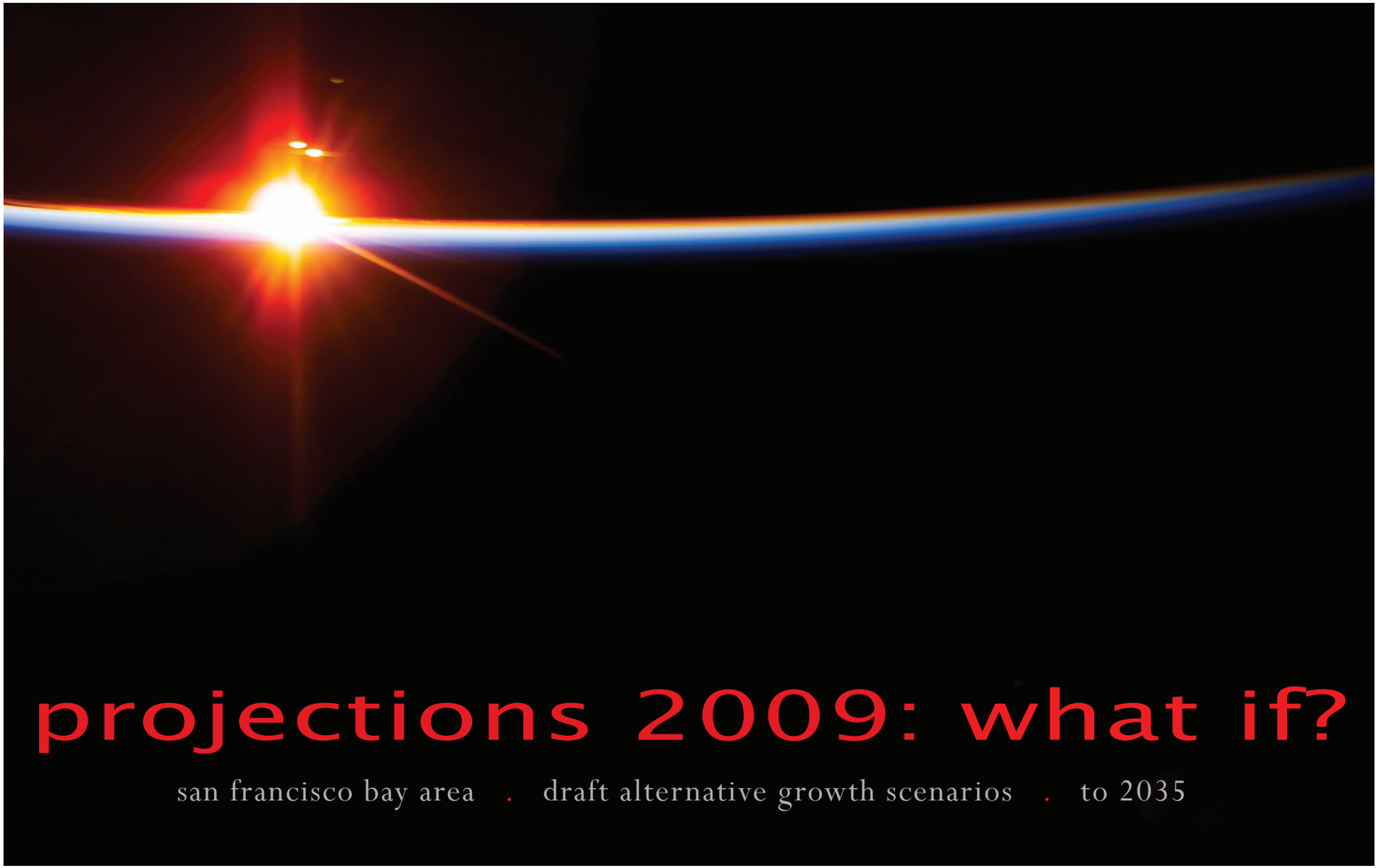


# projections 2009: what if?

san francisco bay area . draft alternative growth scenarios . to 2035

# Acknowledgements

Many thanks to our Association of Bay Area Governments colleagues and those at our partner regional agencies - the Metropolitan Transportation Commission, the Bay Area Air Quality Management District and the Bay Conservation Development Commission - who contributed data, analysis and their thoughtful insights into the development of these scenarios. Our thanks also to the local government leaders and staff for their many great ideas and suggestions. A special thanks to Don Weden, who inspired many of the themes presented here.

Additional material can be found on ABAG's website at www.abag.ca.gov/research.

This publication is available through this website.

Cover Photo: Lightness of Being

*The bright sun dissects the airglow above Earth's horizon in this view photographed with a digital still camera from the Space Shuttle Columbia during the STS-107 mission.*

*Space Shuttle Columbia and the STS-107 crew perished during re-entry on Feb. 1, 2003.*

Image Credit: NASA

# Contents

# Foreword

**The Bay Area is at a crossroads. Many communities recognize the need for smart growth during the next twenty-five years and beyond. We know that carbon emissions must decrease and transportation options must increase. All of us agree that automobile usage ought to be curbed. While we have known these inconvenient truths for some time, our efforts still place the Bay Area at a crossroads between focused and scattered efforts to grow smarter. This document is designed to illuminate these two paths. Simply, will the Bay Area tolerate Scattered Success or forge a Focused Future?**

Every two years, the Association of Bay Area Governments prepares a 25-year forecast of population, housing and jobs for the region. For this update, we have created two alternative scenarios that describe how the region may develop. In the first scenario, **Scattered Success**, local and regional policymakers have made limited progress in developing more transportation-efficient projects. Still, thousands of additional acres of low-density, auto-dependent, single-use neighborhoods have been added to our urban-footprint. Transit remains unavailable in many parts of the region and walking is nearly impossible in most places. This means that the majority of us continue to drive to our daily destinations. Consequently, our transportation-related carbon emissions have gone up.

In the second scenario, **Focused Future**, we have come together to cerate an incredible amount of regionwide development and redevelopment around our light- and heavy-rail stations, major bus stops and ferry terminals. Transportation services have been extended and improved, and many connections are nearly seamless. Existing, autodependent suburbs have been transformed into walkable downtowns and mixed-use neighborhoods, where more housing and businesses have located. Walking, biking and transit use is the norm. As a result, our transportation-related carbon emissions have gone down.

What if we could accomplish a truly focused development pattern over the next quarter century? What if we could make neighborhood-wide changes so that less people rely exclusively on cars? What if we only achieve project-by-project success, scattered throughout the region? Would these individual projects be enough to off-set our overall auto-dependency?

These alternative scenarios are a means for testing the range of development possibilities. In our view, a **Focused Future** offers us the best hope toward reducing our reliance on cars and therefore on transportation energy, even if it does not unfold exactly as we have described here. With sufficient capital infrastructure and incentives, good design and community amenities, we can build a transportation-efficient region. We will need large financial investments into our existing communities, unwavering commitment and strong leadership to make it happen. Leaders throughout the Bay Area will be called upon to make important choices over the next 25 years. We have provided these two scenarios for you to consider.

Rose Jacobs Gibson, Supervisor, San Mateo County
President, Association of Bay Area Governments

# what if . . .


*things were different?*

# Introduction

**What if we could re-envision our communities so that they are responsive to and resilient against the major changes expected from a growing and aging population, continued high energy costs and, most significantly, global warming?**

In 25 years, over nine million people will live in the San Francisco Bay Area – two million more than today. Over one-quarter of us will be over 65 years old. The amount of driving we do, and therefore our transportation-related carbon dioxide emissions will have gone up. We will have more dangerous particulate matter in our air. The era of cheap oil will have more than likely come to an end.

How we plan and develop our communities - where and how we house our population and develop our jobs - can either exacerbate or alleviate the impacts anticipated from each of these major structural changes.

Many communities are feeling the exacerbated impacts of these changes now. Areas that boomed over the last couple of decades with low-density, auto-dependent residential development are experiencing plummeting housing values. In some places, values have gone down by 45 percent.[1] Residents in these same communities, with few travel options, are experiencing soaring commute costs, with little relief in sight. Older residents, now unable to drive, are stranded in their homes, relying on family and friends to shuttle them to and from doctor's appointments or to run daily errands.

Communities with viable transit, that are walkable and that have plentiful jobs, or easy access to them, are seemingly more resilient. Housing values in these areas have declined relatively less than in the out-lying areas of the region. When gas prices doubled, many residents simply opted to take transit, dragged their bikes out of their garages or bought a new pair of walking shoes. Older persons walk or take transit to run their errands and visit friends. Resilience comes from the development pattern, the relative location of housing and jobs, access to transit, and the walkability of the community.

Development patterns and access to transportation alternatives also reduce a community's contribution to transportation-related carbon emissions. In communities with some density, transit and jobs, average household greenhouse-gas emissions from transportation activities can be as low as 17 pounds on an average weekday. In outer, more remote parts of the Bay Area, where travel options are limited, emissions can be as high as 53 pounds per day.[2]

These differences are significant, especially here in the Bay Area where the transportation sector contributes up to 50 percent to our total carbon emissions. The majority of those emissions (85 percent) come from on-road vechicles (cars, trucks and buses).

While powerful, land use changes alone will not provide a sufficient strategy for reducing our transportation-related emissions. Reducing emissions from the transportation sector will require new transportation

infrastructure, like rail extensions, more buses, and even freeway improvements. Reducing emissions will also require technological improvements to our cars so that they burn cleaner and use less gasoline per mile. We will also need to implement pricing measures - like parking fees, toll lane charges and bridge tolls - so that more people become inspired through their wallets to opt for transit, or other modes. Finally, a major shift in personal behavior, where more people simply choose, for whatever reason, to walk or take transit over driving, will need to occur if we expect to actually reduce climate change-related emissisions.

If we seriously intend to reduce our transportation carbon emissions, each of these strategies will be necessary. There is no one solution. There will be no easy answers. And in all actuality, land use, infrastructure, technology, pricing, and behavioral changes are highly dependent on one another for any one measure to succeed. For transit to succeed, sufficient densities need to be in place. If driving becomes more expensive, then we need to have affordable options available. If we want people to choose walking or transit, we have to build our communities at a pedestrian scale and have real transit options.

In the following pages, we focus on the role of land use, without losing sight of the other interdependent strategies needed for successfully reducing our transportation emissions. We describe the challenges we will face. We also present the Bay Area's historic development pattern and how that growth has impacted our travel behavior, the use of transportation energy and our transportation emissions. We also describe the impact land use has had on air quality, the consumption of land and on the housing market.

We then present two alternative development scenarios. The first, **Scattered Success**, takes the path of least resistance - a mostly "business as usual" development pattern. The second, **Focused Future**, takes a more proactive, progressive approach toward planning and developing a sustainable region.

For each scenario, we describe the future as we see it. How much driving will we do? What will our regionwide carbon emissions be? What will air quality be like? How many people will be able to get to work or services on foot or by public transit? Under each scenario, what will it take, or will it even be possible, to reduce the Bay Area's transportation-related emissions?

We believe you will find the answers to these questions both stimulating and instructive. Even more so, we hope you find them valuable as we all prepare to plan for the level of resilience we desire for our communities in these ever-changing times.

Paul Fassinger, Research Director
Association of Bay Area Governments

# Region Aims High

Things do change. We effectively determine the nature of that change. So then, what if we decided that in the future most Bay Area residents could choose to drive less? What if we determined that our transportation-related emissions should be lower than they are today? What if there were less traffic congestion and more people had access to transit? In our future, what if we could conserve more land for open space and agricultural uses? Some say we are aiming too high. But what if, by aiming high, we could then succeed even if we fell short?

## Aim for the Targets

Bay Area communities have made substantial progress toward moving away from a "business as usual" development pattern. We have had some success in planning and developing more transportation-efficient communities near our BART stations, VTA transit areas, MUNI stops and ferry terminals. The Scattered Success scenario largely documents this progress. Scattered extends our current level of success twenty-five years out into the future. However, as you read how that future scenario plays out, it will quickly become clear that we may need to get Focused, and do more.

When and how will we know when we have done enough?

We can only know we have achieved success by setting clear, measurable goals and then working toward those goals. The Bay Area's regional land use and transportation agencies, the Association of Bay Area Government and the Metropolitan Transportation Commission, have set such goals.[3] We have set provisional long-term targets to reduce regionwide driving, greenhouse gasses, to improve air quality, protect our land resources and to promote equity. These targets are mostly based on existing California laws, including Assembly Bill 32, California's Global Warming Solutions Act of 2006.

By 2035, we aim to:
Reduce driving per person by 10 percent below today's levels.
Reduce traffic congestion, measured by hours of delay, by 20 percent below today's levels.
Reduce carbon dioxide emissions by 40 percent below 1990 levels.
Reduce PM2.5 (fine dust particles) emissions by 10 percent below today's levels.
Reduce PM10 (coarser particulate mater) by 45 percent below today's levels.
Limit greenfield development to 900 acres per year over the next 25 years.
Increase access to jobs and essential services via transit or walking by 20 percent above today's levels.

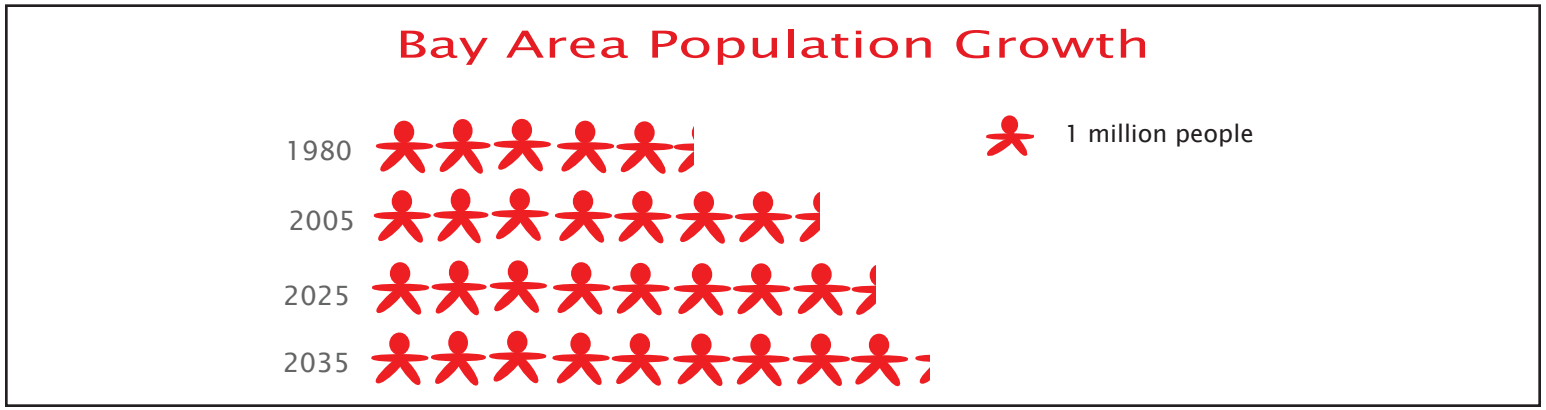
# An Era of Change

**We cannot ignore the reality of change. Population growth, an aging population, increasing energy costs and global warming are only some of the revolutionary changes we will face in the coming decades. How will these new realities affect how we plan our communities?**

## Population Growth[4]

The Bay Area's population has increased by two million people since 1980. Communities in Alameda and Contra Costa took on nearly half of this growth. Santa Clara County took on a quarter of growth, half of it in San Jose alone. A tremendous amount of growth also occurred at the Bay Area's fringe. Antioch, Oakley and Brentwood doubled, tripled and quadrupled their populations, respectively. Pleasanton and Livermore nearly doubled in size. The once small town of Vacaville saw its population increase by 184 percent. Even smaller towns, Rio Vista and Suisun City, doubled in size. If you visit any one of these places, you will see that not only have they grown at tremendous rates, they also grew at relatively low densities, with single-family homes, jobs, shops and services all built far from one another. The automobile is the only viable form of transportation.

Over the next quarter century, two million more people will live in the Bay Area. What if the trend continues? Where will these next two million live? How will we build our communities to accommodate our new residents?



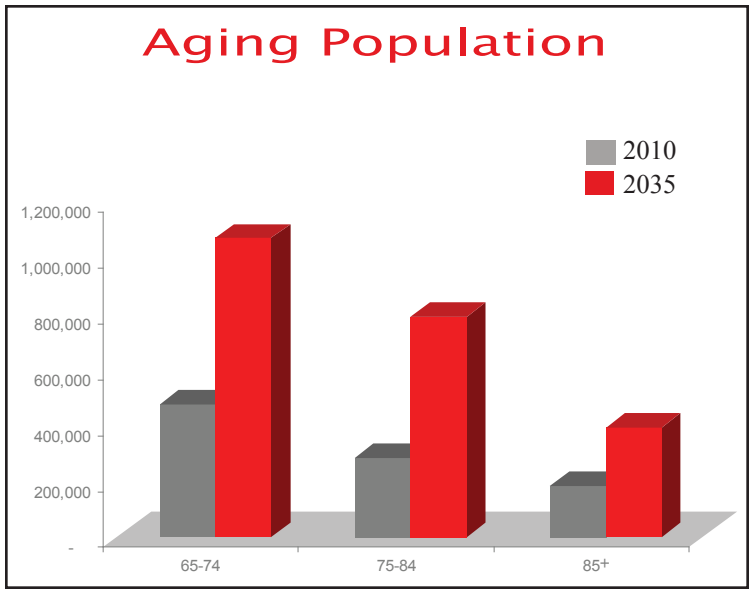
## Aging Population[5]

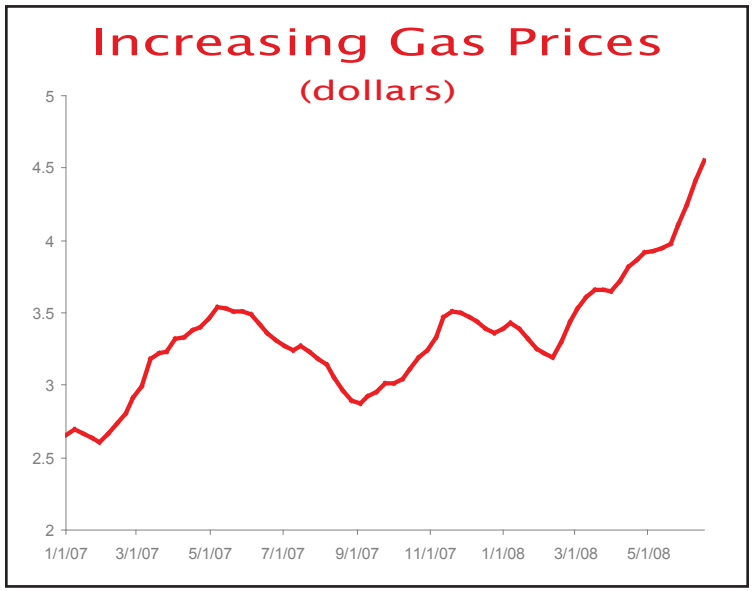
In the coming decades, the number of people 65 years or older will nearly triple, totaling one-quarter of the population by 2035. The number of people who are 80 years or older will also just about triple, increasing 2.7 times in 25 years. One out of every three people will be over 55.

These are daunting numbers. How will this impact our communities? Will the housing stock be sufficient to meet the needs of an older population? Will our aging residents be mobile? What if a a large portion of our population is isolated in suburban areas, unable to drive to the grocery store, to the local pharmacy, or to visit friends?

## Energy Costs

In 1980, a gallon of gasoline was $1.25. On Memorial Day weekend in the year 2000, a gallon of gasoline in California cost $1.67, a mere 42 cents higher than twenty years earlier. On Memorial Day weekend in 2008, a gallon of gas was $4.14.[6] In the span of 8 years, the price of gasoline soared. Yet, at the turn of the century, the price of gas had barely budged in twenty years. It is no wonder our communities were never planned with high transportation energy costs in mind. Now, things are different. Gas prices are much more volatile. What will gas cost in the year 2035? What will another surge in gas prices mean for our residential communities planned miles away from our job centers? What if people can no longer afford a 90-minute, one-way commute? What if we have no transportation alternatives to the car?

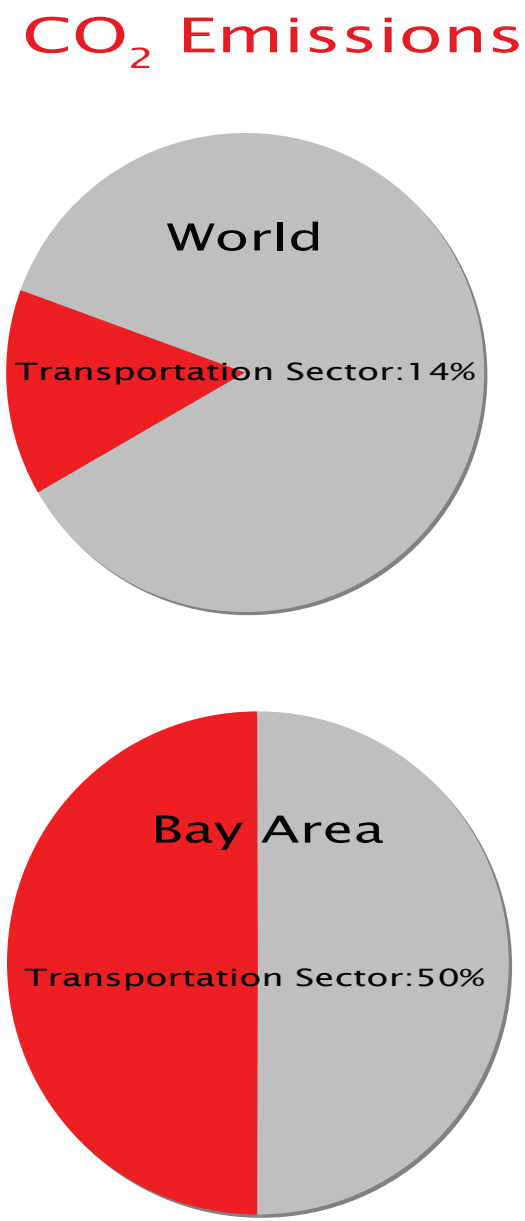


## Global Warming

According to the United States Enviornmental Protection Agency, "if greenhouse gases continue to increase, climate models predict that the average temperature at the Earth's surface could increase from 3.2 to 7.2°F above 1990 levels by the end of this century." The production and accumulation of greenhouse gases, including carbon dioxide, are changing the Earth's climate.[7] The specific timing and affects of these changes are still unknown. A one-meter rise in sea level could be one such consequence. In the Bay Area, that means both San Francisco and Oakland airports would be under water. Large portions of Richmond, Emeryville, Foster City, Palo Alto, Mountain View, Redwood City, Menlo Park, San Jose, Newark, Fremont, San Leandro and Hayward, to name a few, would be immersed in the San Francisco Bay.[8]

We know that climate change is linked to the amount of carbon emissions we release into the air. In the Bay Area, 50 percent of our carbon emissions come from the transportation sector; 85 percent of that is from cars. Subsequently, the amount of driving we do is also directly linked to emissions. What if we could reduce the amount of driving we do? What if we could walk or bike to daily destinations? What if we could find cleaner burning fuels? What if we could get more mileage out of our cars?



## A New Era

When the baby boomer generation came of age in the late 1960s through the early 1980s, all the necessary ingredients were in place to fuel abundant auto-oriented, suburban growth. An historically, unprecedented number of people were getting married, having children and buying new homes at a time when the automobile was inexpensive, gas was cheap and land was abundantly available. Communities were rapidly built to accommodate the American car-culture and suburban lifestyle at a time when we were mostly unaware of the environmental consequences they would bring.

