oriented uses, including drive-through establishments and big-box retail uses that rely on generating substantial vehicular traffic, may not be permitted within a Transit Zone. Big box retail uses are defined as a retail space with more than 50,000 square feet of space.
3. WAREHOUSE AND LOW-EMPLOYMENT DENSITY USES PROHIBITED. Zoning and permitting for new construction of warehouse and light industrial uses that have employment densities below 20 employees per gross acre are prohibited within a Transit Zone.

Section IV: Parking

Goal:

1. **Minimize the amount of land dedicated to parking, while still providing sufficient access to the stations.**
2. **Encourage station access by walking, biking, and transit.**

Policies:

1. STATION AREA PARKING. Jurisdictions may construct or permit parking garages within the Transit Zone.
2. SURFACE PARKING. Jurisdictions may construct or permit temporary surface parking lots within the Transit Zone upon adoption of a 10-20 year specific plan that encourages development of the lot pursuant to the development standards of this Policy. The cost to replace station-area parking may not be placed on the developer intending to build the units on the surface parking lot but rather by the transit agency or through market rate charging.
3. JOINT-USE PARKING. Jurisdictions shall allow for joint use of parking spaces (shared parking) for adjacent uses that have staggered peak periods of demand.
4. RESIDENTIAL PARKING. Jurisdictions may not permit development with parking requirements greater than one space per unit for studios and one-bedroom units, 1.5 spaces per unit for 2-bedroom and larger units, and 1/4 space per unit for senior housing. Jurisdictions may not set minimum residential parking requirements within a Regional or Light Rail Transit Zone. Jurisdictions shall encourage the uncoupling of parking and rent/lease agreements.
5. RETAIL/OFFICE PARKING. Jurisdictions may not permit development with parking greater than 2.5 spaces per 1,000 gross square footage for retail and commercial space. Jurisdictions may not set minimum parking requirements within a Regional or Light Rail Transit Zone.
6. BUS RAPID TRANSIT CORRIDORS. The transit agency and its local government partners shall conduct a parking demand management study of anticipated

parking demand for a Bus Rapid Transit corridor. The results of the study shall be the basis for setting maximum parking standards for the corridor. Any minimum standards resulting from this process shall allow reductions in minimum parking requirements for transportation demand management measures including car-sharing, joint use of parking, and providing or subsidizing transit passes.

Section V: Pedestrian and Bike Friendly Environment
Goal:

1. Encourage transit ridership, bicycle and pedestrian activity, and access for people with disabilities by providing high levels of access, safety, and continuity for pedestrians and bicyclists in the transit area.

Policies:

1. STREET IMPROVEMENT PLAN. For each Transit Zone, jurisdictions shall adopt a street-improvement element of the station area plan. Street improvement plans shall satisfy the requirements outlined in the section, and should, to the extent possible, include amenities, such as street trees, benches, canopies, bus shelters, and lighting sufficient to promote passenger security.
2. PEDESTRIAN CROSSING. Station Area Plans shall include an evaluation of pedestrian crossing issues, including crossing distance and infrastructure, signal timing, and signal activation.
3. SIDEWALKS AND CONNECTIVITY. Sidewalks shall be provided on both sides of all streets within one mile of a transit station at the center of a Transit Zone. Cul-de-sacs, loop roads, and similar networks that disrupt pedestrian and bicycle continuity must incorporate bicycle and pedestrian paths to adjoining development, unless found to be physically infeasible.
4. SIDEWALK CLEARANCE. All sidewalks constructed after the adoption of this policy within a one-mile radius of the transit station shall have at least a 4’ wide clearance, in addition to space occupied by street furniture.
5. SAFE BICYCLE ACCESS. A jurisdiction must find that the street improvement plan would provide for safe bicycle access to the transit station. A network of bicycle lanes or paths shall be provided within a 1-mile radius of all transit stations that are the center of a Transit zone.
6. EXISTING STREETS. Rehabilitation of existing streets and sidewalks shall include components for routine accommodation of pedestrian and bicycle travel.
7. BLOCK LENGTH. New streets may not have block facing longer than 600 feet.

Endnotes

1 Ashley Nguyen, memo to the MTC Advisory Council (October 8, 2003).

2 Texas Transportation Institute, "National Congestion Tables," *2003 Urban Mobility Study*, mobility.tamu.edu/ums/appendix_a/.

3 Association of Bay Area Governments, "Alternatives Report for Round Two Public Workshop Participants and Other Bay Area Residents" (April 2002), 11.

4 Ibid., 6.

5 Bay Area Census, Tables DP-1 and DP-3, www.bayareacensus.ca.gov/California.pdf (2000).

6 Telephone interview with Costco management, September 2004.

7 Based on TALC's on-site observations during weekday peak and non-peak hours, for travel to and from Costco, September 3 and 9, 2004.

8 Phone interview, Roy Molseed, Senior Environmental Planner , Santa Clara Valley Transportation Authority, October 11 & 15, 2004.

9 Tracey Kaplan, and Gary Richards, "Light Rail's Long Ride: Comparative Study Puts Network's Numbers to the Test," www.bayarea.com/mld/mercurynews/5734269.htm, 4/28/03.