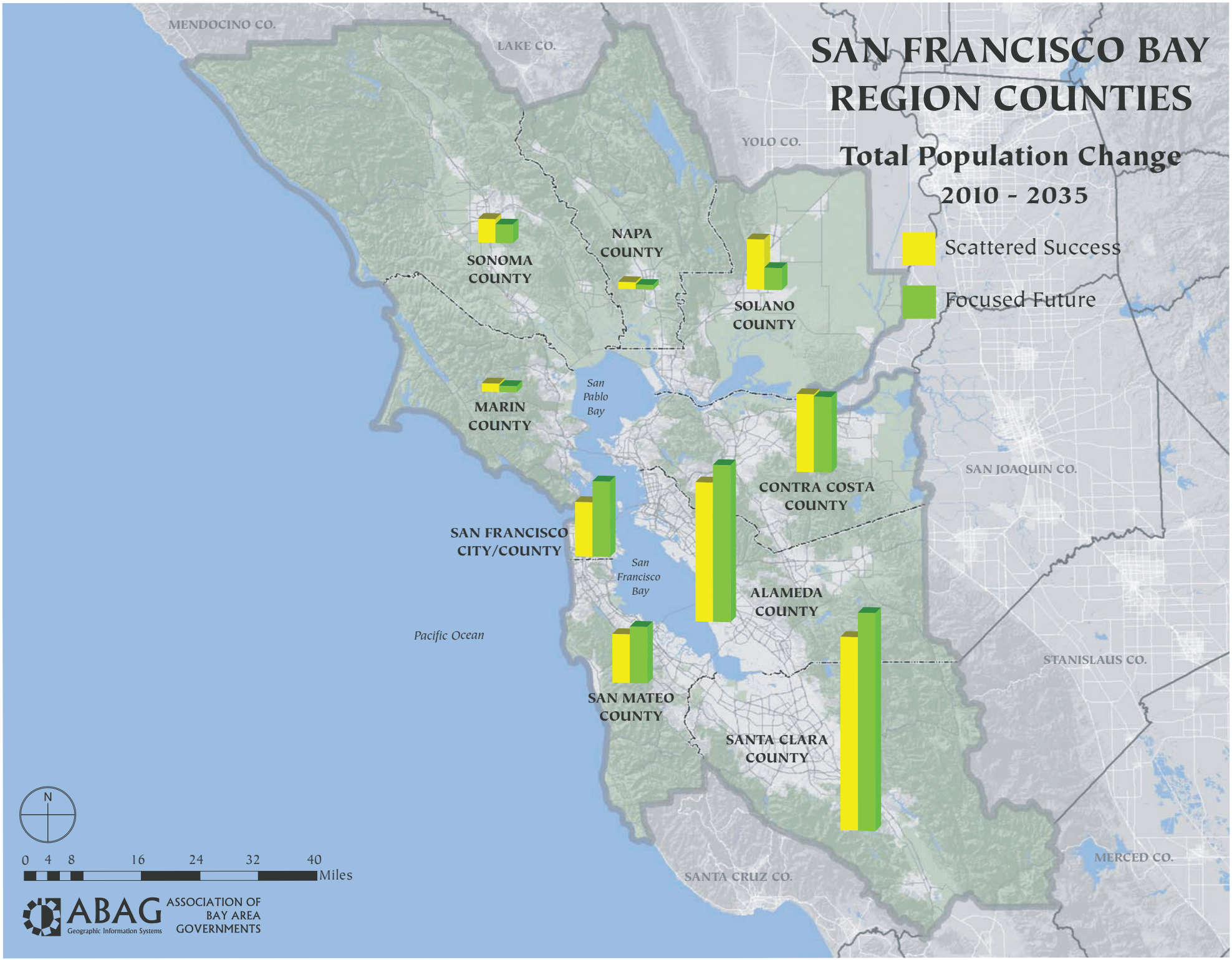
Over the next twenty-five years, the Bay Area's population, and especially the state's, will continue to grow. Baby boomers, who once demanded suburban homes, will be retired seniors, requiring mobility, even if some can no longer drive. In the next twenty-five years, the price of oil will continue to fluctuate, with the era of cheap oil perhaps comint to an end and the environmental consequences of our development choices will be looming large.


House in the Clouds, Photo by Roger Wolfendale

# Land Use Necessary, Not Sufficient

There is a crucial inter-relationship between land use, infrastructure, pricing, technology, and individual behavior in meeting the regional targets. While powerful, land-use changes alone will not be sufficient in reducing our transportation-related emissions. Reducing emissions from the transportation sector will require new transportation infrastructure, like rail extensions, more buses and even some freeway improvements. Reducing emissions will also require technological improvements to our cars so that they burn cleaner and use less gasoline per mile. We will also need to implement pricing measures - like parking fees, toll lane charges and bridge tolls - so that more people become inspired through their wallets to use their cars less. We will need a major shift in personal behavior, where more people simply choose, for whatever reason, to drive less, walk or take transit over driving.

If we seriously intend to reduce this region's transportation carbon emissions, each of these strategies will be necessary. There is no one solution. There will be no easy answers. And in all actuality, land use, infrastructure, technology, pricing, and behavioral changes are highly dependent on one another for any one measure to succeed. For transit to succeed, sufficient densities need to be in place. If driving becomes more expensive, then we need to have affordable options available. If we want people to choose walking or transit, we have to build our communities at a pedestrian scale and have real transit options available.


SAN FRANCISCO BAY REGION COUNTIES
Total Population Change
2010 - 2035
Scattered Success
Focused Future
MENDOCINO CO.
LAKE CO.
YOLO CO.
SONOMA COUNTY
NAPA COUNTY
SOLANO COUNTY
MARIN COUNTY
San Pablo Bay
CONTRA COSTA COUNTY
SAN JOAQUIN CO.
SAN FRANCISCO CITY/COUNTY
San Francisco Bay
ALAMEDA COUNTY
Pacific Ocean
STANISLAUS CO.
SAN MATEO COUNTY
SANTA CLARA COUNTY
MERCED CO.
SANTA CRUZ CO.
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Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# San Francisco Bay Area: Two Futures

## Two Futures

We have entered a planning and development paradigm shift. New circumstances will change how and where we plan our communities. Will this change be **Scattered** throughout the region, where few communities have the foresight to plan for volatile gas prices and their aging population? Will most continue with "business as usual" and plan as they have over the last several decades? Or, will we work together as a region and create **Focused** opportunities for neighborhood and regionwide independence from the automobile?

## Scattered Success

**Scattered Success** is a regional development pattern that spans out to 2035. It reflects some success in responding to a growing and aging population and to the need for more transportation efficient communities. State agencies and the Bay Area's regional agencies have directed some incentives for locally designated priority development areas, i.e. infill areas, especially near transit. San Francisco, Oakland, San Jose, Walnut Creek, San Leandro, Redwood City, San Mateo, Mountain View and several other cities around the region have built relatively higher density residential and mixed-use projects near their transit stations.

As a result, by 2035 we project a modest 12 percent increase in the number of people living in the Bay Area's urban core. Jobs are also projected to be somewhat more concentrated in urban areas, although more people are expected to drive into the region for work than ever before. People living in areas with transit are expected to use it frequently to get to and from work. On the weekends, however, people will still mostly drive to visit friends or to do their shopping, for most everything else will continue to be miles away, and auto-oriented.

## Focused Future

**Focused** reflects a 2035 future filled with greater success in responding to our growing population and to the need for more transportation-efficient communities. The federal government, the state and the Bay Area's regional agencies have all directed significant capital dollars to motivate development in urban infill locations near transit. Many disincentives for transportation inefficient development have also been put into place; the federal government, nor the state nor the region, will fund transportation projects that promote sprawling development, especially in places where alternative travel modes are unavailable. This is projected to changes the development dynamic everywhere.

By 2035, we project that where there is heavy and light rail, bus service or ferry terminals, that there has also been a dramatic boom in housing and job development. New communities, filled with offices, homes, shops, restaurants and local services have been created in places previously dominated by small retail centers with large surface parking lots and office parks. San Francisco, Oakland, San Jose, Berkeley, Dublin, Pleasanton, Livermore, Concord, Pleasant Hill, Walnut Creek, San Leandro, Redwood City, Mountain View, San Mateo, Palo Alto and most other cities around the region have built upon their existing neighbor-

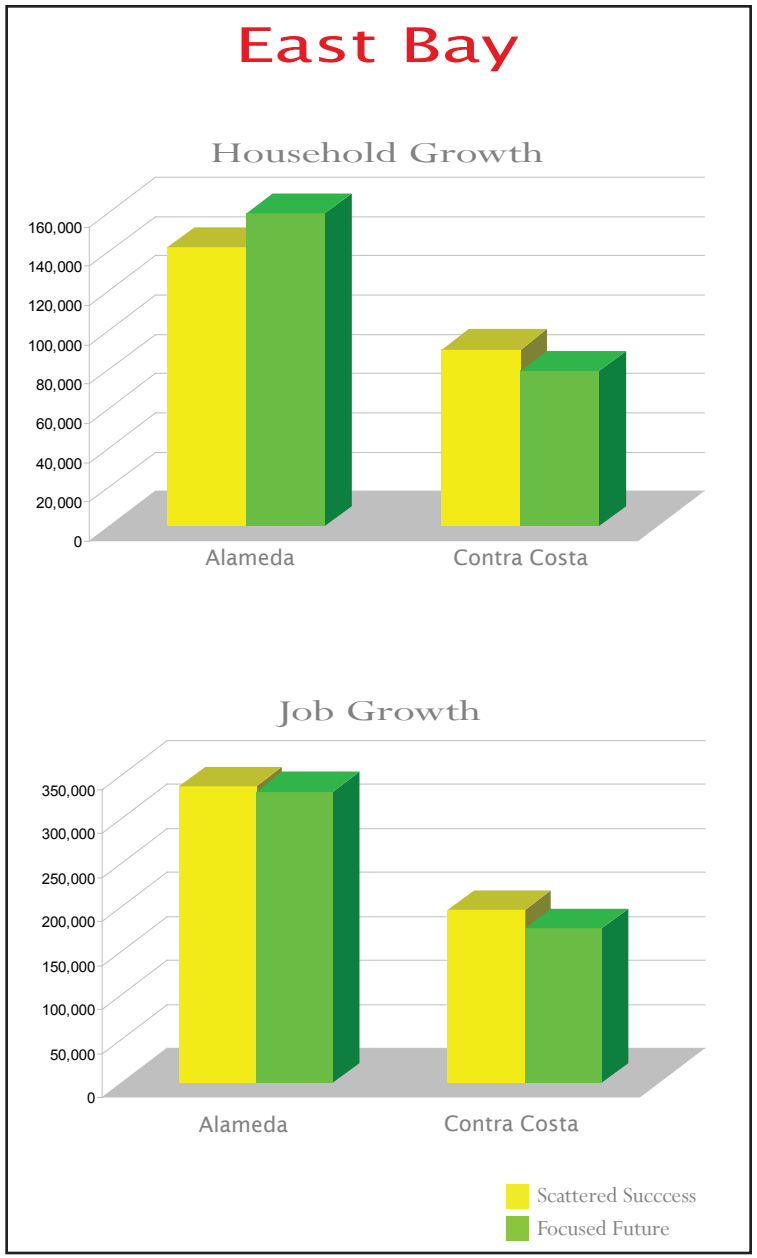
hoods so that driving short distances is now more possible. There is better access to transit and people can walk comfortably because of ample pedestrian amenities and daily destinations that are a short distance from their homes.

As a result, many more people are projected to live in the Bay Area's urban core, 20 percent more than today. Jobs are also expected to be more concentrated in urban areas. More will work or live in areas with transit and use it frequently to get to and from work. On weekends, people will either walk or take a bus to visit friends or to do their shopping, for most everything will be a short trip away.

## East Bay

In the East Bay, both future development scenarios have Alameda County's population reaching over 1.9 million people by 2035. By 2035, **Focused** adds about 47,000 additional people in the county, compared to the **Scattered** scenario. In each scenario, a quarter of Alameda County's population lives in Oakland.

The greatest difference between **Scattered** and **Focused** in Alameda County is in the eastern portion of the county. Under **Scattered**, development is largely expected to occur as it has in the past. The Tri-Valley cities of Pleasanton, Dublin and Livermore are projected to develop into bustling suburbs with populations twice what they are today. Some of the 84,000 people who will be born in or move into the Tri-Valley over the next 25 years will live in the multi-family developments near the Dublin BART station and at Hacienda Business Park, where surface parking is expected to be converted into townhomes and single-family homes. However, most of the Tri-Valley's new residents will reside in the new single-family homes, north of Interstate 580.



In **Focused Future**, growth in eastern Alameda County is limited and more focused. Development occurs predominately at infill locations and at much higher densities than seen in past decades. The Tri-Valley cities of Pleasanton, Dublin and Livermore are expected to accommodate 55,000 new residents through second units in existing single family neighborhoods, new condominiums, apartments and townhomes near the Dublin BART station and on what is now surface parking at the Hacienda Business Park.

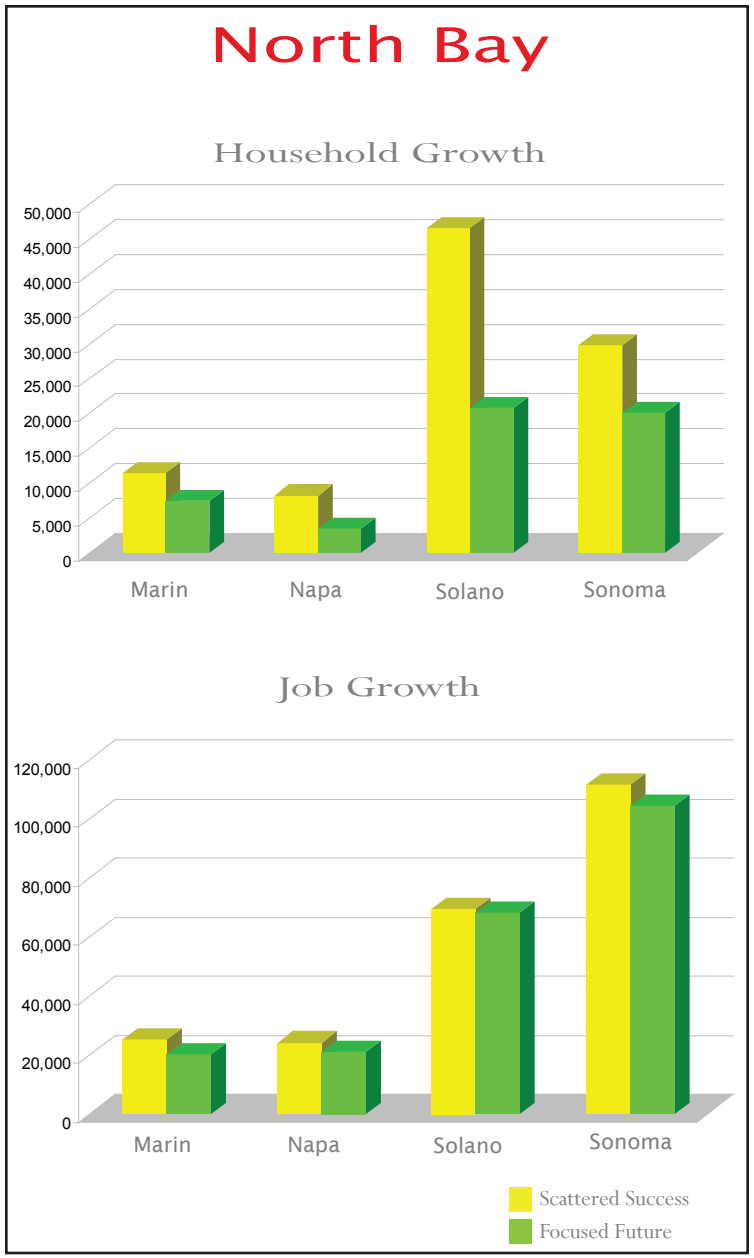
Under both **Scattered** and **Focused**, over 1.3 million people are projected to live in Contra Costa County, 240,000 more than in 2010. However, under **Scattered Success**, Contra Costa County is projected to remain mostly a collection of auto-oriented communities, especially east of the Caldecott Tunnel. Under **Scattered**, most of Contra Costa's growth will take place in east county, as it has in decades past. Well over one-quarter of a million people are projected to live in the eastern portion of the county, equivalent to the entire population of Marin County. Antioch, Pittsburg, Brentwood, and Oakley are each anticipated to have burgeoning populations, all living in predominantly auto-dependent communities. In the next 25 years, Antioch's population will grow by 17 percent, Brentwood's population by 43 percent and Oakley 26 percent. These three communities, along with Byron and Discovery Bay, represent 32 percent of Contra Costa County's total projected growth.

Eastern Contra Costa County's historic growth pattern is greatly changed in the **Focused** scenario, for growth is projected to slow in most cities. What little growth there is, is projected to occur near transit; in Pittsburg, near the BART station, and near new e-BART stations located in both Pittsburg and Antioch.

## North Bay

In the North Bay, under the alternative scenario **Focused Future**, growth is severely restricted due to limited existing and planned transit and a small job base. In Marin County, population growth is projected at 25,000 people under **Scattered** and only 18,000 under **Focused Future**. In Napa County, under each scenario, the county is projected to remain much the same as it is today. The difference between each scenario is the level of growth occurring within the county. Under **Scattered Success**, the total population increases by 16,000 people. Under **Focused**, this growth is nearly cut in half. However, in each scenario, most growth is focused in the City of Napa and American Canyon. In Sonoma County, under **Focused**, 10,000 fewer people are added to the county's total population.

The largest reductions in growth in the North Bay occur in Solano County. Under the **Focused** scenario, 50,000 fewer people are projected to live in the county by 2035, as compared to the **Scattered** alternative.




## Peninsula

In San Mateo County, more growth is projected to occur under the **Focused** alternative. Nearly 900,000 people are projected to live in San Mateo County - over 137,000 more people under **Scattered** and 160,000 in the **Focused Future** alternative. There are also more jobs in the county in each scenario; over 165,000 more jobs in **Scattered** and 157,000 jobs in **Focused**. The differences in the scenarios are mostly at the city level. Relativley more growth is directed to communities along El Camino Real, near the train stations and job centers under **Focused** than in **Scattered Success**.

For example, the City of San Mateo and Redwood City is where most of San Mateo County's new development takes place. Most of this development is projected to take place in each city's downtown and along the rail corridor adjacent to El Camino Real, such as near the Hillsdale and Hayward Park Caltrain stations in the City of San Mateo. The Bay Meadows race track is also projected to be redeveloped into a place of relatively higher density homes, retail stores and restaurants. Downtown Redwood City, where the city and county civic centers are located, is projected to continue its transformation into a vibrant, pedestrian friendly area, with residential buildings, some as high as 8 stories, shops, restaurants, cultural venues and an active public square.

## San Francisco

San Francisco is projected to grow at much greater rates under **Focused**, as compared to the **Scattered Success** scenario. Under **Scattered**, San Francisco's population grows by 152,000 people. In the **Focused** growth scenario, over 210,000 people are added to the city's population by 2035. Over 328,000 additional jobs are also added to San Francisco under the **Focused Future** alternative. Under the **Scattered** scenario, job growth in the city is limited to 242,000. San Francisco's growth, under each scenario occurs in the city's downtown, at the Transbay Terminal, in Mission Bay and South of Market.

## South Bay

Santa Clara County takes on high levels of growth under each development scenario. With almost 2.4 million people and 1.3 million jobs, Santa Clara County is projected to remain the Bay Area's most populous and job-rich county in 2035. One-half million more people are projected to live in the county and over 408,000 new jobs will be created. The scenarios differ mostly in terms of population and job distribution among and within the cities. For example, San Jose is projected to have 1.41 million residents by 2035 under **Scattered** and 1.45 million in the **Focused** scenario. In San Jose, and within other communities in the county, this additional growth is redirected towards transit areas. The result is that by 2035, over 35 percent of the population will live near a transit station, compared to only 20 percent in 2010. More jobs are also located near transit. Over 39 percent of jobs, compared to only 29 percent in 2010, are located near transit in the **Focused** scenario. Transit neighborhoods include those along the VTA light rail and Caltrain stations, including those in downtown and north San Jose, downtown Palo Alto, Mountain View, Sunnyvale and Santa Clara.

## Regional Performance

Under **Scattered Success**, we will move farther away from our regional objectives: to reduce driving, clean our air, reduce greenfield development and to improve access to transit and jobs. More people are projected to be driving than ever before. As a result, carbon emissions will increase by 2.4 thousand tons per day, to a total of 92.4 thousand tons/day. Particulate matter in the air, both coarse and fine dust, is also projected to rise. Coarse dust will go up by 26 tons per day and fine particulate matter goes up by 6 tons per day.

Under **Scattered**, we project that over 77,000 acres of our open lands will be developed into tracts of single family homes, shopping centers and office parks, when we had hoped to limit greenfield development to 22,500 acres - or 900 acres/year.

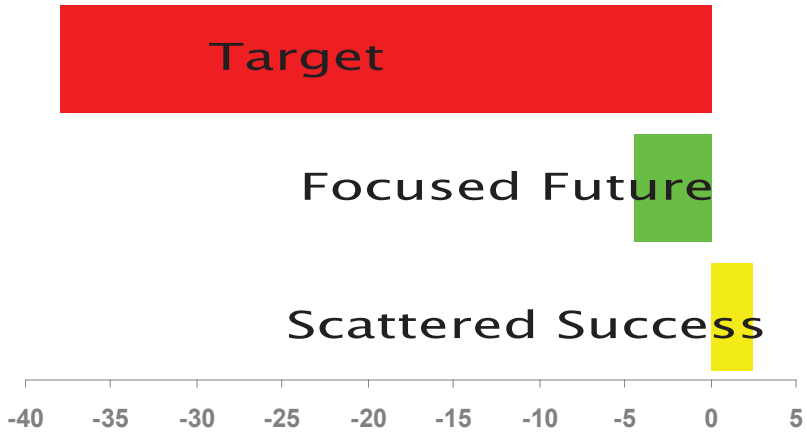
**Focused Future** moves us closer to our regional objectives. While total driving goes up under each scenario, under the **Focused** development scenario fewer people are expected to be driving on a per capita basis than in 2006. Carbon emissions will go down by over 4,500 tons per day, compared to 2006. Congestion is also projected to improve in the region; four fewer hours are spent in traffic each year, per person, than in 2006. We also limit the conversion of open lands into developed lands to 1,980 acres per year, - or a total of 49,500 acres over the 25-year period.

### Target 1. Reduce VMT (driving/capita)

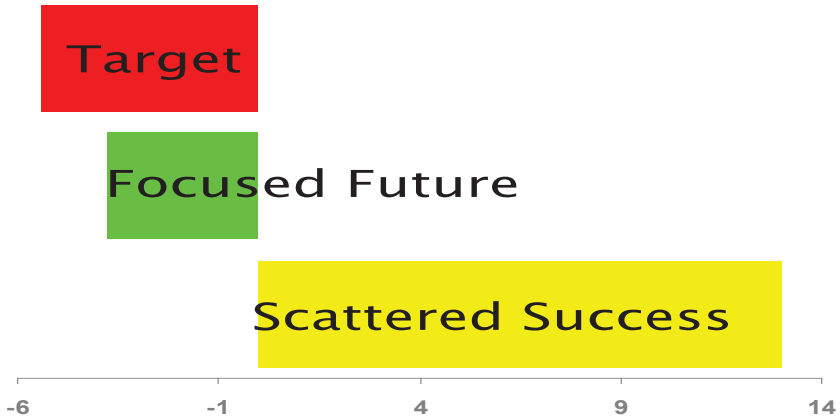
*The regional target is to reduce daily vehicle miles traveled (VMT) per capita by 10 percent, compared to 2006 levels. That equals a reduction of 1.9 Miles per person/per day. Under **Scattered Success**, daily per person miles increase by 0.7 miles. A **Focused Future** would decrease daily VMT by 0.6 miles per person.*

# Target 2. Reduce Carbon Emissions

*The regional target is to reduce transportation-related carbon emissions by 40 percent, compared to 1990 levels. That is equivalent to -38 thousand pounds per day over 2006 levels. This target is consistent with California's Global Warming Solutions Act, Assembly Bill 32. Under **Scattered Success**, daily carbon emissions increase by 2,400 tons per day. A **Focused Future** would decrease daily emissions by 4,500 tons per day.*

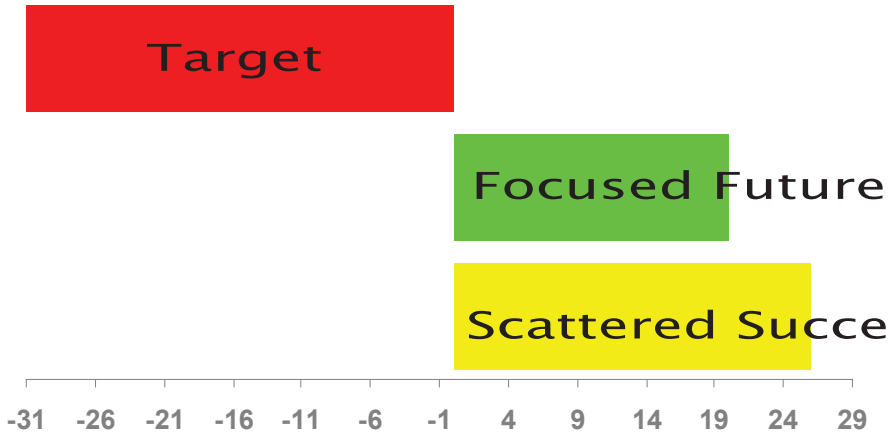



# Target 3. Reduce Traffic Delay



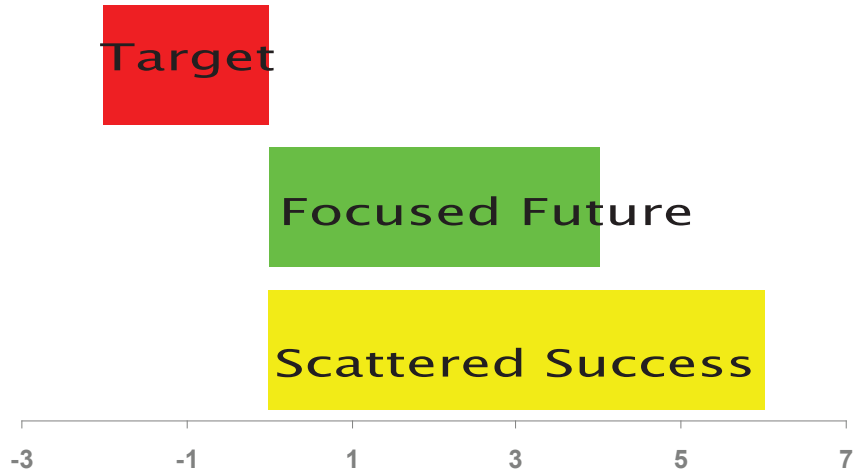

*The regional target is to reduce traffic congestion, or delay, by 20 percent over today's levels. That is equivalent to 5.4 hours of delay per person over 2006 levels. Under **Scattered Success**, daily delay increases by 13 hours per person. A **Focused Future** would decrease daily delay by 3.8 hours.*

## Target 4. Reduce Particulate Matter$_{10}$




*The regional target is to reduce coarse particulate matter, PM10, by 45 percent over today's levels. That is equivalent to 31 tons per day over 2006 levels. Under **Scattered Success**, daily PM10 emissions increases by 26 tons per day. A **Focused Future** would increase PM10 by 20 tons per day.*

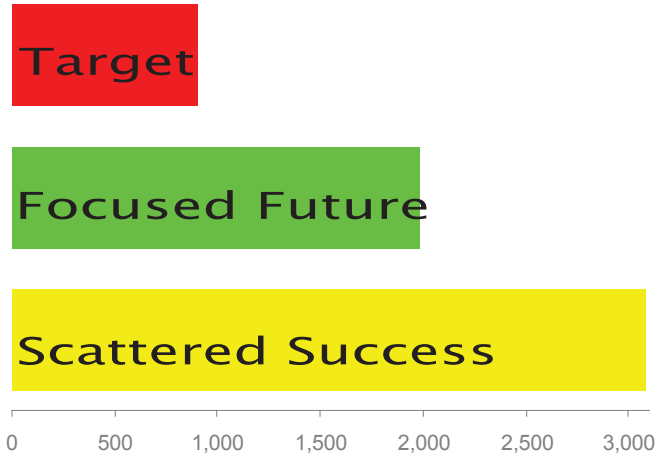
## Target 5. Reduce Particulate Matter$_{2.5}$



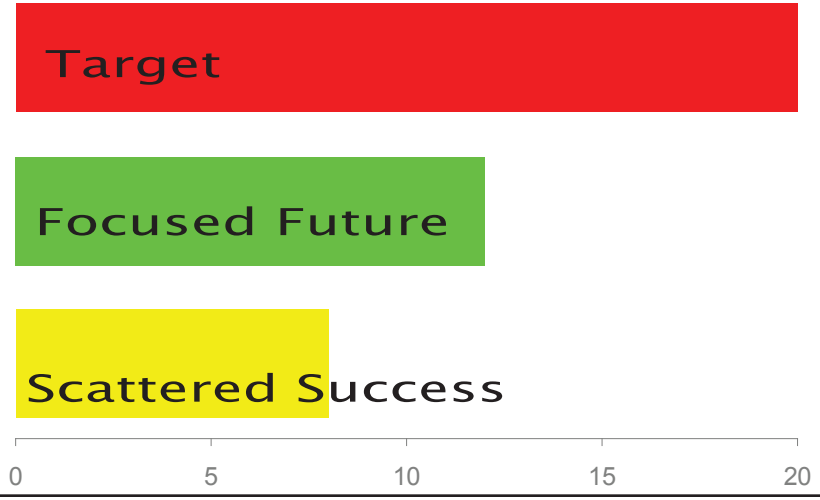

*The regional target is to reduce fine particulate matter, PM2.5, by 10 percent below today's levels. That is equivalent to 2 tons per day over 2006 levels. Under **Scattered Success**, daily PM2.5 emissions increases by 6 tons per day. A **Focused Future** would increase PM2.5 by 4 tons per day.*

## Target 6. Reduce Greenfield Development

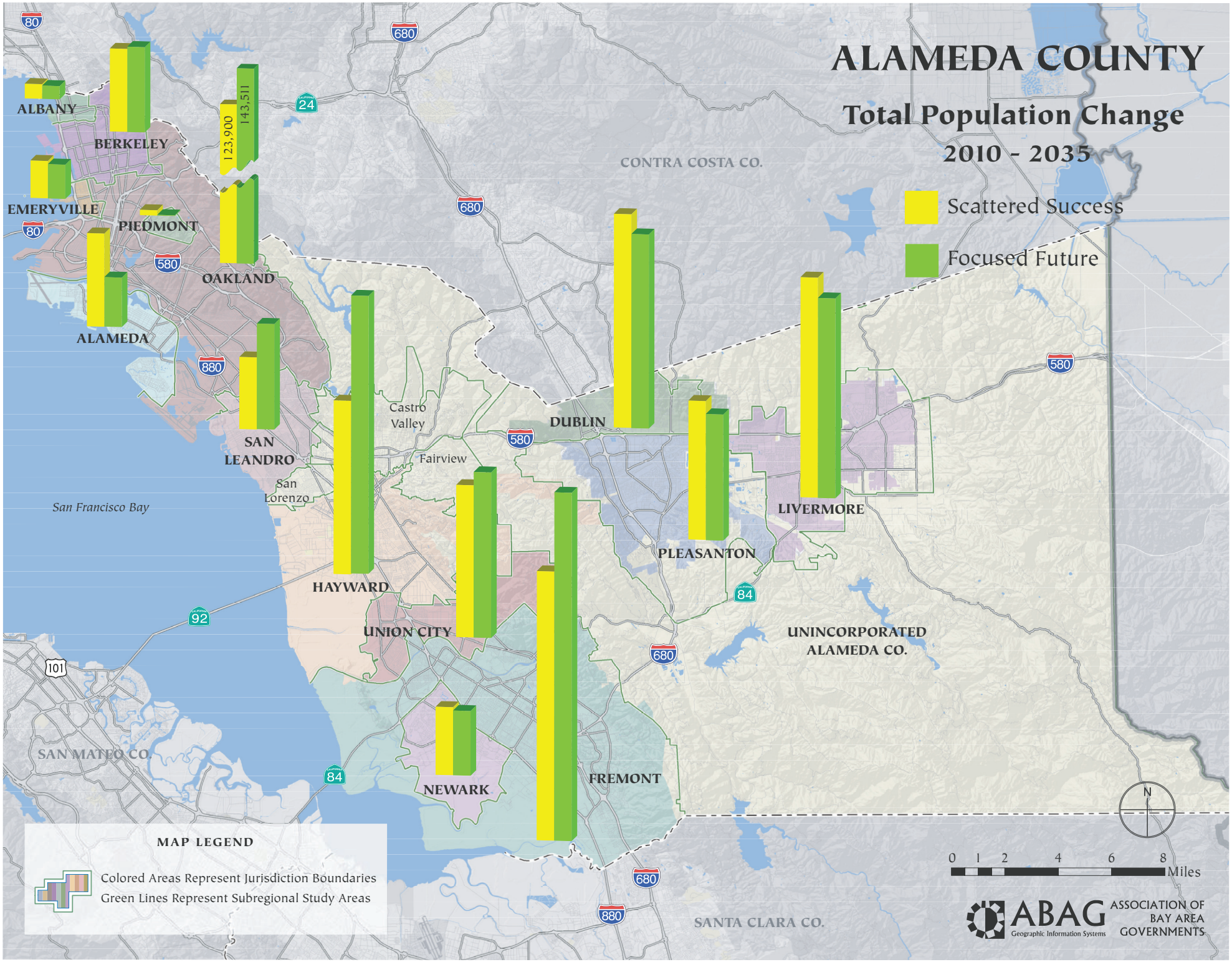
*The regional target is to limit greenfield development to 900 acres per year, or 22,500 acres over the 2010-2035 time period. Under* **Scattered Success**, *an average of 3,083 acres/year are developed in the region by 2035. A* ***Focused Future*** *would consume 1,982 acres per year, on average over the same time period.*




## Target 7. Increase Non-Auto Access to Jobs/




*The regional target is to increase non-auto access to jobs and services by 20 percent, by 2035. Under* ***Scattered Success****, the number of people with transit access to job centers increases by 8 percent. By 2035, under* ***Focused Future****, 12 percent more people can access jobs by transit.*


ALAMEDA COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
ALBANY
BERKELEY
EMERYVILLE
PIEDMONT
OAKLAND
123,900
143,511
ALAMEDA
SAN LEANDRO
HAYWARD
Castro Valley
Fairview
San Lorenzo
UNION CITY
NEWARK
FREMONT
DUBLIN
PLEASANTON
LIVERMORE
UNINCORPORATED ALAMEDA CO.
CONTRA COSTA CO.
SAN MATEO CO.
SANTA CLARA CO.
San Francisco Bay
80
680
24
580
880
92
101
84
N
0 1 2 4 6 8 Miles
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
ABAG Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Alameda County

## Scattered Success

In the **Scattered Success** scenario, Alameda County's population will reach 1.9 million people by 2035. The equivalent of one and one-half Fremonts will be added to the population in the next 25 years. Almost a quarter of the county's population is projected to live in Oakland, where new residents will move into high-density residential projects that are anticipated to be built at the MacArthur BART station, in West Oakland and in the city's downtown and uptown neighborhoods. People are also projected to live in new developments around Lake Merritt and along East 14th Street/International Boulevard and San Pablo Avenue. Adjacent to Oakland, the small urban city of Emeryville, historically a job center in the East Bay, will increase its population by 36 percent. New homes will be located where there is now surface parking at shopping centers and at the Amtrak station. In contrast, the City of Albany will add 1,200 residents, while Berkeley's population will grow by 10 percent.

More people are also projected to live in the central and southern portions of Alameda County. San Leandro is planning to build higher density housing along East 14th Street and in its downtown. In Hayward and Union City, over 50,000 people will move into new 4- to 5-story residential units along the major transit corridors in the area, including Mission Boulevard and Hesperian Boulevard. New developments are also anticipated at the San Leandro, Hayward and Union City BART stations.

In eastern Alameda County, development is anticipated to mostly occur as it has in decades past. The Tri-Valley cities of Pleasanton, Dublin and Livermore are expected to be bustling suburbs with populations twice that of today's levels. Almost 84,000 people are anticipated to move into the Tri-Valley after 2010. Some of these new residents are projected to live in the multifamily developments planned near the Dublin BART station and in the old Hacienda Business Park, where surface parking will be converted into townhomes and single-family homes. However, most new residents are anticipated to reside in new single-family homes, north of Interstate 580.

## Focused Future

Under **Focused Future**, Alameda County's total population will also be at 1.9 million people by 2035. Oakland's population will increase by 20,000, as compared to **Scattered**, for a total of 564,000 people. As with **Scattered**, Oakland's new residents will move into the neighborhoods near Macarthur BART, in Uptown and just west of downtown Oakland. In **Focused**, it is anticipated that these new multi-story residential condominiums and apartments will be mixed in with new parks, shops and services, so that residents can take transit, walk or bike to their daily destinations. Neighborhoods surrounding Lake Merritt, along International Boulevard, Upper Broad-

way and San Pablo Avenue are also anticipated to be thriving centers of commercial activity, with people able to walk from their homes to BART or local shops. Adjacent to Oakland, Berkeley's population is projected to grow by 14,000 people. New development is projected to occur in Downtown Berkeley and Adeline Street, Telegraph Avenue, University Avenue, Shattuck Avenue and San Pablo Avenue.

Many more people are forecast to live in the central and southern portions of Alameda County. San Leandro is projected to build nearly 7,000 new urban-living style homes in its downtown and along East 14th Street. The surface parking lot near the BART station will also be transformed to a mini-urban village, where high density townhomes surround a small park, shops and services. The area is also conceived as having seamless connections to downtown, so that pedestrians can walk to grocery stores, pharmacies or restaurants. In Hayward and Union City, nearly 21,000 people are anticipated to move into new 7- to 8-story residential units that will be located along the major transit corridors in the area, including Mission Boulevard and Hesperian Boulevard. At the Hayward and Union City BART stations, more homes, shops, and grocery stores, as well as a parks and medical centers will transform these places into complete communities where residents can leave their car in the garage for weeks at a time.

In eastern Alameda County, development will likely be predominately infill and at much higher densities than seen in past decades. The Tri-Valley cities of Pleasanton, Dublin and Livermore are expected to accommodate 27,000 new residents (compared to 80,000 under **Scattered**) through second units in existing single family neighborhoods, new condominiums, apartments and townhomes near the Dublin BART station and on what is now surface parking at the Hacienda Business Park. New pedestrian and biking trails will take people into downtown Pleasanton, surrounding neighborhoods and parks, or to the BART station. At Hacienda Crossings, where the IMAX theater is, several parking garages will be built. The surface parking will contain multi-story townhomes and apartments, with winding trails that lead to shops and a public plaza. Free shuttles will take shoppers to and from stores, surrounding neighborhoods and the BART station at West Dublin.

## Alameda County Scenario Performance

Each land use scenario, **Scattered** and **Focused**, has been tested to determine their impacts on each of the regional targets, at the county level. Total change in Alameda County VMT (driving), carbon emissions, particulate matter, delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

### Driving

Under each scenario, new transit-accessible and walkable developments in Oakland, Hayward, Union City, Emeryville, San Leandro and in the Tri-Valley (under the **Focused** alternative) have enabled a reduction in per capita driving in the county. In 2006, total daily per person VMT was 21.4 miles. By 2035, VMT is reduced by 0.5 miles under the **Scattered** development pattern and by 1.6 miles in the **Focused** alternative.

### Carbon Dioxide Emissions

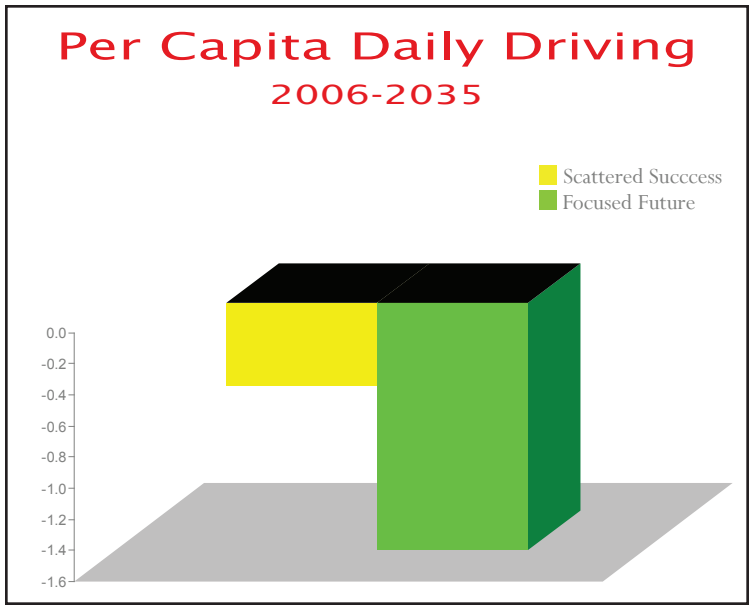
Carbon dioxide emissions from the transportation sector decrease in Alameda County over 2006 levels under each scenario. However, emissions are reduced more under the **Focused Future** alternative. In 2006, 21,500 tons of carbon emissions were released into the air in Alameda County every day. Under **Scattered**, emissions drop by nearly 500 daily tons by 2035, to a total of 21 thousand daily tons. In the **Focused** growth scenario, daily carbon emissions from the transportation sector are reduced by over 1,480 tons by 2035.

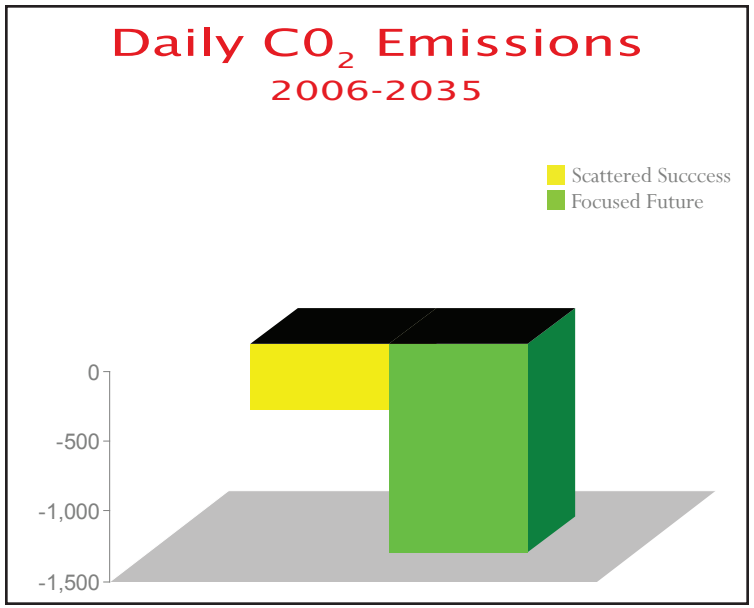
### Particulate Matter$_{10}$

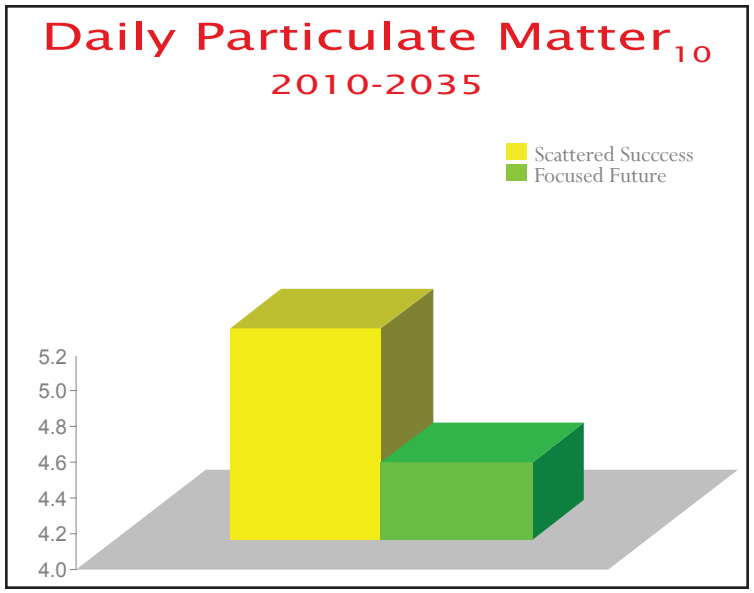
Road dust, or particulate matter, increases to an all-time high under both scenarios. This is mostly due the absolute increase in driving anticipated under each land use scenario. In 2006, almost 17 tons of PM10 were emitted each day in Alameda County. Coarse matter, PM10, is projected to increase by over 5.2 tons per day in the **Scattered** scenario and by 4.4 tons in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

Fine road dust also increases under both scenarios. Again, this is due to the absolute increase in driving. In 2006, 5 tons of PM2.5 were emitted each day in Alameda County. Fine coarse matter, PM2.5, is projected to increase by 1 ton per day in the **Scattered** scenario and by 0.9 tons in the **Focused Future** alternative.



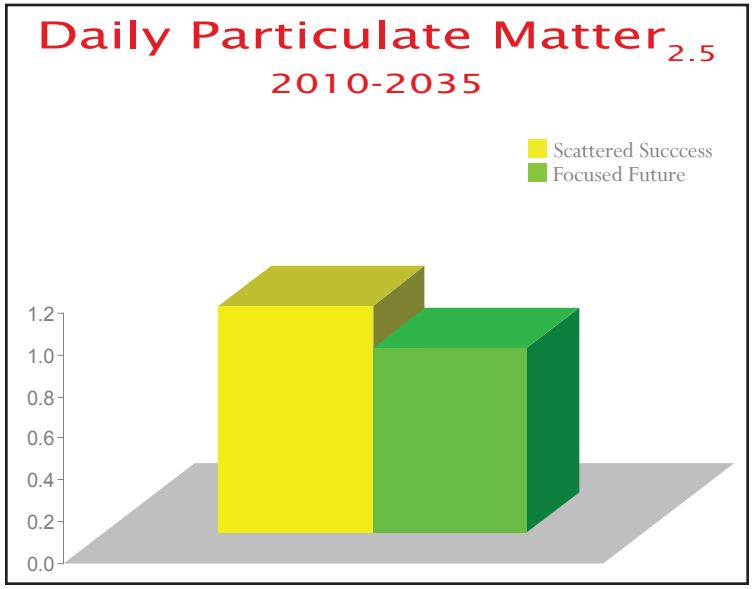


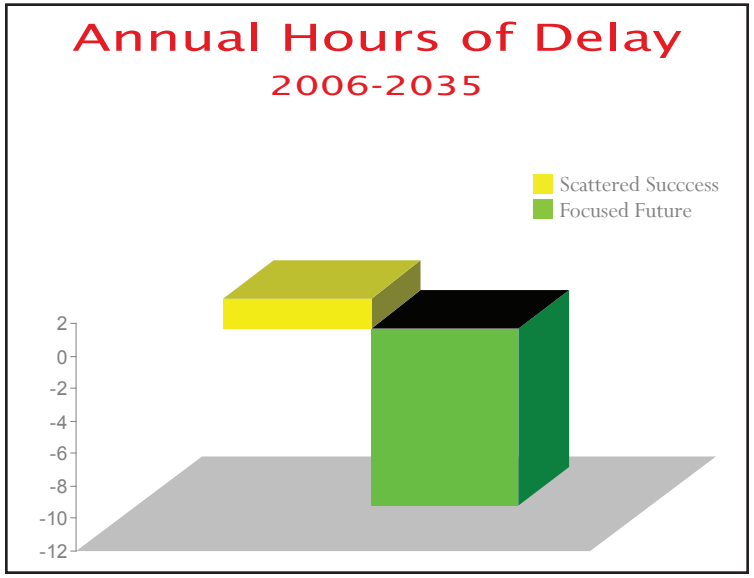

### Annual Traffic Delay

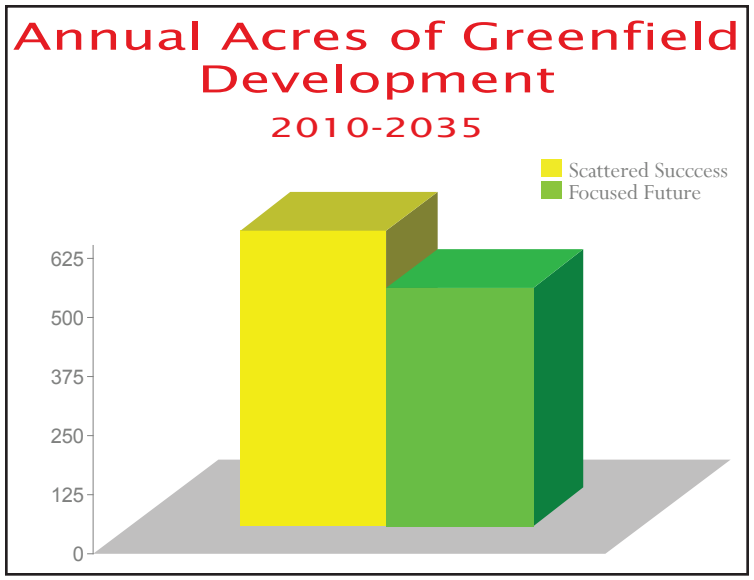
In 2006, annual traffic delay, or congestion, amounted to 39 vehicle hours per person in Alameda County. Traffic delay is projected to increase by 4 percent, or by nearly 2 hours per person, by 2035 under a **Scattered** development pattern. Under a more **Focused** growth pattern, delay is reduced by 40 percent. Vehicle hours of delay drop by over 10 hours under **Focused Future** compared to 2006 levels.