10 Ibid.

11 Bay Area Census 2000, Tables DP-1 and DP-3, http://www.bayareacensus.ca.gov/California.pdf.

12 Lund, et al., find it up to 40% of workers and transit-oriented development the Bay Area commute to work on transit. It is likely that people who can use the transit service find such development more desirable and "self select" into the area. We used 30% as a more likely number for developments in this area.

13 Assumes 50% of transit riders take express buses to San Jose or Silicon Valley ($5.88 equivalent fare if commuter buys $122.50 monthly express pass), 25% take BART to downtown Oakland (current roundtrip fare from Fremont BART is $6.70), and 25% take BART to San Francisco (current roundtrip fare from Fremont BART is $9.40).

14 Association of Bay Area Governments, "Alternatives Report for Round Two Public Workshop Participants and Other Bay Area Residents," (April 2002) 11.

15 MTC, Regional Transportation Indicators, Bay Area Smart growth study -- March 2002, obtained from Chuck Purvis of MTC.

16 Current Bay Area gas prices are $2.34/gallon. California State Automobile Association, "Gas Prices Rising Rapidly", www.csaa.com/global/articledetail/0,,1008010000%257c4876,00.html (October 12, 2004).

17 In 2001-02, Bay Area transit operators received about $0.86 per trip, according to MTC, *Statistical Summary of Bay Area Transit Operators,* December 2003, table for "Bay Area System". Calculation of annual transit cost assumes 282,000 additional transit trips on weekdays and half that number on weekends.

18 Texas Transportation Institute, "The 2004 Urban Mobility Report," September 2004. pp. 14–16.

19 Jeremy Brittan, Interview with Tom Radulovich, *Urban Action*, San Francisco State University Urban Studies Department Journal, 2004.

20 San Francisco Bay Area Rapid Transit District, "Fiscal Year 2004 Budget," bart.gov/docs/Budget2004.pdf, p. 4.

21 Metro, "Mixed-use centers," www.metro-region.org/article.cfm?ArticleID=6547 (20 February 2004).

22 Oregon State Archives, www.sos.state.or.us/archives/rules/OARS_600/OAR_660/660_012.html (1991).

23 Metro, "Title 6: Central City, Regional Centers, Town Centers and Station Communities," www.metro-region.org/library_docs/about/chap307.pdf 3.07.620.

24 Ibid. 3.07.170.

25 Ibid. 3.07.140.

26 Ibid. 3.07.220.

27 Metro, 2000 Regional Transportation Plan, <http://www.metro-region.org/library_docs/trns/2002_chapter_6.pdf>

28 City of Phoenix, "Interim Transit-Oriented Zoning Overlay District One," www.ci.phoenix.az.us/pub/planning/tod662.pdf (May 2001).

29 Valley Metro, "Will light rail change the density (i.e. zoning) in neighborhoods?" www.valleymetro.org/rail/faq/FAQ-15.html

30 Hollie Lund, Robert Cervero, and Richard Wilson, "Travel Characteristics of Transit-Oriented Development in California," Caltrans Statewide Planning Studies, bart.gov/docs/planning/Travel_of_TOD.pdf (January 2004), pp. 6–7.

31 Business, Transportation and Housing Agency and California Department of Transportation, *Statewide Transit-Oriented Development Study: Factors for Success in California*, Technical Appendix, September 2002.

32 Hollie Lund, Robert Cervero, and Richard Willson, "Travel Characteristics of Transit-Oriented Development in California," Caltrans Statewide Planning Studies, bart.gov/docs/planning/Travel_of_TOD.pdf (January 2004),p. iii.

33 Ibid.,

34 Ibid, p. iv

35 San Francisco Bay Area Rapid Transit District, *System Expansion Policy*, p. 7

36 Litman, "Land Use Impacts on Transport: How Land Use Patterns Affect Travel Behavior," Victoria Transit Policy Institute, http://www.vtpi.org.

37 Transit Cooperative Research Program, *An Evaluation of the Relationship Between Transit and Urban Form*, from Research Reports Digest No. 7, June 1995, p. 31.

38 Ibid., p. 34.

39 Hollie Lund, Robert Cervero, and Richard Willson, "Travel Characteristics of Transit-Oriented Development in California," Caltrans Statewide Planning Studies, bart.gov/docs/planning/Travel_of_TOD.pdf (January 2004), p. 78.

40 John Boroski, Topaz Faulkner, and G.B. Arrington, Statewide Transit Oriented Development Study *Factors for Success in California, Special Report Parking and TOD: Challenges and Opportunities*, February 2002.

41 Ibid, p. 1.

42 Michael Kodama, Richard Willson, and William Francis and associates. Using Demand-Based Parking Strategies to Meet Community Goals. Prepared for the Mobile Source Air Pollution Reduction Committee of the South Coast Air Quality Management District. June 1996.

43 Robert Cervero, "California's Transit Village Movement," *Journal of Public Transportation*, Vol. 1, No. 1. Center for Urban Transportation Research, 1996.

44 Op. cit. 15. p. 2.

45 Stuart Cohen and Kimberly Strickland, “Housing Shortage/Parking Surplus,” Transportation and Land Use Coalition (July 2002), 2–3.

46 Ibid. 2–4.

47 Ibid. 2–8.

48 Barton-Aschman Associates, Inc. Shared Parking. The urban Land Institute. Washington, D.C> 1983.