### Greenfield Development

In 2010, a total of 142,000 acres are expected to be developed for urban use in Alameda County. By 2035 under a **Scattered** development pattern, an additional 15,500 acres are projected to be developed. This amounts to an average of 620 acres per year. Under a more **Focused** growth pattern, only 500 acres are projected to be developed each year within the county.



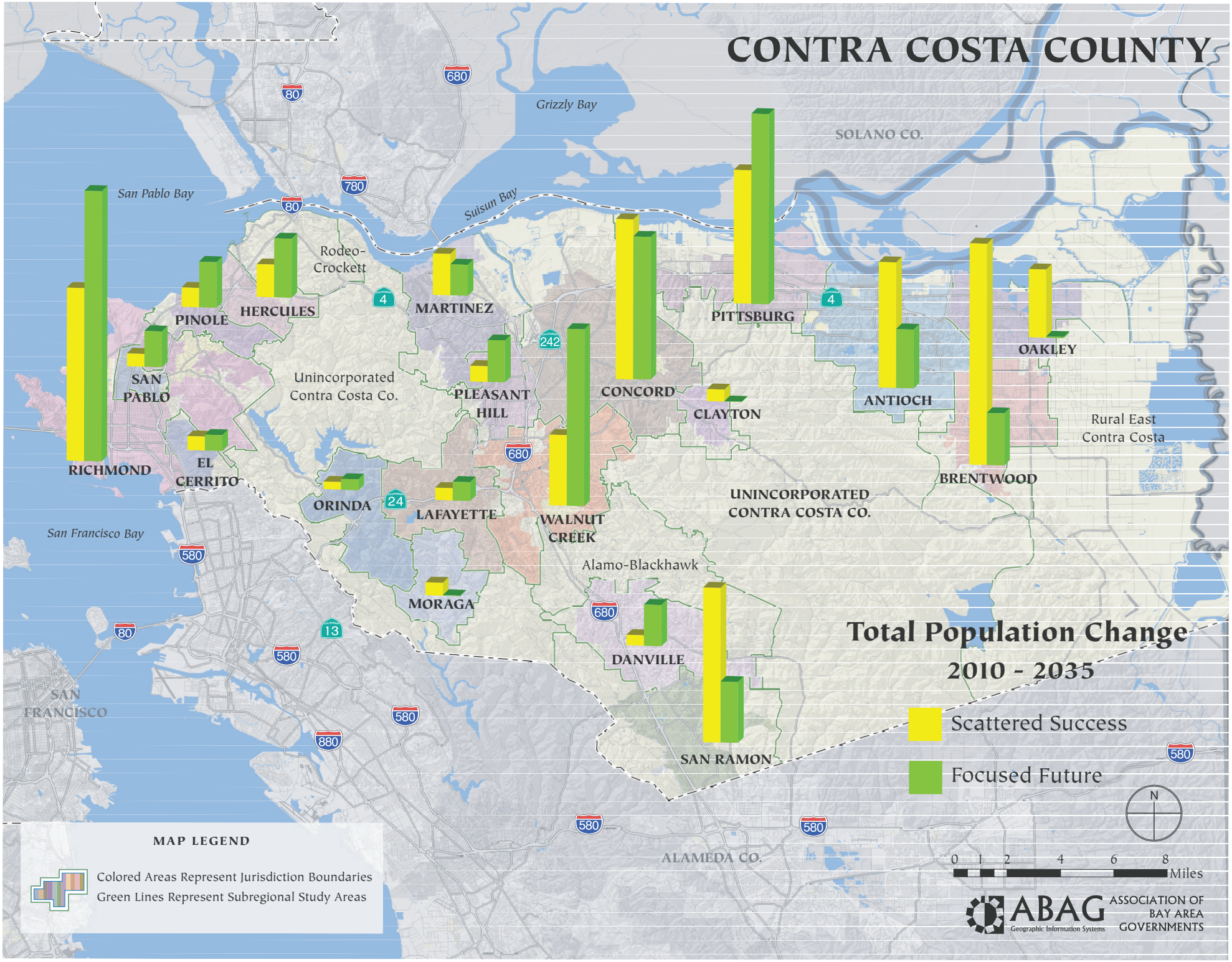







### Non-Auto Access

In 2000, 277,000 people, or 53 percent of Alamdea County's population, lived in neighborhoods with transit service, thereby giving them non-auto access to jobs and/or services. By 2035, in Alameda County under a **Scattered** development pattern, 5 percent more households, or almost 59 percent of Alameda's total households, will have direct transit access - or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that proportion is expected to go up by 12 percent - over 2000 levels.


CONTRA COSTA COUNTY
Grizzly Bay
SOLANO CO.
San Pablo Bay
Suisun Bay
Rodeo-
Crockett
PINOLE
HERCULES
MARTINEZ
PITTSBURG
OAKLEY
SAN
PABLO
Unincorporated
Contra Costa Co.
PLEASANT
HILL
CONCORD
CLAYTON
ANTIOCH
Rural East
Contra Costa
RICHMOND
EL
CERRITO
ORINDA
LAFAYETTE
WALNUT
CREEK
UNINCORPORATED
CONTRA COSTA CO.
BRENTWOOD
San Francisco Bay
Alamo-Blackhawk
MORAGA
DANVILLE
SAN RAMON
SAN
FRANCISCO
ALAMEDA CO.
Total Population Change
2010 - 2035
Scattered Success
Focused Future
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF
BAY AREA
GOVERNMENTS
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas

# Contra Costa County

## Scattered Success

In the **Scattered Success** scenario, Contra Costa County's population reaches over 1.3 million people. This scenario projects that Contra Costa will remain mostly a collection of auto-oriented communities, especially east of the Caldecott Tunnel. The county's most urbanized neighborhoods will continue to be in west county, where the City of Richmond will see the most growth. Over 28,000 people will either be born in Richmond or move there in the next 25 years. It is projected that neighborhoods in south and central Richmond will see new investments in housing and shopping centers, especially near the Richmond BART station, along MacDonald Avenue and in Marina Bay's South Shore.

In Central County, Concord, Walnut Creek and San Ramon are also projected to add significantly to their populations. San Ramon is forecasted to increase its population by 30 percent, Concord by 16 percent, and Walnut Creek, 12 percent. Most of San Ramon's growth is expected to take place in Dougherty Valley, where more single-family homes are being planned. Much of Concord's growth is projected to occur in its downtown, next to the BART station and at the old Naval Weapon's station. The unincorporated area of the county, between Walnut Creek and Pleasant Hill, is also planned for growth.

East county is where most of Contra Costa's growth is projected to take place in the **Scattered** scenario, just as it has in decades past. Well over 400,000 people are projected to live in east county by 2035. Antioch, Pittsburg, Brentwood, and Oakley are each projected to have burgeoning populations, mostly living in predominantly auto-dependent communities. In the next 25 years, Antioch's population will grow by 16 percent, Brentwood's population by 36 percent and Oakley, 23 percent. These three communities, along with Byron and Discovery Bay, are anticipated to absorb 31 percent of Contra Costa County's total growth.

## Focused Future

As in the **Scattered** scenario, by the year 2035 over 1.3 million people are projected to live in Contra Costa County in the **Focused Future** alternative. However, in the **Focused** scenario, Contra Costa's nearly 30 years of urban growth boundaries and strong commitments to redirect growth to areas with jobs or transit are projected to transform the county into a collection of flourishing urban villages, including areas east of the Caldecott Tunnel.

In the **Focused** scenario, western Contra Costa County is especially urbanized. Thousands of new homes and various shops and restaurants along San Pablo Avenue are projected to transform neighborhoods in El Cerrito, Richmond, and Hercules. The segment of San Pablo Avenue through Central Richmond, between San Pablo and El Cerrito, is projected to change most significantly. New homes are planned at densities as high as 60 units per acre. Other areas in Richmond will change as well, to accommodate the city's additional 44,000 people. Communities near the Richmond BART station, along MacDonald Avenue and in Marina Bay's South Shore are anticipated to be developed with moder-

ate to high density housing, as high as 75 units per acre in some locations. A new community will even emerge in North Richmond, where old industrial neighborhoods are projected to become places filled with homes, live-work lofts, small offices and new grocery stores.

Central county is also projected to absorb much more of Contra Costa County's growth. Concord, Pleasant Hill and Walnut Creek will account for nearly 28 percent of the county's growth. Together, these three cities will add over 58,000 people in the next 25 years. The majority of this growth will be focused within existing downtowns and/or near BART stations. Concord's growth is expected to occur primarily within its downtown near BART and at the old Naval Weapon's station, which will be planned as a community of relatively high density multi-family and single-family homes. A school, post office, a medical center and a grocery store, in addition to other local services may also be built in the area, thereby reducing auto-trips. The Sun Valley Mall in Concord is also projected to be transformed into a new urban village, with a public plaza and park at its center, all surrounded by condominiums, apartments and townhomes. A local convenience store, shops and restaurants, ample outdoor seating, a grocery store and even a day care center could also shorten people's daily trips. A free shuttle and bike trails may also take people to nearby BART stations.

Walnut Creek is projected to expand its walkable downtown by adding more high density housing and a hotel. The auto dealerships and old auto-oriented retail center that flank downtown could be rebuilt into rows of townhomes with porches and stoops for residents to sit and relax on warm summer nights. The surface parking lot at the Walnut Creek BART station could be redeveloped into apartment homes and condominiums. The remaining surface parking at Pleasant Hill BART station could have new office buildings on it, and perhaps new housing.

San Ramon is projected to grow marginally in the **Focused** scenario. The city's 10,000 new residents could be accommodated almost exclusively within the City Center, where new townhomes, multi-story condominiums and apartments could be developed. A free shuttle, with a bus stop that is walkable from most homes, could take residents directly to either the Dublin or Walnut Creek BART stations.

East county is projected to greatly change its historic growth pattern under **Focused Future**. Growth slows in most cities in east county and the little growth that is allocated occurs near transit. Growth takes place near the Pittsburg BART station and at the new e-BART stations in both Antioch and Pittsburg. At the Pittsburg BART station, a transit village is projected to be completed, with some homes built at 65 units per acre. Small retail stores and services and a public plaza may serve as the new neighborhood's focal point. New pedestrian and bicycle access along West Leland Road may be developed. A new parking garage is also projected to replace the old BART surface parking. In Antioch, residents of the new Hillcrest neighborhood are projected to have access to jobs via the new e-BART line. Homes, retails stores, offices and walking and bike trails may all come together to create a new community, a place now occupied by vacant and underutilized lots.

## Contra Costa County Scenario Performance

The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in Contra Costa County VMT (driving), carbon emissions, particulate matter, delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

### Driving

Under the **Scattered** scenario, new transit-accessible and walkable developments in Contra Costa County are not projected to be enough to reduce per capita driving. Instead, by 2035, per capita driving is projected to climb by 0.6 miles per day over 2006 totals. However, under the more **Focused** growth scenario, total daily per person VMT declines by 0.5 miles.

### Carbon Dioxide Emissions

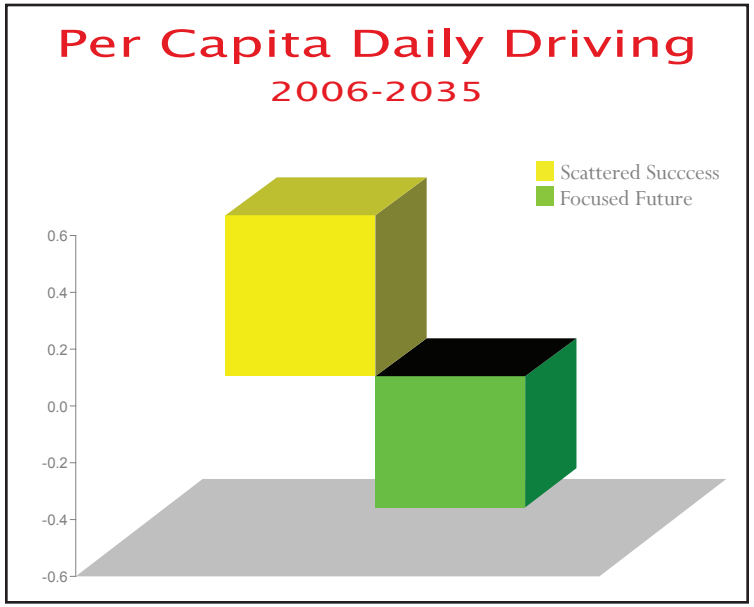
Carbon dioxide emissions from the transportation sector increase in Contra Costa County over 2006 levels under the **Scattered** scenario, and decline under a **Focused** growth pattern. In 2006, 13 thousand tons of carbon emissions were released into the air in Contra Costa County each day. Under **Scattered**, emissions are projected to increase by over 270 daily tons by 2035, to a total of 13.4 thousand. In the **Focused** growth scenario, daily carbon emissions from the transportation sector are reduced by nearly 630 tons by 2035.

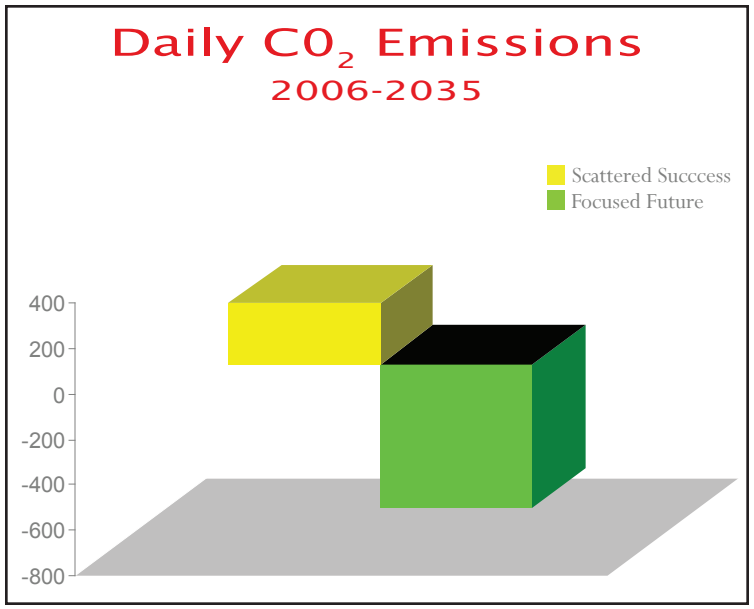
### Particulate Matter$_{10}$

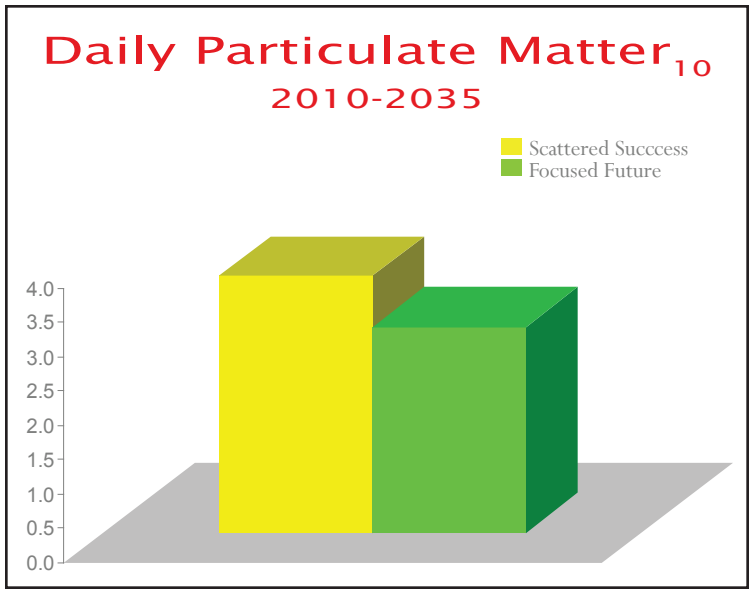
Coarse road dust, particulate matter, increases to an all time high under both development scenarios. This is due to the absolute increase in driving anticipated under each land use scenario. In 2006, over 10 tons of PM10 were emitted each day in Contra Costa County. Coarse matter, PM10, is projected to increase by 4 tons per day in the **Scattered** scenario and by 3 tons in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

Fine road dust also increases under both scenarios. In 2006, 3 tons of PM2.5 were emitted each day in Contra Costa County. Fine coarse matter is projected to increase by 0.8 tons per day in the **Scattered** scenario and by 0.6 tons in the **Focused Future** alternative.






### Annual Traffic Delay

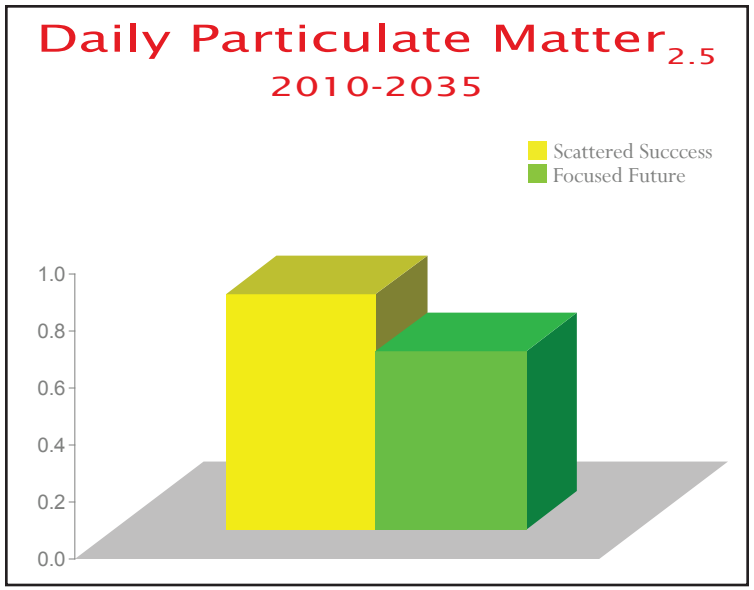
In 2006, annual traffic delay, or congestion, amounted to 34 vehicle hours per person in Contra Costa County. Traffic delay is projected to increase by 25 percent, or by 11 hours per person, under a **Scattered** development pattern. Under a **Focused** growth pattern, delay is reduced by 40 percent or by nearly 10 hours, compared to 2006 levels.

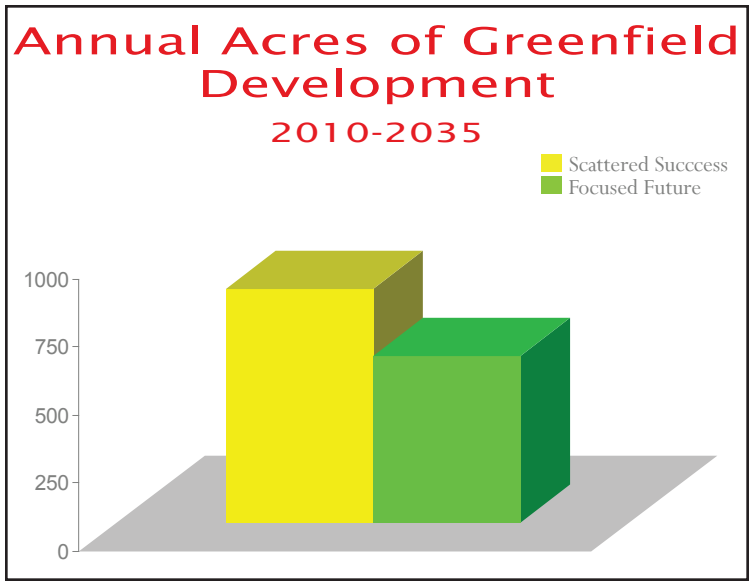
### Greenfield Development

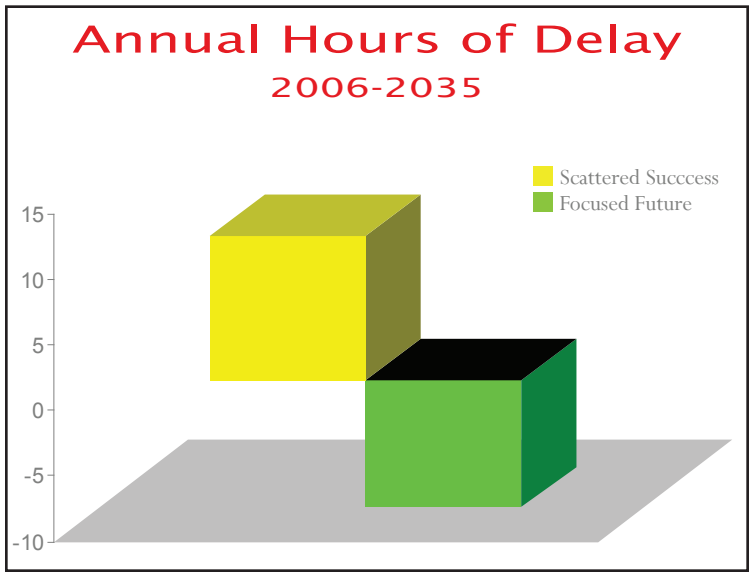
In 2010, 125,565 acres are projected to be developed for urban use in Contra Costa County. By 2035 under a **Scattered** development pattern, an additional 21,470 acres are projected to be developed. This amounts to an average of 860 acres per year and is equivalent to 30 percent of the region's total greenfield development. Under a more **Focused** growth pattern, only 610 acres are projected to be developed each year within the county.

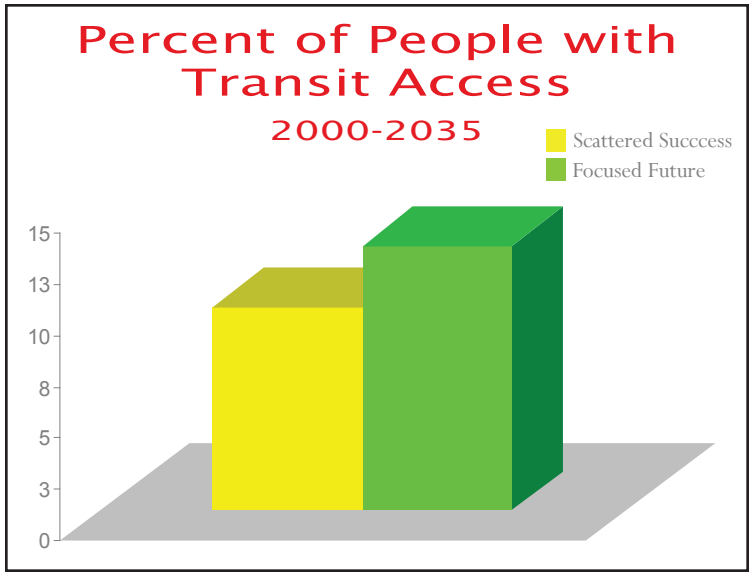
### Non-Auto Access

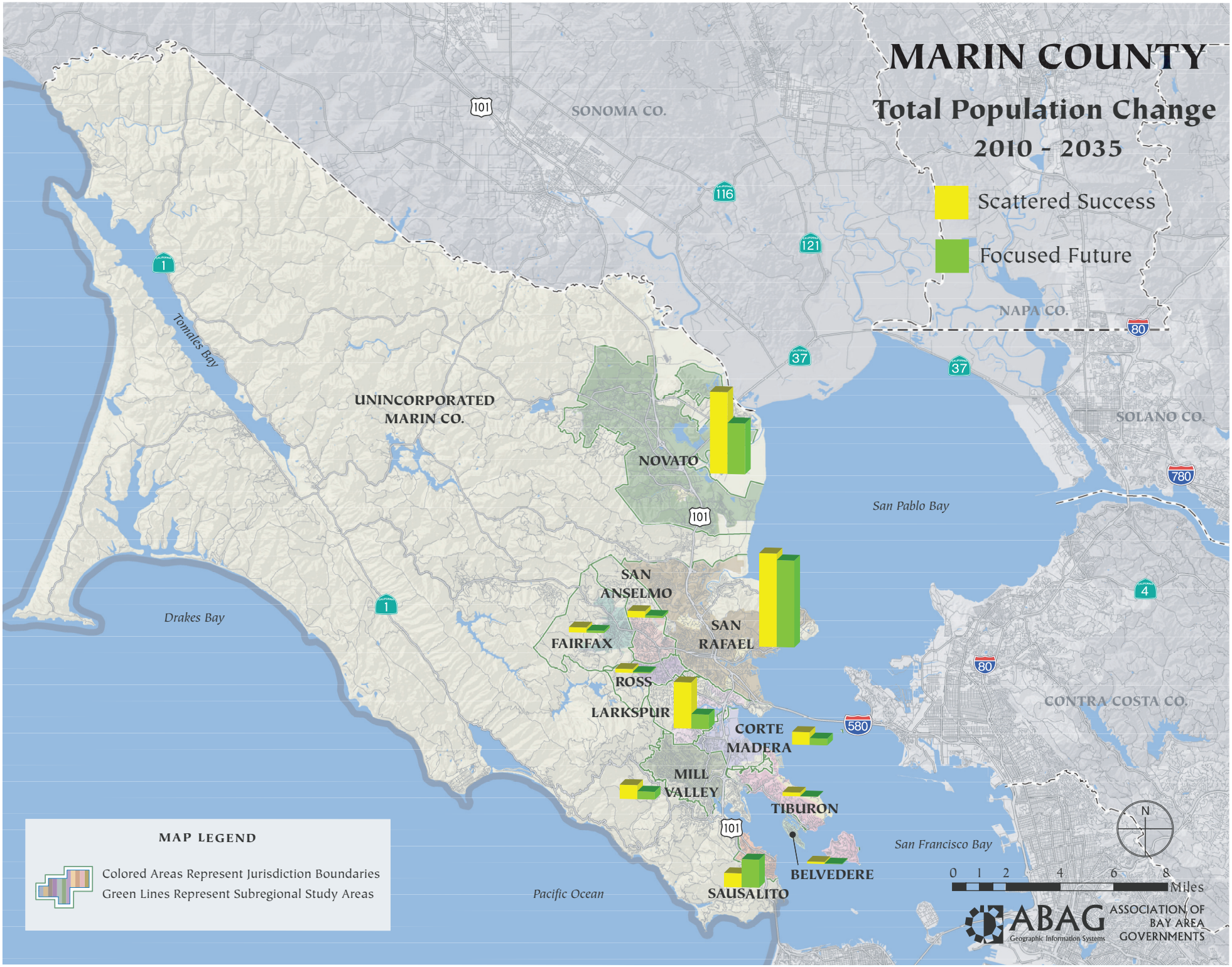
In 2000, 178,000 people, 52 percent of Contra County's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 10 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 13 percent over 2000 levels, to 68 percent.


Daily Particulate Matter2.5
2010-2035
Scattered Succcess
Focused Future
1.0
0.8
0.6
0.4
0.2
0.0


Annual Acres of Greenfield Development
2010-2035
Scattered Succcess
Focused Future
1000
750
500
250
0


Annual Hours of Delay
2006-2035
Scattered Succcess
Focused Future
15
10
5
0
-5
-10


Percent of People with Transit Access
2000-2035
Scattered Succcess
Focused Future
15
13
10
8
5
3
0


MARIN COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
SONOMA CO.
NAPA CO.
SOLANO CO.
CONTRA COSTA CO.
UNINCORPORATED MARIN CO.
NOVATO
SAN ANSELMO
FAIRFAX
SAN RAFAEL
ROSS
LARKSPUR
CORTE MADERA
MILL VALLEY
TIBURON
BELVEDERE
SAUSALITO
Tomales Bay
Drakes Bay
San Pablo Bay
San Francisco Bay
Pacific Ocean
101
116
121
37
80
780
580
4
1
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Marin County

## Scattered Success

In the **Scattered Success** scenario, well over one-quarter of one million people are projected to live in Marin County by 2035; 25,000 more people than today. Marin's growth is expected to be limited by its large older population. Nearly 40 percent of Marin's population is projected to be over 60 years old, compared to only 14 percent in 1980. At local city council meetings throughout Marin, access, mobility and independent living may become dominant concerns, with few immediate solutions in sight. Some towns may institute free shuttles and meals on wheels programs, though high gas prices may also make these programs prohibitively expensive for most cities to operate over the longterm.

San Rafael and Novato are projected to remain Marin's largest and most urbanized cities. Together, these two cities will account for 48 percent of the county's population and will have absorbed over 60 percent of the county's growth. Larkspur follows in size and projected growth. Almost 30,000 people are expected to live in Larkspur, 4,200 more than today. The unincorporated pockets of Marin, along Highway 101 and within San Rafael and Novato, are also projected to see some nominal growth.

## Focused Future

About 7,200 less people are projected to live in Marin County under the **Focused** growth scenario. As with **Scattered**, Marin's growth is projected to be limited by its large older population, but also by its limited transit options and relatively smaller job base. San Rafael and Novato are projected to remain Marin's largest and most urbanized cities. Under **Focused**, these two cities will accommodate more of Marin's growth. Together, these two cities are projected to account for 70 percent of the county's growth. San Rafael is planned for 7,600 new residents, while Novato is projected to add 4,500 residents and 7,200 new jobs. Most of these new home and jobs are likely to be located in the new urban village located just off of Redwood Boulevard. At the village, what is now a collection of mostly office buildings, is projected to have a new train station and townhomes, as well as pedestrian and bike trails to surrounding areas. San Rafael will accommodate its growth though higher densities in its downtown, where more people will be able to walk to the new transit center and hop on a train that goes to a Larkspur ferry that can take them directly into downtown San Francisco. Larkspur will add 1,500 people over the next 25 years, mostly near the ferry terminal and new transit station.

## Marin County Scenario Performance

The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in Marin County VMT (driving), carbon emissions, particulate matter, delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to years 2000, 2006 or 2010.

### Driving

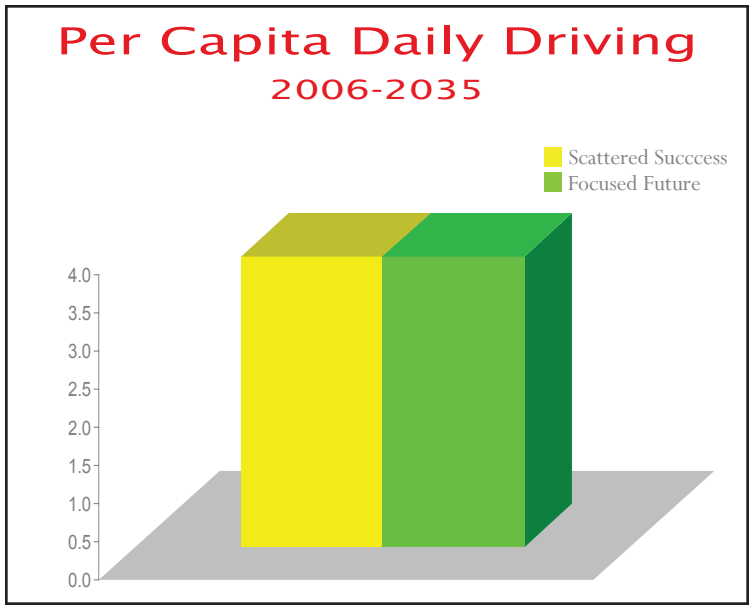
The increase in daily per capita driving remains constant under each development scenario for Marin County. The projected increase in driving is 3.8 daily miles per person, per day. However, under the **Scattered** scenario, absolute miles driven are expected to be much higher than under **Focused**, by 250,000 miles each day. It is largely the limited increase in population under the **Focused** scenario that keeps Marin's increase in per capita driving fairly constant under each scenario.

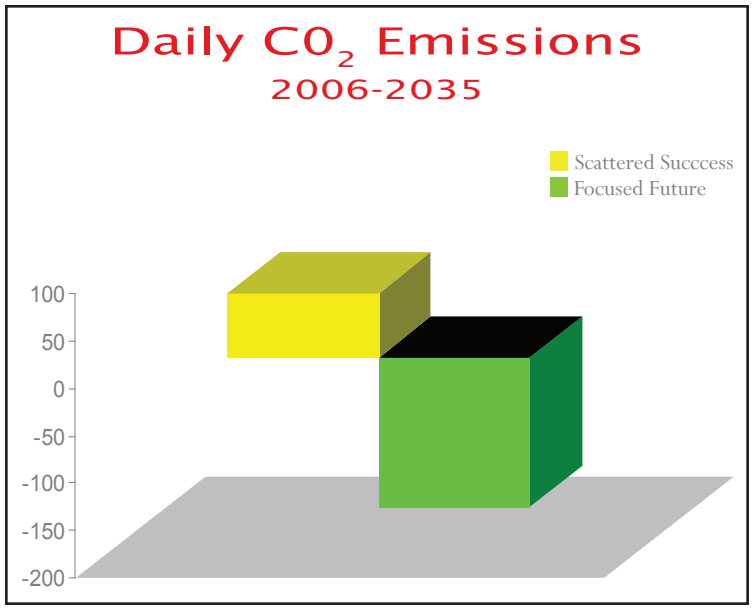
### Carbon Dioxide Emissions

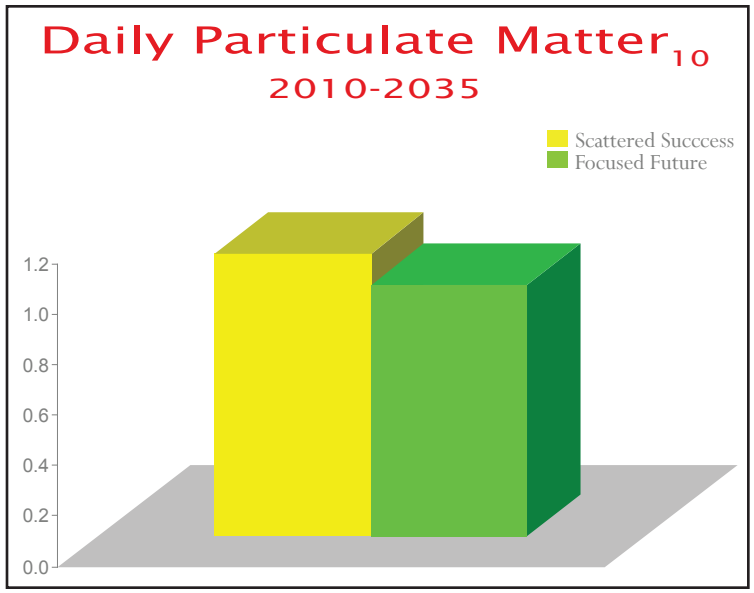
Carbon dioxide emissions from the transportation sector increase in Marin County over 2006 levels under the **Scattered** scenario, and decline under a **Focused** growth pattern. In 2006, 4 thousand tons of carbon emissions were released into the air in Marin each day. Under **Scattered**, emissions are projected to increase by 69 daily tons by 2035. In the **Focused** growth scenario, daily carbon emissions from the transportation sector are reduced by nearly 158 tons.

### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for Marin. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, over 3 tons of PM10 were emitted each day in Marin. Coarse matter, PM10, is projected to increase to 4.2 tons per day in the **Scattered** scenario and by 4 tons in the **Focused** alternative.



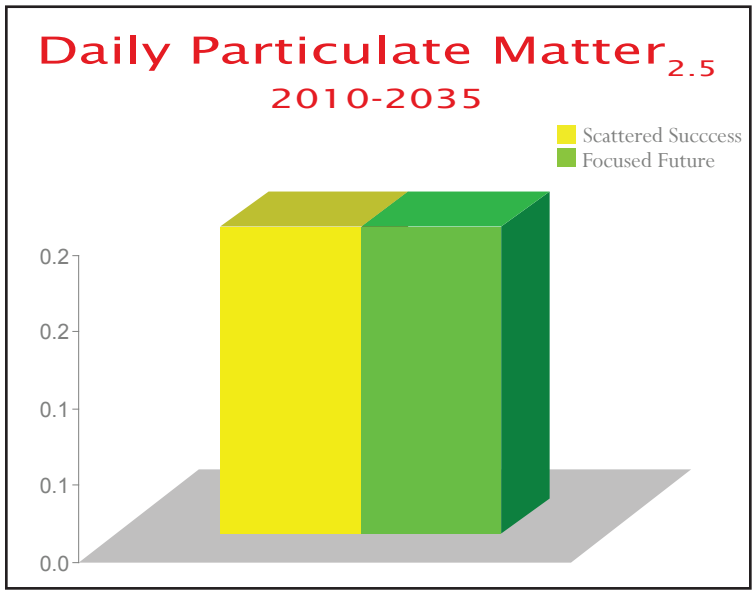


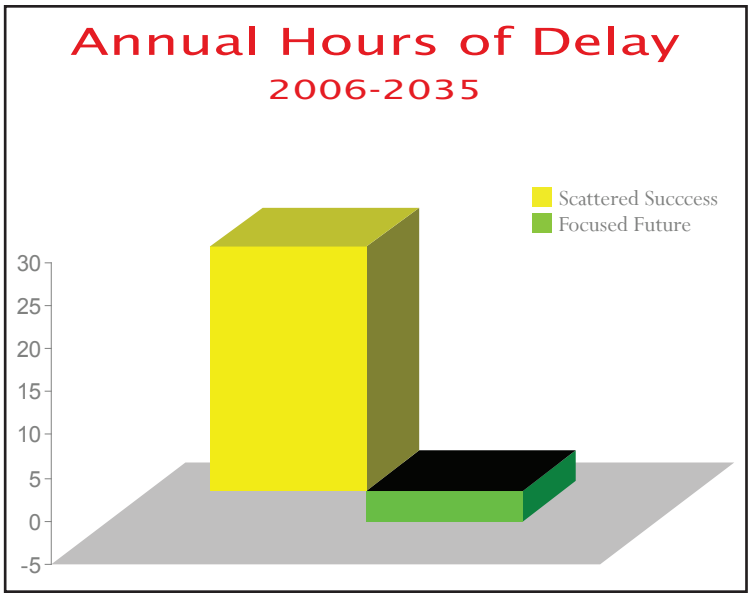

### Particulate Matter$_{2.5}$

Fine road dust also increases under both scenarios. In 2006, 0.9 tons of PM2.5 were emitted each day in Marin. Fine coarse matter is projected to increase by 0.2 tons per day under both the **Scattered** and **Focused Future** alternative.

### Annual Traffic Delay

In 2006, annual traffic delay, or congestion, amounted to 34 vehicle hours per person in Marin County. Traffic delay is projected to increase by 28 annual hours per person by 2035 under a **Scattered** development pattern, for a total of 62 hours per person. Under a more **Focused** growth pattern, delay is reduced by almost 4 hours, compared to 2006 levels.



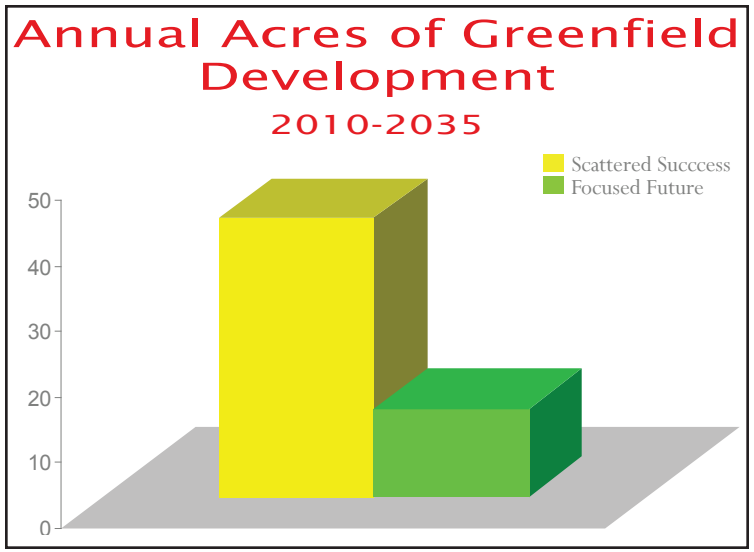



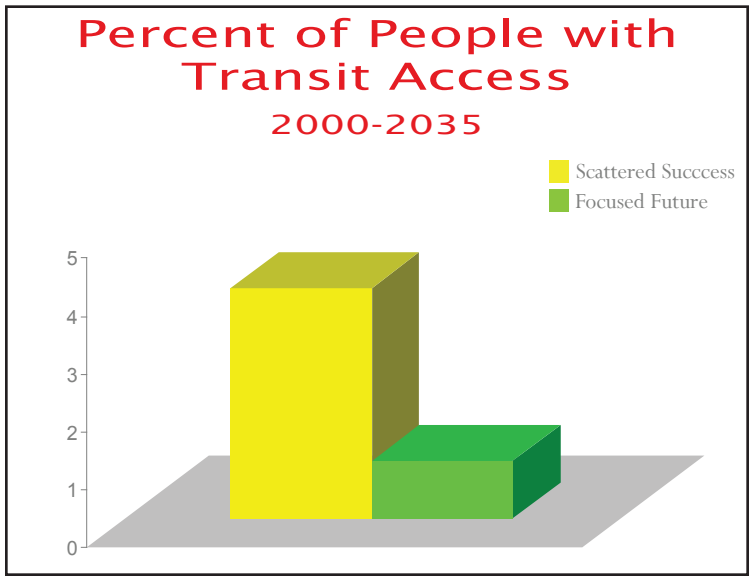
### Greenfield Development

In 2010, a total of 14,000 acres, or 13 percent of the land area is projected to be developed for urban use in Marin County. By 2035 under a **Scattered** development pattern, an additional 1,064 acres are projected to be developed. This amounts to an average 43 acres per year over the 25 year period. Under a more **Focused** growth pattern, only 13 acres are projected to be developed each year within the county. This equates to a total of 335 new acres being developed by 2035.

### Non-Auto Access

In 2000, 57,000 people, 57 percent of Marin's population, lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 4 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 1 percent - over 2000 levels. This decline is mostly due the absolute decrease in population growth projected for Marin County in the **Focused** development scenario.



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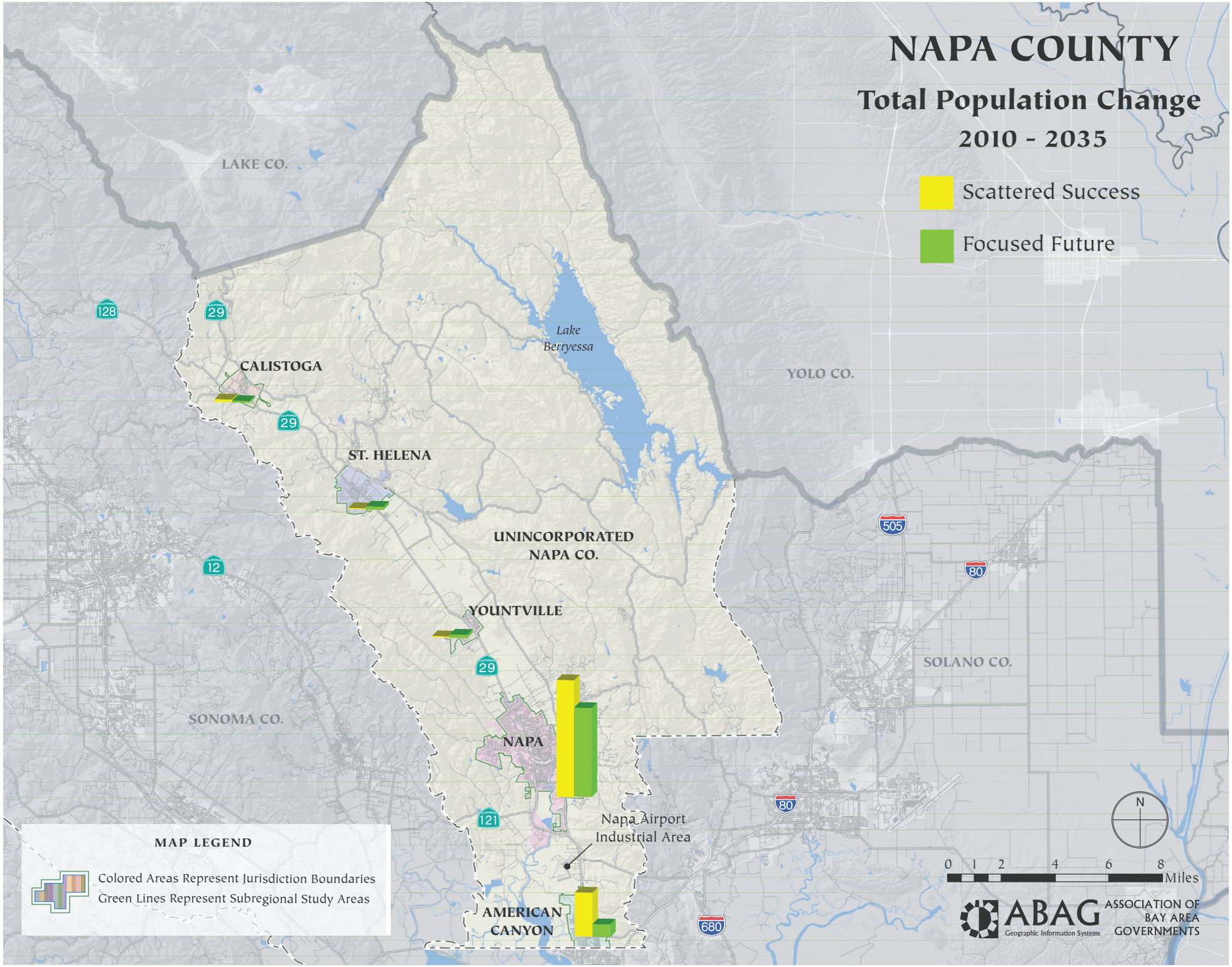

NAPA COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
LAKE CO.
YOLO CO.
SOLANO CO.
SONOMA CO.
Lake Berryessa
CALISTOGA
ST. HELENA
UNINCORPORATED NAPA CO.
YOUNTVILLE
NAPA
AMERICAN CANYON
Napa Airport Industrial Area
128
29
12
121
505
80
680
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Napa County

## Scattered Success

In the **Scattered Success** scenario, Napa County is projected to remain much the same as it is today. The mostly rural and agricultural landscape is expected to be maintained and the population is forecasted to increase by only 16,000 people. Virtually all of this growth is planned for the City of Napa and American Canyon, keeping with the county's desire to direct growth to its major cities. By 2035, the City of Napa is projected to have a population of 92,000. We anticipate the city will maintain its urban growth boundary; therefore many of the city's 10,000 new residents are expected to live in downtown Napa, where new condominiums and single-family homes are planned. American Canyon will add over 4,000 new residents, some of whom may live in the multi-family housing located near Highway 29.

Moderate growth is also expected to take place on unincorporated lands, mostly near the Napa River, where a new relatively high density community is planned. Virtually no growth is projected for Calistoga, St. Helena or Yountville. Together theses three cities will increase their population by a mere 400 people.

## Focused Future

Napa County's growth is reduced greatly under the **Focused** development scenario. The population is projected to increase by only 9,800 people under **Focused**. As with **Scattered**, virtually all of this growth is projected to take place in the City of Napa and American Canyon. The City of Napa's population is planned to increase by 7,900, and again this growth is anticipated to mostly occur in downtown Napa. American Canyon is expected to add 760 people, significantly fewer than under **Scattered**.

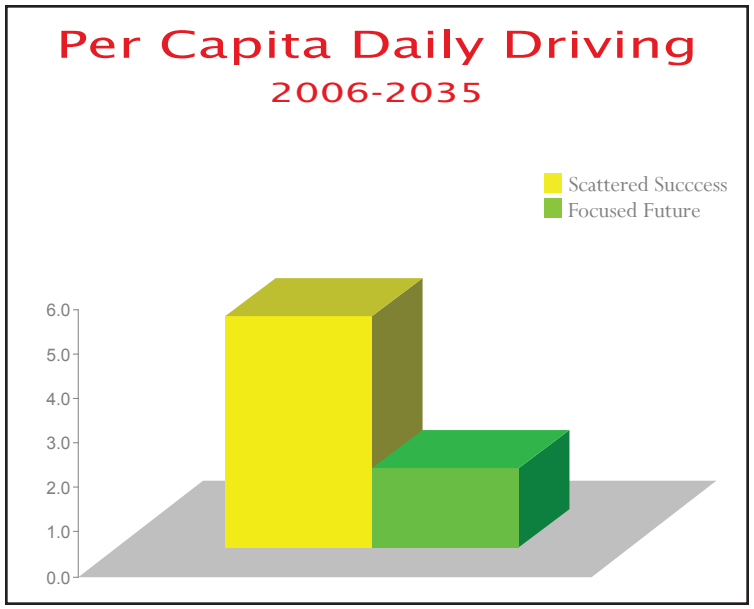
Limited growth also takes place on unincorporated Napa County lands; marginally more growth occurs in Calistoga, St. Helena or Yountville.

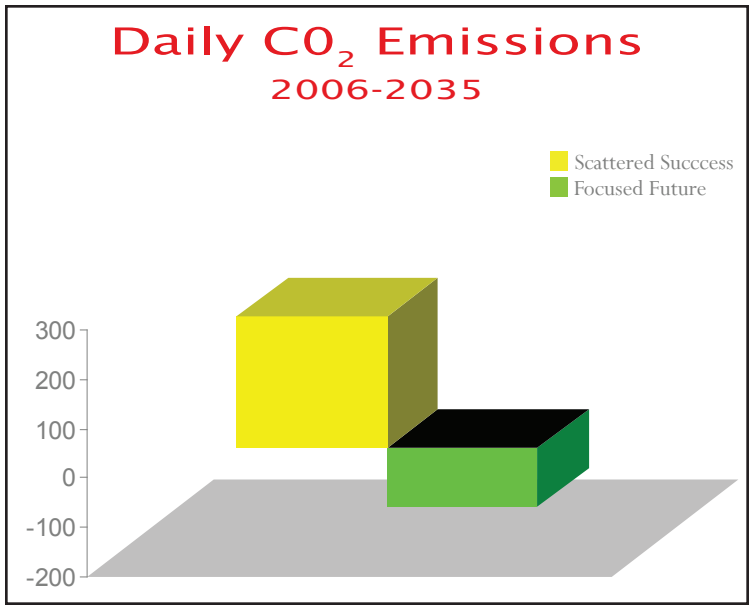
## Napa County Scenario Performance

The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in Napa County VMT (driving), carbon emissions, particulate matter, delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

### Driving

In Napa County, daily per capita driving is projected to increase more by 2035 under the **Scattered** scenario than under the **Focused** development pattern. Under **Scattered**, the projected increase in daily driving is 5.2 daily miles per person. Daily miles driven in Napa are expected to increase by 1.8 miles per day under **Focused** by 2035.



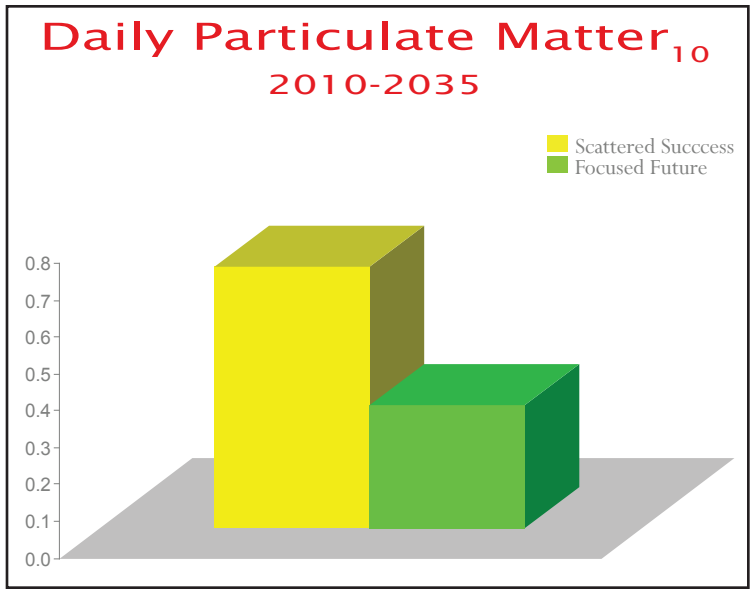

### Carbon Dioxide Emissions

Carbon dioxide emissions from the transportation sector increase in Napa County over 2006 levels under the **Scattered** scenario, and decline under a **Focused** growth pattern. In 2006, 1.6 thousand tons of carbon emissions were released into the air each day. Under **Scattered**, emissions are projected to increase by 270 daily tons by 2035. In the **Focused** growth scenario, daily carbon emissions from the transportation sector are reduced by nearly 120 tons.

### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for Napa County. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, 1.3 tons of PM10 were emitted each day in Napa. Coarse matter is projected to increase to 2 tons per day in the **Scattered** scenario and to 1.6 daily tons in the **Focused Future** alternative.

Napa, Kennedy Park

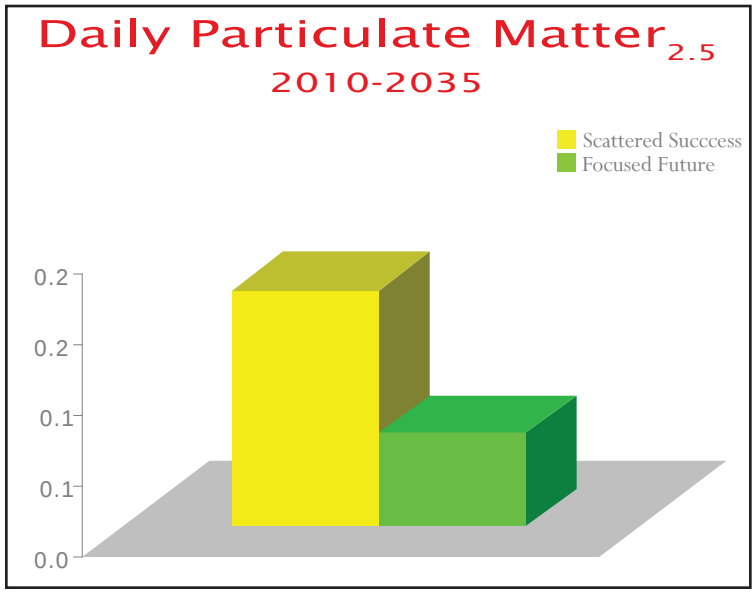


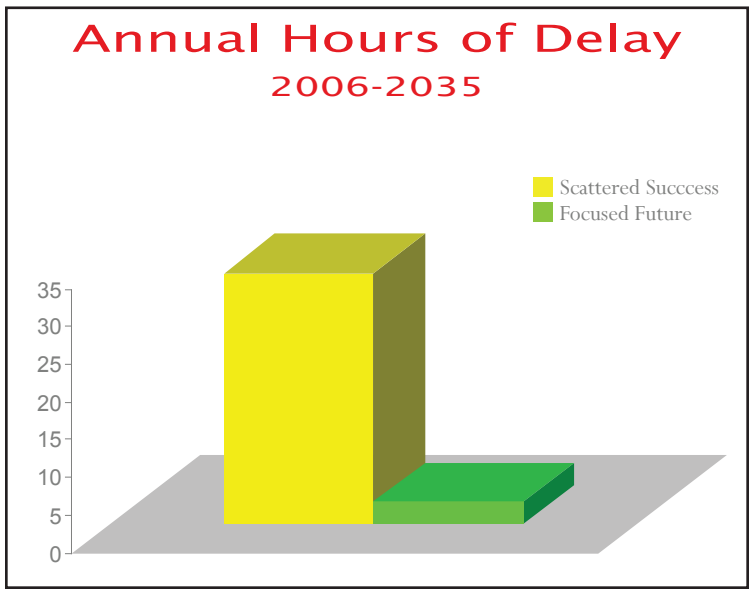

### Particulate Matter$_{2.5}$

Fine road dust also increases in Napa County under both growth scenarios, although more so in **Scattered**. In 2006, 0.4 tons of PM2.5 were emitted each day in Napa. Fine coarse matter is projected to increase by 0.2 tons per day under the **Scattered** and 0.1 tons in the **Focused Future** alternative.

### Annual Traffic Delay

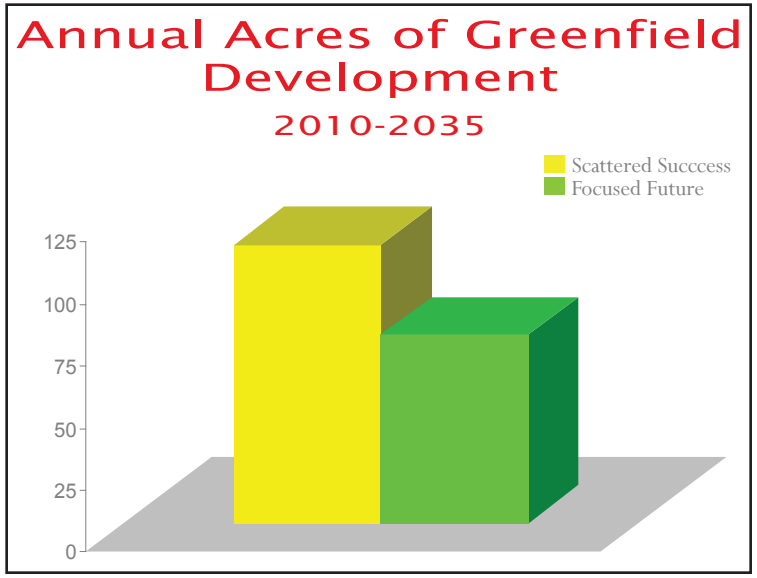
In 2006, annual traffic delay, or congestion, amounted to 12 vehicle hours per person in Napa County. Traffic delay is projected to increase by 33 annual hours per person by 2035 under a **Scattered** development pattern, for a total of 45 hours per person. Under a more **Focused** growth pattern, delay increases by only 3 hours, compared to 2006 levels.



### Greenfield Development

In 2010, a total of 24,435 acres, or 5 percent of the land area is projected to be developed for urban use in Napa County. By 2035 under a **Scattered** development pattern, an additional 2,800 acres are projected to be developed. This amounts to an average 112 acres per year over the 25 year period. Under a more **Focused** growth pattern, only 76 acres are projected to be developed each year within the county. This equates to a total of 1,900 new acres being developed by 2035.




### Non-Auto Access

In 2000, zero percent of Napa's population lived in neighborhoods with regional rail or bus service. By 2035, under both **Scattered** and **Focused** development patterns, there is projected to be no increae in the number of people with direct rail or regional bus service.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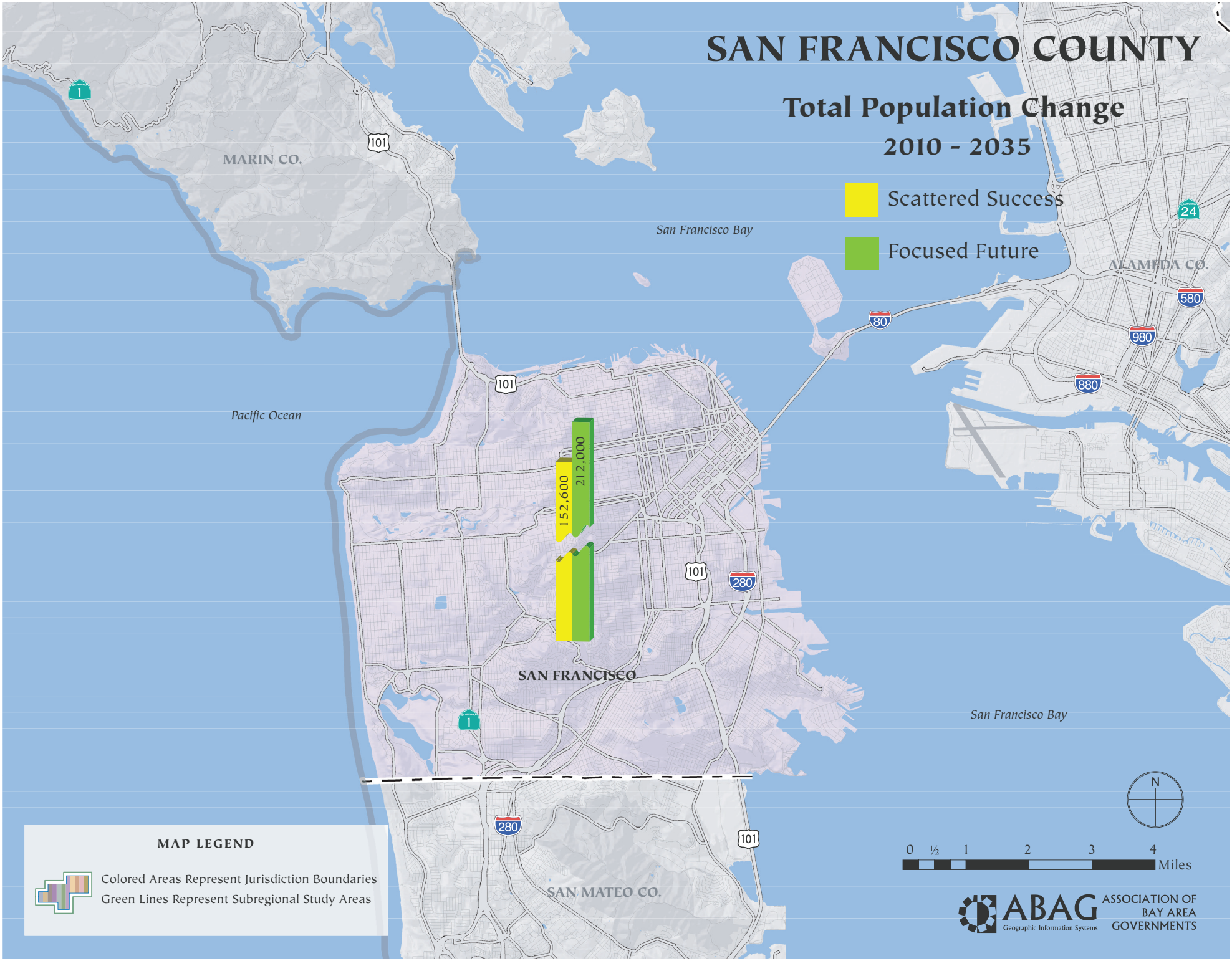

SAN FRANCISCO COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
MARIN CO.
San Francisco Bay
ALAMEDA CO.
Pacific Ocean
152,600
212,000
SAN FRANCISCO
San Francisco Bay
SAN MATEO CO.
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
N
0 ½ 1 2 3 4
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# San Francisco County

## Scattered Success

In the **Scattered Success** scenario, the City and County of San Francisco is projected to be home to 957,000 people. The city is also expected to have over 837,000 new jobs, maintaining the city's role as a commute destination for people living in surrounding communities or outside the region. The city's additional 152,000 people and 242,000 jobs are mostly planned for the eastern and southern portions of the city. Downtown, including the Transbay Terminal, South of Market (SOMA) and Mission Bay neighborhoods, are projected to look quite a bit different than they do now. In downtown, new high-density housing is planned for the transit corridors of Van Ness, South Van Ness, and Rincon Hill and at the Yerba Buena Center. On the 40-acre Transbay Terminal site, there are plans for several high-rise residential towers along Folsom Street and between Main and Beale streets. The Transbay Terminal site is also to be a new job hub, with several new skyscrapers and office towers.

To the southeast, new housing along with some commercial development is planned in east and west SOMA, Central Waterfront, in the Mission, at Showplace Square and Potrero Hill. Further south, Mission Bay is expected to complete its transformation from brownfields and rail yards, to new homes, as well as commercial, retail and community uses.

Market-Octavia and Balboa Park neighborhoods are also expected to change. In the Market-Octavia neighborhood, new stores are planned along Market Street, between Octavia and Larkin. Housing is planned just west of Octavia and Valencia streets. In Balboa Park, new housing is projected to be located near the transit stops along Geneva, Ocean and San Jose avenues. The "Phelan Loop" on the north side of Ocean Avenue, between Phelan and Plymouth, is also projected to have new residential units above small stores and cafes.

In the southeast quarter of the city, new jobs and homes are planned at the former Hunter's Point Shipyard. Small infill developments along 3rd Street, especially near light rail stations are expected add jobs and density to existing neighborhoods.

## Focused Future

In the **Focused Future** scenario, San Francisco is projected to have significantly more growth. Nearly 60,000 additional people are planned for the city, compared to the **Scattered** scenario, bringing the city's total population growth to 212,000 people. The city is also planned for 328,000 jobs, 86,000 more than under **Scattered**.

As under **Scattered**, growth in the **Focused** scenario is expected to occur in the eastern and southern portions of the city, as well as in downtown SF, at the Transbay Terminal, South of Market (SOMA) and the Mission Bay neighborhoods. Octavia and Balboa Park neighborhoods are also expected to accommodate additional growth, as under **Scattered.** The intensity of growth, however, is projected to be relatively higher.

## San Francisco Scenario Performance

The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in San Francisco's VMT (driving), carbon emissions, particulate matter, traffic delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

### Driving

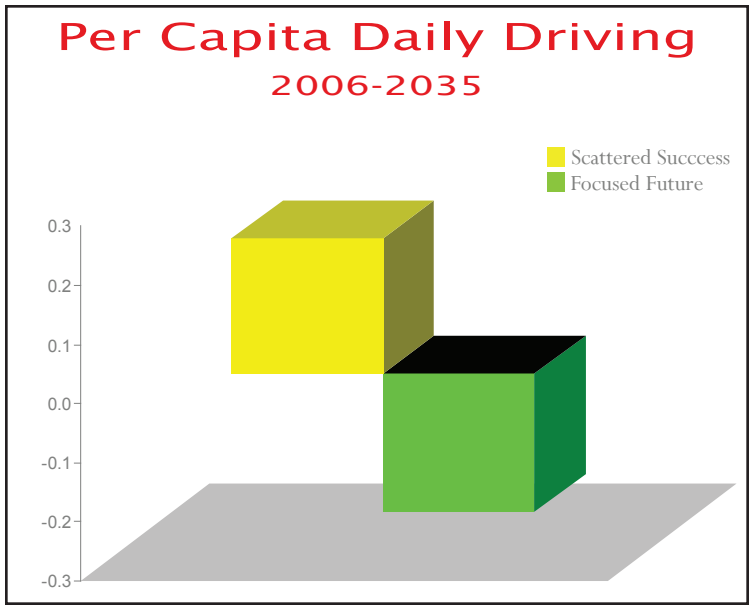
In San Francisco, under the **Scattered** development pattern daily per capita driving is projected to increase by 0.2 of a mile by 2035. Under the **Focused** development pattern, daily per capita driving declines by the same amount, 0.2 of a mile.

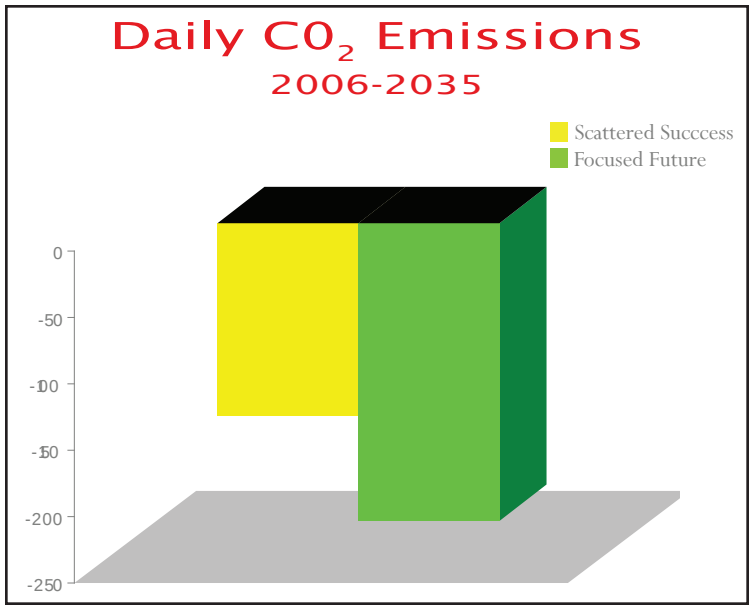
### Carbon Dioxide Emissions

Carbon dioxide emissions from the transportation sector decline in San Francisco compared to 2006 under both development scenarios. However, higher declines are projected under **Focused**. In 2006, 4.6 thousand tons of carbon emissions were released into the air each day. Under **Scattered**, emissions are projected to decline by 145 daily tons. In the **Focused** growth scenario, daily carbon emissions from the transportation sector are reduced by nearly 223 tons.

### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for San Francisco. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, 3.4 tons of PM10 were emitted each day in San Francisco. Coarse matter is pro-



jected to increase by 1.03 tons per day in the **Scattered** scenario and by 1.01 tons in the **Focused Future** alternative.

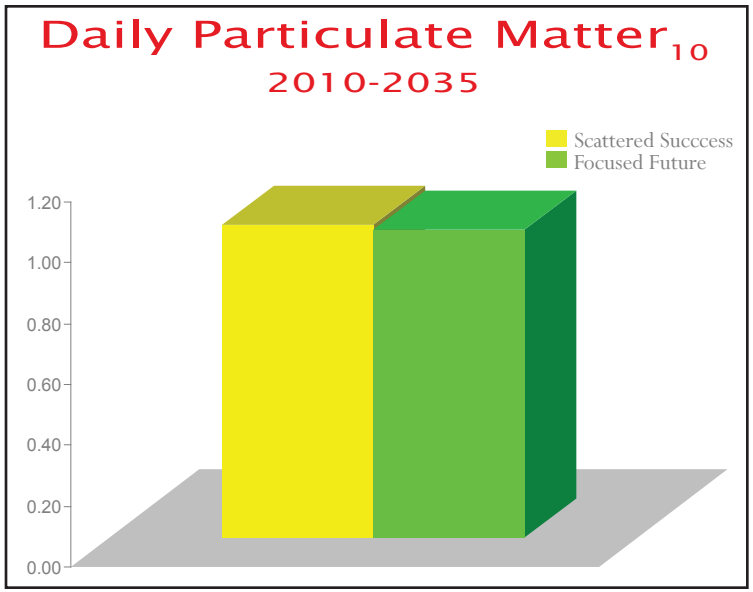
### Particulate Matter$_{2.5}$

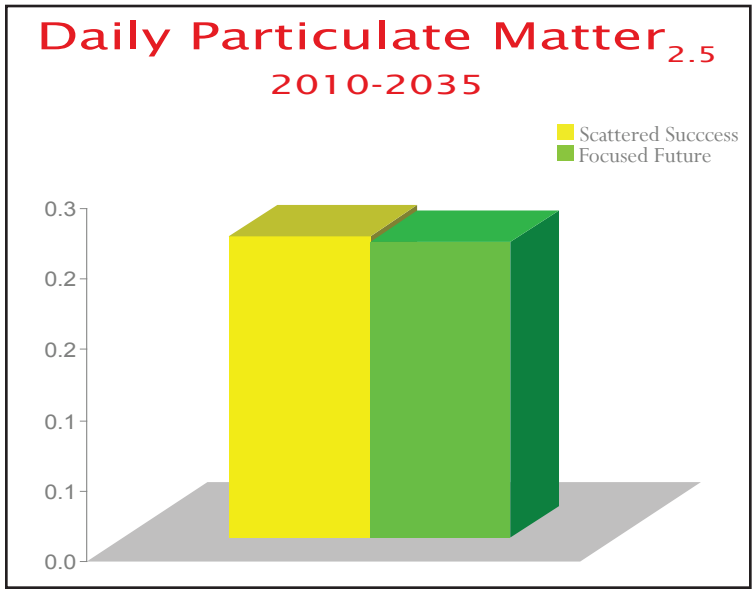
Fine road dust also increases in San Francisco under both growth scenarios. In 2006, 1 ton of PM2.5 was emitted each day in San Francisco. Fine coarse matter is projected to increase by 0.2 ton per day under both the **Scattered** and **Focused Future** alternative.

### Annual Traffic Delay

In 2006, annual traffic delay, or congestion, amounted to 9 vehicle hours per person in San Francisco. Traffic delay is projected to increase by almost 19 annual hours per person by 2035 under a **Scattered** development pattern. Under a more **Focused** growth pattern, delay increases by only 8 hours, compared to 2006 levels.

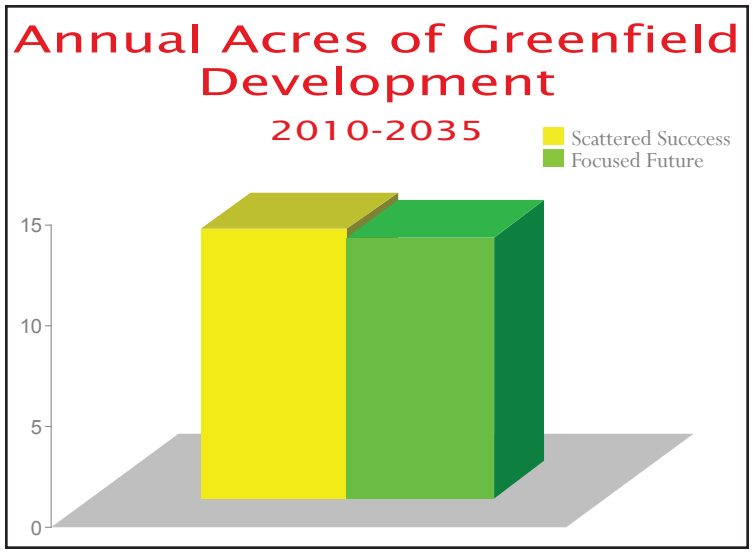
Walkable Downtown San Francisco



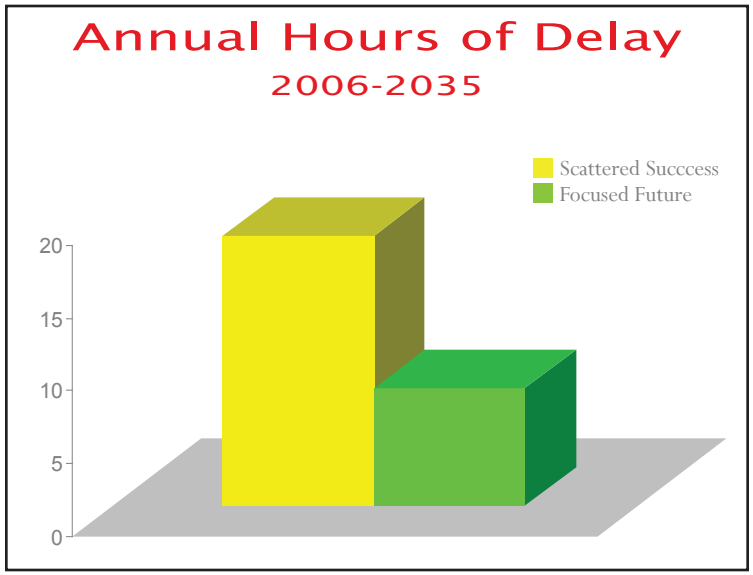
### Greenfield Development

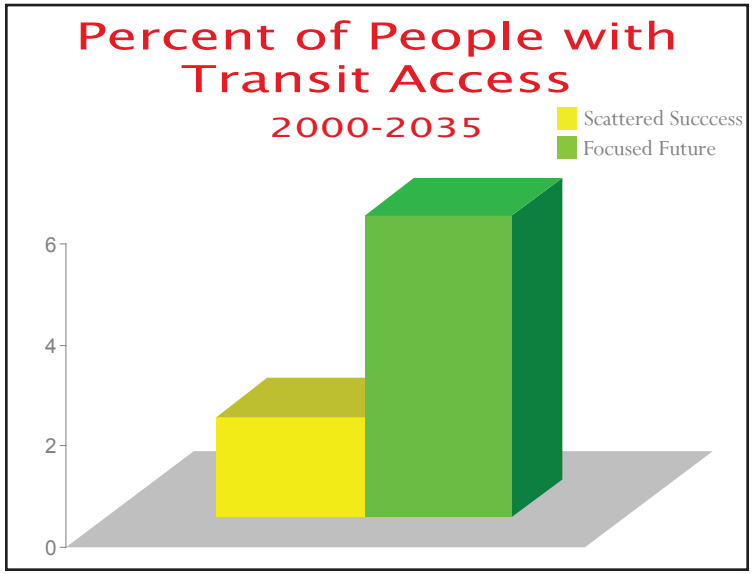
In 2010, a total of 15,680 acres, or 52 percent of the land area is projected to be developed for urban use in San Francisco. By 2035 under a **Scattered** development pattern an additional 335 acres are projected to be developed. Under a **Focused** growth pattern, 325 acres are projected to be developed within the county. Under both scenarios, this amounts to an average 13 acres per year over the 25 year period.




### Non-Auto Access

In 2000, 256,000 people, 78 percent of San Francisco's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 2 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 6 percent - over 2000 levels.



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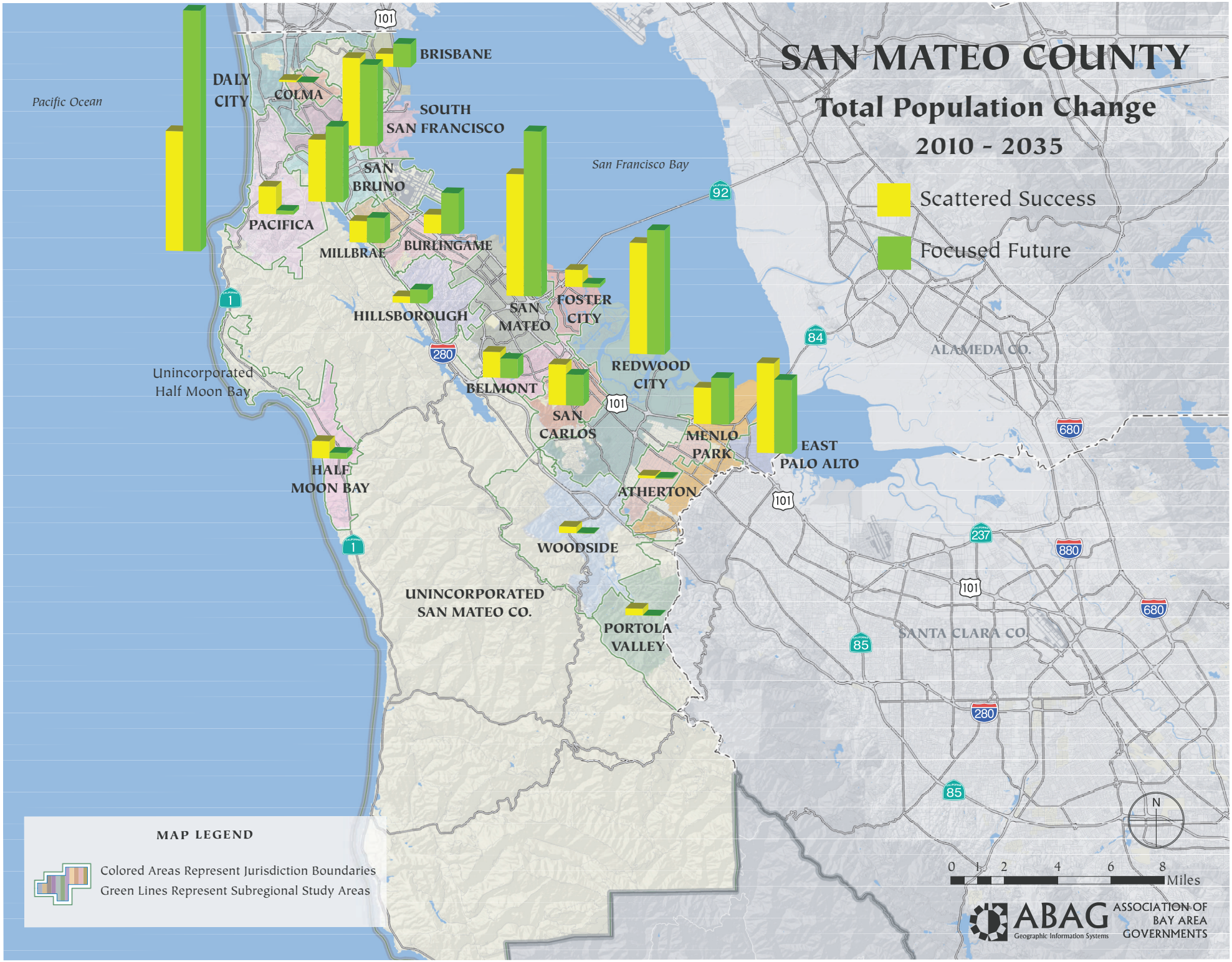

SAN MATEO COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
Pacific Ocean
San Francisco Bay
DALY CITY
BRISBANE
COLMA
SOUTH SAN FRANCISCO
SAN BRUNO
PACIFICA
MILLBRAE
BURLINGAME
HILLSBOROUGH
SAN MATEO
FOSTER CITY
REDWOOD CITY
BELMONT
SAN CARLOS
MENLO PARK
EAST PALO ALTO
ATHERTON
WOODSIDE
PORTOLA VALLEY
HALF MOON BAY
Unincorporated Half Moon Bay
UNINCORPORATED SAN MATEO CO.
ALAMEDA CO.
SANTA CLARA CO.
101
92
84
280
1
680
237
880
85
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# San Mateo County

## Scattered Success

In the **Scattered Success** scenario, over 870,000 people are projected to live in San Mateo County; 137,000 more than today. Over 165,000 more jobs are also projected for the county, for a total of 528,000 jobs. Cities along El Camino Real, the county's major transportation boulevard, are projected to see the most change. Daly City, South San Francisco, San Bruno, Millbrae, San Carlos, Redwood City, San Mateo, Menlo Park and San Carlos will all take on more growth. Brisbane and East Palo Alto are the only cities not along El Camino Real that are also projected for growth.

San Mateo and Redwood City are where most of San Mateo County's development is projected to take place. Between these two cities, 40,000 new jobs and 15,000 homes are expected. In the City of San Mateo, most development is to take place in downtown and along the rail corridor adjacent to El Camino Real, near the Hillsdale and Hayward Park Caltrain stations. Downtown Redwood City, where the city and county civic centers are located, will also continue to see redevelopment, with new residential buildings projected for the area.

## Focused Future

Over 890,000 people are projected to live in San Mateo County under the **Focused Future** scenario, 20,000 more than in **Scattered**. There are also 10 thousand fewer jobs planned for the county. As with **Scattered**, cities along El Camino Real are expected to change the most significantly, including Daly City, South San Francisco, San Bruno, Millbrae, San Carlos, Redwood City, San Mateo, and San Carlos

In northern San Mateo County, **Focused** assumes that Daly City will have 13,750 new jobs and 11,000 additional housing units in "infill" locations. This is about double the units that are planned for Daly City under **Scattered**. Most of these units are planned for the Bayshore neighborhood and along Mission Street. In Bayshore, which includes the Cow Palace, redevelopment is expected to take place along Geneva Avenue where several hundred new condominiums and multi-family rental units could be built. There are also plans for a new retail center and supermarket next to the Cow Palace. Along Mission Street, BART stations flank Mission, so new development in this area is not only planned as "infill" but also will be highly transit-accessible. To the south of Daly City, about 11,300 new homes are planned and over 32,200 additional jobs are projected for South San Francisco, San Bruno and Millbrae.

As with **Scattered**, under the **Focused** scenario, most of San Mateo County's growth will take place in San Mateo and Redwood City. Over 41,000 new jobs and 18,000 homes are projected for these two cities. In San Mateo, development is projected to take place in downtown and along the rail corridor adjacent to El Camino Real, near the Hillsdale and Hayward Park Caltrain stations. The Bay Meadows race track will also take on some growth, mostly in the form of relatively higher density homes, retail stores and restaurants. Downtown Redwood City, where the city and county civic centers are located, is projected to continue its transformation into a vibrant, pedestrian friendly area, with

residential buildings, some as high as 12 stories, shops, restaurants, cultural venues and an active public square.

In the most southern portion of the county, both Menlo Park and East Palo Alto are expected to add almost 15,000 jobs and 5,200 residences. Some of Menlo Parks jobs and housing are planned for El Camino Real. All of East Palo Alto's jobs and homes are forecasted to be built in the most southern portion of the city, adjacent to Palo Alto's northern border.

## San Mateo Scenario Performance

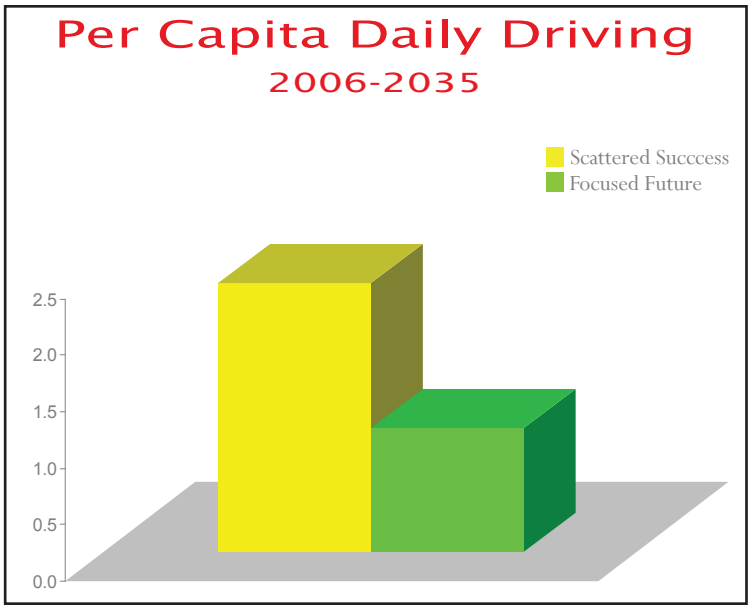
The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in San Mateo County's VMT (driving), carbon emissions, particulate matter, traffic delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

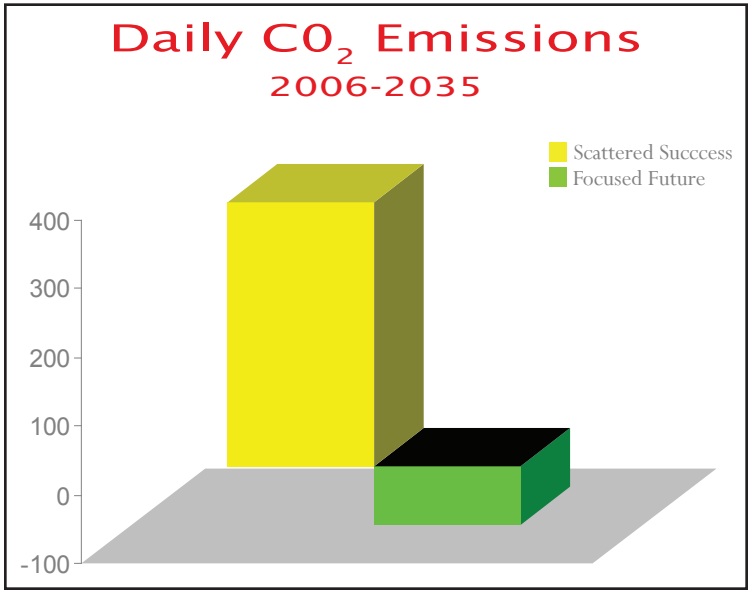
### Driving

In San Mateo, under the **Scattered** development pattern daily per capita driving is projected to increase by 2.4 miles, by 2035. Under the **Focused** development pattern, daily per capita driving increases much less; by slightly over 1 daily mile, per person.

### Carbon Dioxide Emissions

Carbon dioxide emissions from the transportation sector are projected to increase over 2006 levels by over 385 daily tons in San Mateo if the **Scattered** future is realized. In 2006, 10.1 thousand tons of carbon emissions were released into the air each day. Under **Scattered**, emis-



sions are projected to reach 10.5 thousand daily tons. In the **Focused** growth scenario, daily carbon emissions from the transportation sector actually decline by 83 tons.

### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for San Mateo. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, nearly 8 tons of PM10 were emitted each day in San Mateo County. Coarse matter is projected to increase by 3.1 tons per day in the **Scattered** scenario and by 2.8 tons in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

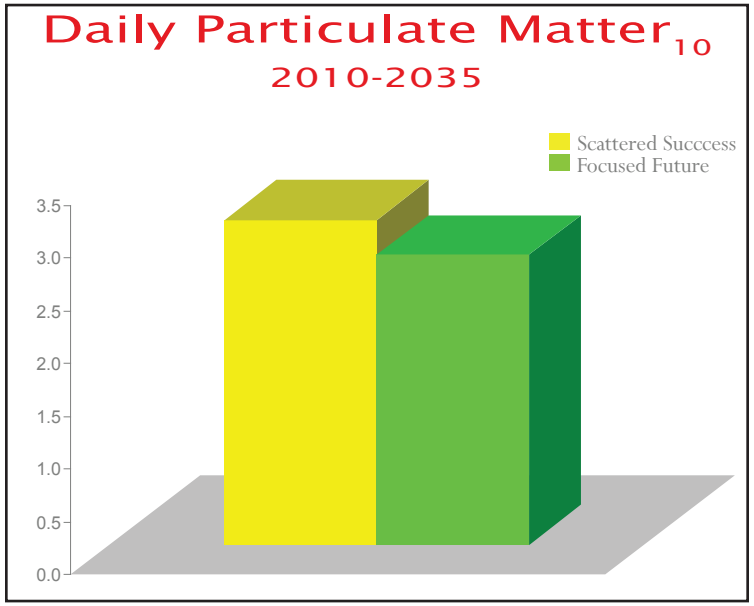
Fine road dust also increases in San Mateo under both growth scenarios. In 2006, 2.3 tons of PM2.5 were emitted each day in the county. Fine coarse matter is projected to increase by 0.7 tons per day under the **Scattered** scenario and 0.6 tons under the **Focused Future** alternative.

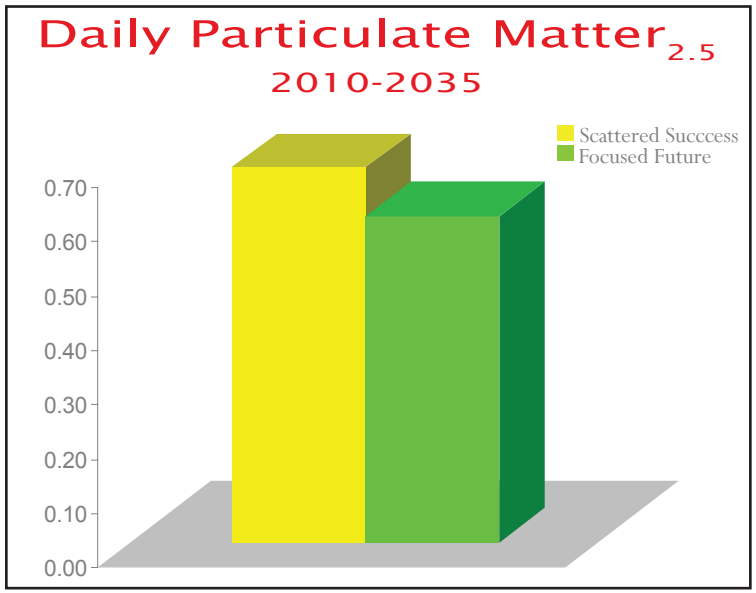
### Annual Traffic Delay

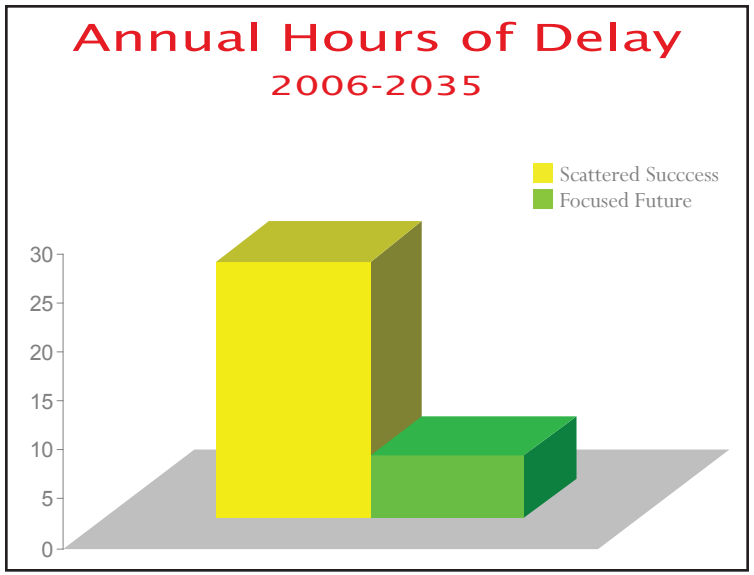
In 2006, annual traffic delay, or congestion, amounted to 16 vehicle hours per person in San Mateo. Traffic delay is projected to increase by almost 24 annual hours per person by 2035 under a **Scattered** development pattern. Under a more **Focused** growth pattern, delay increases by almost 7 hours, compared to 2006 levels.

### Greenfield Development

In 2010, a total of 88,000 acres, or 30 percent of the land area is projected to be developed for urban use in San Mateo County. By 2035,



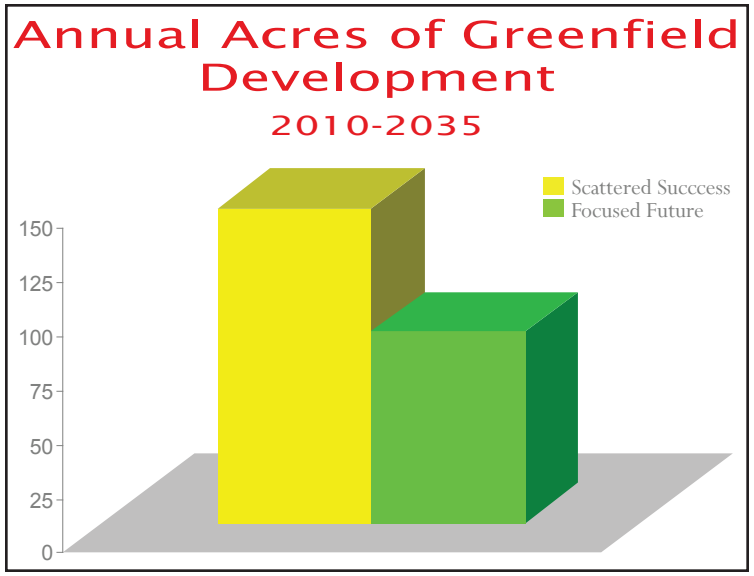



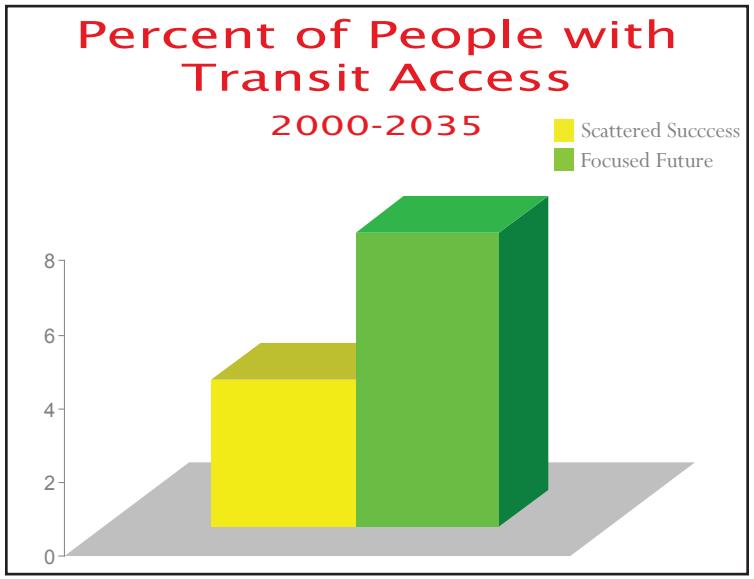



under a **Scattered** development pattern, an additional 3,630 acres are projected to be developed. This amounts to an average of 145 acres per year over the 25 year period. Under a more **Focused** growth pattern, only 89 acres are projected to be developed each year within the county. This equates to a total of 2,215 new acres being developed by 2035.

### Non-Auto Access

In 2000, 135,000 people, 53 percent of San Mateo's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 4 percent more households will have direct transit access - or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 8 percent - over 2000 levels.



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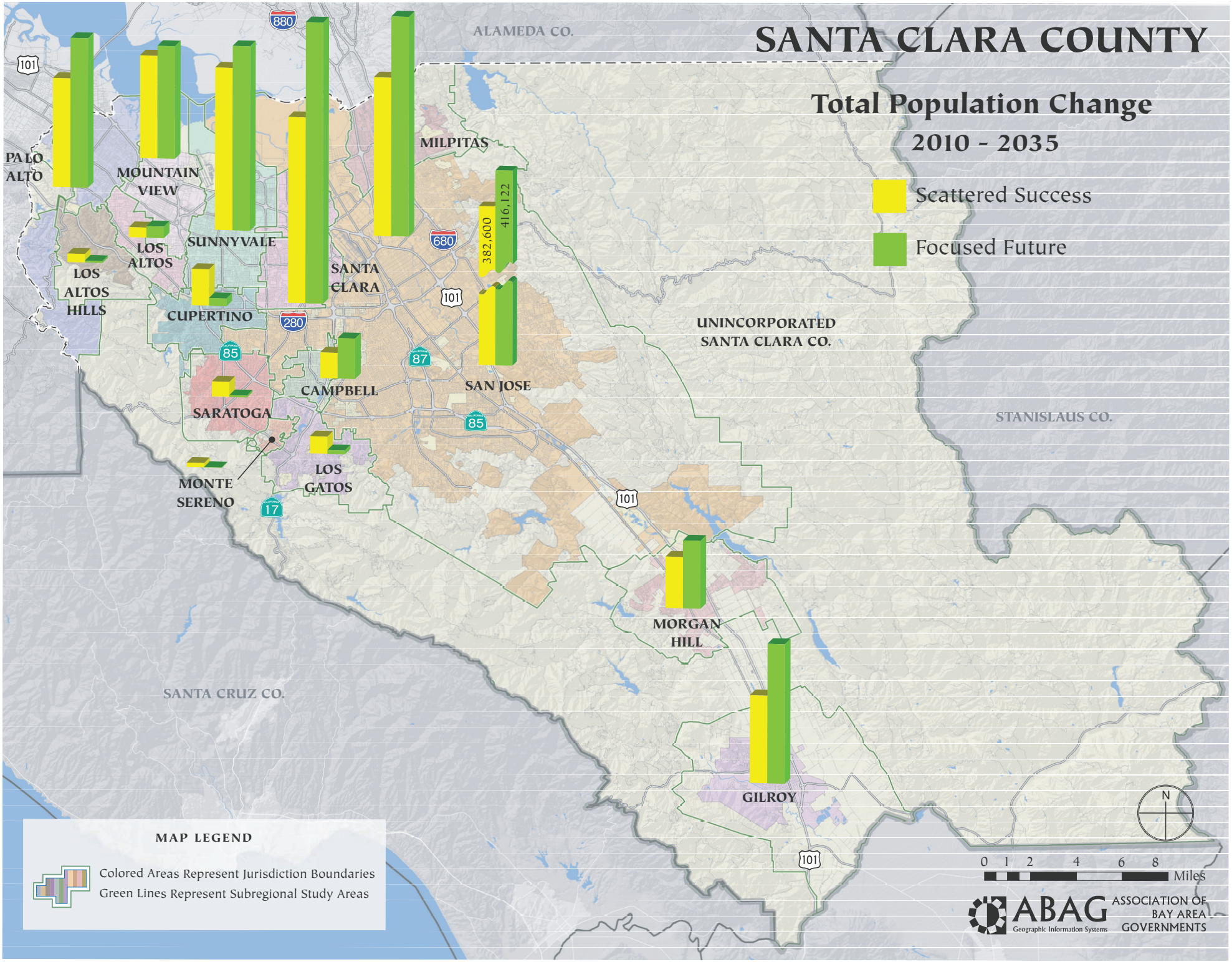

SANTA CLARA COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
382,600
416,122
ALAMEDA CO.
STANISLAUS CO.
SANTA CRUZ CO.
PALO ALTO
MOUNTAIN VIEW
LOS ALTOS
LOS ALTOS HILLS
SUNNYVALE
CUPERTINO
SANTA CLARA
MILPITAS
CAMPBELL
SARATOGA
SAN JOSE
UNINCORPORATED SANTA CLARA CO.
MONTE SERENO
LOS GATOS
MORGAN HILL
GILROY
101
880
280
680
85
87
17
N
0 1 2 4 6 8
Miles
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Santa Clara County

## Scattered Success

In the **Scattered Success** scenario, Santa Clara County is projected to have almost 2.37 million people and nearly 1.4 million jobs, maintaining the county's role as the Bay Area's most populous and job-rich area. San Jose is projected to take on most of Santa Clara County's growth. With 1.4 million residents by 2035, San Jose will continue as the Bay Area's most populous city. Over 124,000 additional housing units and 248,000 new jobs are forecasted for San Jose. These figures well exceed what most Bay Area cities have in total. Essentially, San Jose will add the equivalent of a new city within its boundaries. Santa Clara, Sunnyvale and Milpitas are also projected to take on growth under the **Scattered** scenario. Milpitas is projected to experience the greatest percentage change in terms of population and housing; 29 and 31 percent, respectively. Morgan Hill is expected to see the greatest increase in jobs, gaining 11,500 jobs, or 43 percent.

## Focused Future

Nearly 74,000 additional people are projected to live in Santa Clara County under the **Focused Future** scenario, for a total of 2.44 million. Not only is more growth directed toward Santa Clara County, but growth is also redistributed to areas with high concentrations of jobs and transit. Increased growth is projected for downtown San Jose and at VTA and Caltrain stations in Palo Alto, Mountain View, Santa Clara, Sunnyvale and Milpitas.

In San Jose, most of the city's growth is projected to occur in downtown core and surrounding areas, as well as in North San Jose, near the light rail and future BART stations. Over 32,000 units are projected for North San Jose alone. The Communications Hill area is also projected for growth, where up to 4,000 housing units are projected at "urban" densities on a hilltop site near the Curtner light rail station

Palo Alto's new development will mostly take place along California Avenue, where more homes are planned, at densities up to 50/units per acre. In Mountain View, the Wishman light rail station, currently an old industrial area, is planned for more multi-family housing and other housing types, a new public park, and neighborhood retail uses to create a walkable area adjacent to transit.

By 2035, the City of Santa Clara is projected to have 45,000 additional people, 15,000 more than the **Scattered** scenario. Over 5,000 additional housing units are also planned for the city. Most of this development is projected to occur near the various VTA and Caltrain stations within the city.

## Santa Clara County Scenario Performance

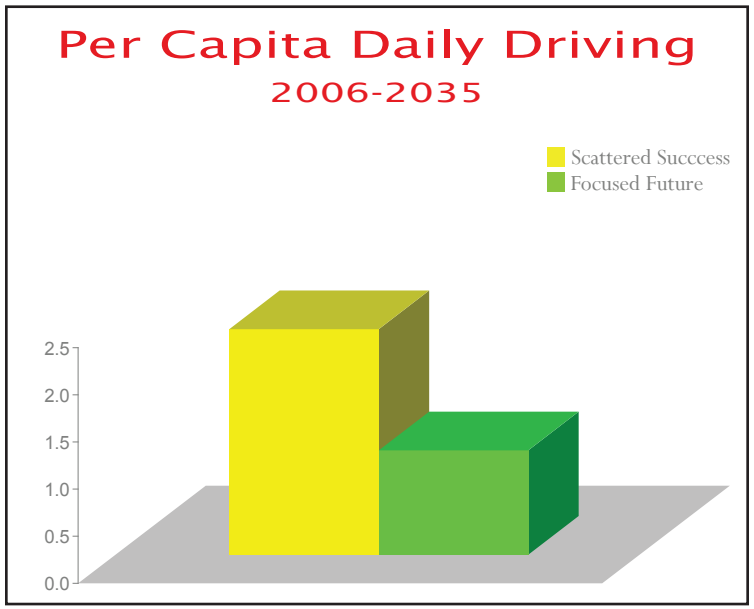
The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in Santa Clara County's VMT (driving), carbon emissions, particulate matter, traffic delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

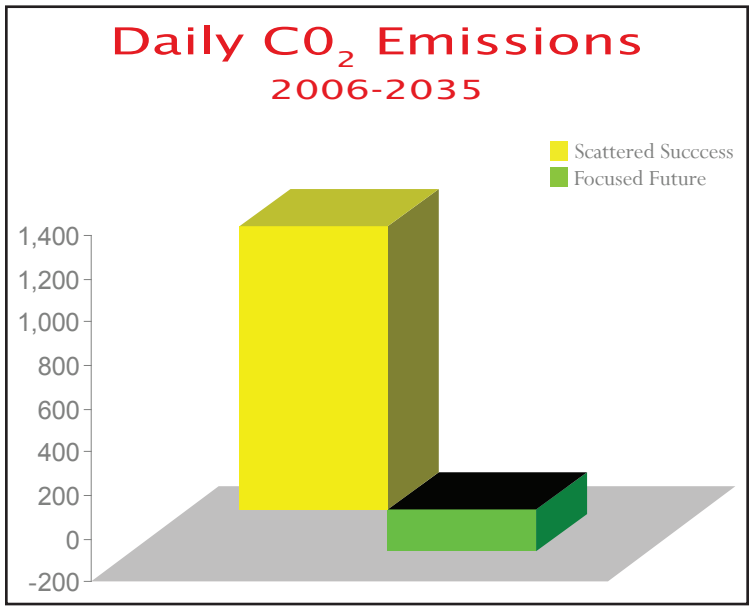
### Driving

In Santa Clara County, under the **Scattered** development pattern, daily per capita driving is projected to increase by 0.2 of a mile by 2035. However, total VMT increases by 11.4 million daily miles. Under the **Focused** development pattern, daily per capita driving declines by 1.0 mile. Total VMT increases by 9.6 million miles, 1.8 million miles less than under **Scattered**.

### Carbon Dioxide Emissions

The growth in carbon dioxide emissions from the transportation sector is vastly different under each scenario in Santa Clara County. By 2035, under a **Scattered** development pattern, it is projected that carbon emissions will increase by 1,300 tons per day, for a total of 23 thousand tons. Under the **Focused** scenario, emissions from cars and trucks are projected to decline over 2006 levels, by at least 193 tons per day.



### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for Santa Clara County. This is due to the absolute increase in driving anticipated under each land use scenario. In 2006, almost 17 tons of PM10 were emitted each day in Santa Clara. Coarse matter is projected to increase by 7 tons per day in the **Scattered** scenario and by 6 tons in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

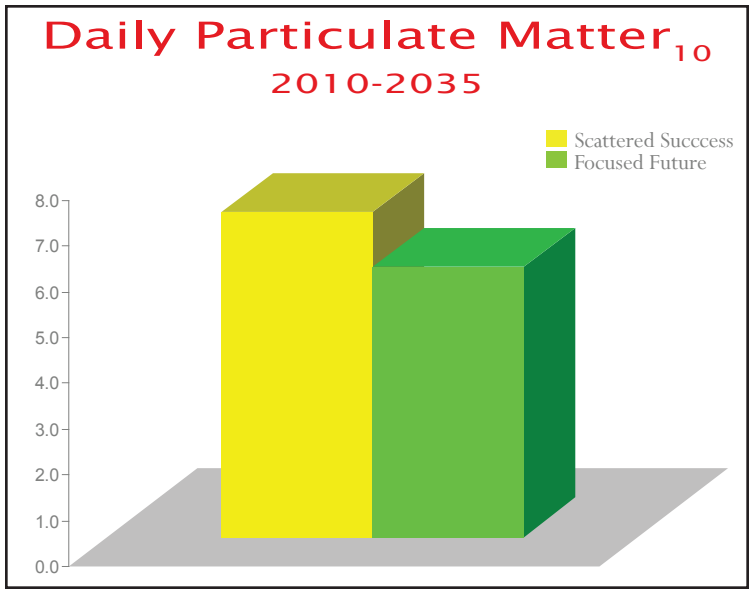
Fine road dust also increases in Santa Clara County under both development scenarios. In 2006, almost 5 tons of PM2.5 were emitted each day in Santa Clara County. Fine coarse matter is projected to increase to 3 tons per day under the **Scattered** scenario and to 2.9 tons under the **Focused Future** alternative.

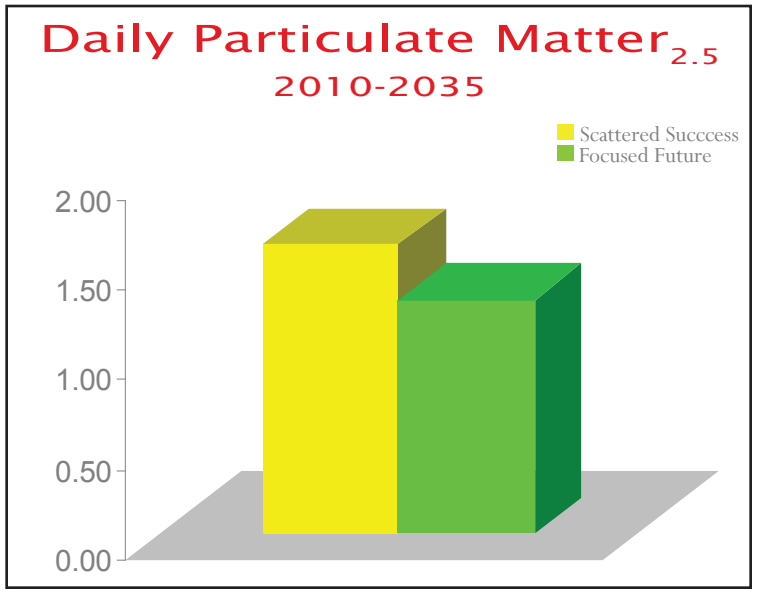
### Annual Traffic Delay

In 2006, annual traffic delay, or congestion, was 26 vehicle hours per person in Santa Clara. Daily delay is projected to increase by almost 9 annual hours per person by 2035 under a **Scattered** development pattern. Under a the **Focused** growth pattern, delay is projected to decrease by almost 3 annual hours, compared to 2006 levels.

### Greenfield Development

In 2010, a total of 178,380 acres, or 22 percent of the land area is projected to be developed for urban use in Santa Clara County. By 2035 under a **Scattered** development pattern, an additional 11,000 acres are projected to be developed. This amounts to an average of 443 acres per year over the 25 year period. Under a more **Focused** growth pattern,

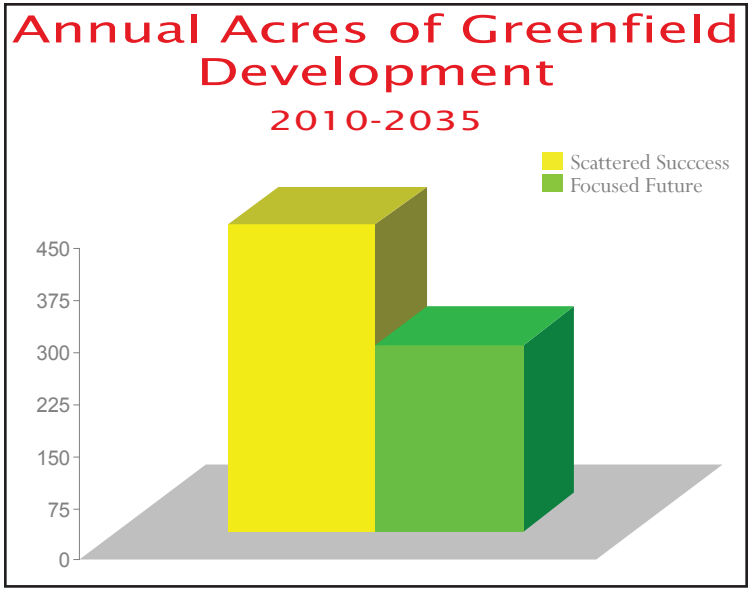


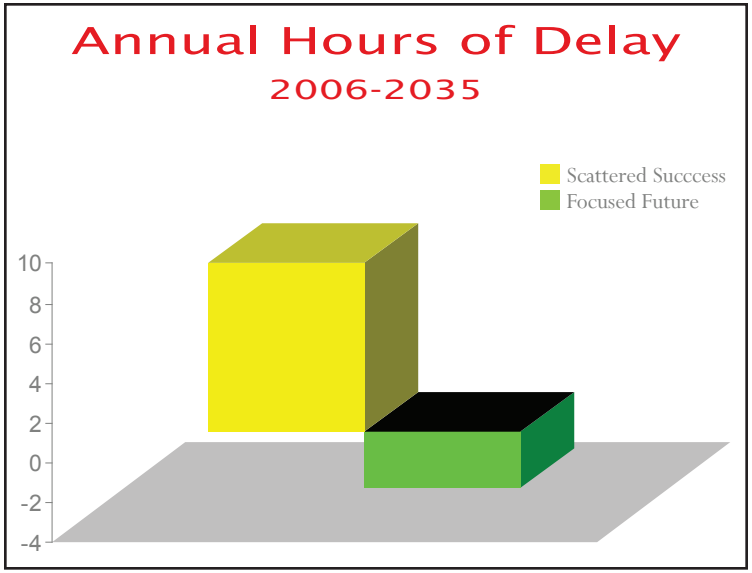



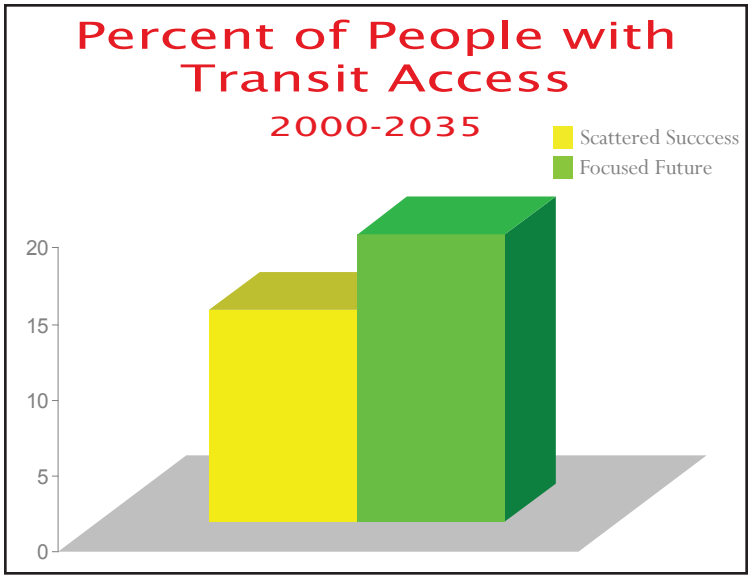
270 acres are projected to be developed each year within the county. This equates to a total of 6,720 acres being developed by 2035.

### Non-Auto Access

In 2000, 295,000 people, or 52 percent of Santa Clara County's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 14 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 19 percen - over 2000 levels.



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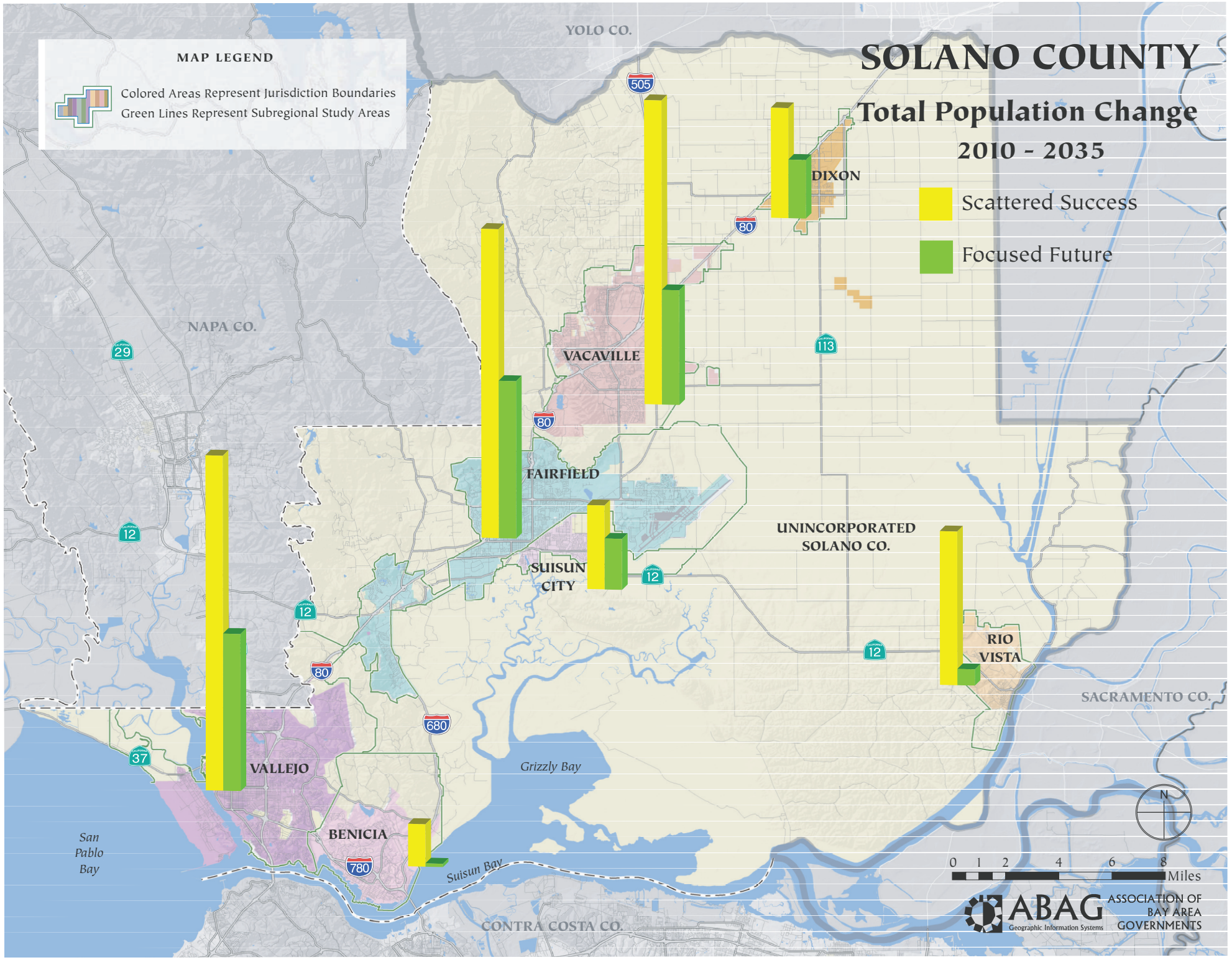

MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
SOLANO COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
YOLO CO.
NAPA CO.
SACRAMENTO CO.
CONTRA COSTA CO.
DIXON
VACAVILLE
FAIRFIELD
SUISUN CITY
UNINCORPORATED SOLANO CO.
RIO VISTA
VALLEJO
BENICIA
Grizzly Bay
Suisun Bay
San Pablo Bay
505
80
113
29
12
37
680
780
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Solano County

## Scattered Success

In the **Scattered Success** scenario, Solano County is projected to be home to well over one-half million people, 24 percent more than today. The small towns of Rio Vista and Dixon are expected to see the greatest change, growing their populations by 63 percent and 42 percent. Rio Vista, a town of 4,700 residents at the turn of the century, is projected to be home to 25,000 people by 2035. The once small town of Dixon is expected to have over 31,000 residents by 2035. Vallejo, however, is projected to remain the county's most populous city, with Fairfield and Vacaville following close behind. Over three-quarters of Solano County's residents, 440,000 people, are projected to live in these three cities in the year 2035.

Vallejo and Fairfield are anticipated to have some nominal success in directing development to their downtowns and transit areas. In Vallejo, new multi-family units and condominiums are planned for the historic downtown. These new homes will be walking distance to the ferry terminal, where residents can get into downtown San Francisco within 50 minutes. In downtown Fairfield, there are new higher-density residential units being planned along Jefferson Street, adjacent to the Solano County Government Center. New residents will have access to an Amtrak and Capital Corridor station via a pedestrian bridge to the station in Suisun City. However, the vast majority of Solano County's population and job growth is projected to occur in auto-dependent neighborhoods.

## Focused Future

In Solano County's **Focused Future**, growth is limited to only 12 percent over the next 25 years. This amounts to 63,000 people - almost 80,000 less than in the **Scattered** scenario. Growth is restricted across all communities in the county. In Vallejo, growth is cut in half, from 36,000 to 17,000 people. This limited growth is then re-directed primarily to Vallejo's downtown area, where infill development can be walkable and transit-friendly. Similarly for Fairfield, growth goes from 22 percent to 12 percent and is again directed to the downtown area, with only minimal growth allocated to more traditional-style development. In Vacaville, growth drops from 31,000 residents to a projection of 13,000 residents.

The traditionally projected high-growth, small communities of Rio Vista and Dixon also see changes under **Focused**. Rio Vista's growth is limited to 2,000 people, while Dixon sees only 7,200 new residents over the next 25 years.

## Solano County Scenario Performance

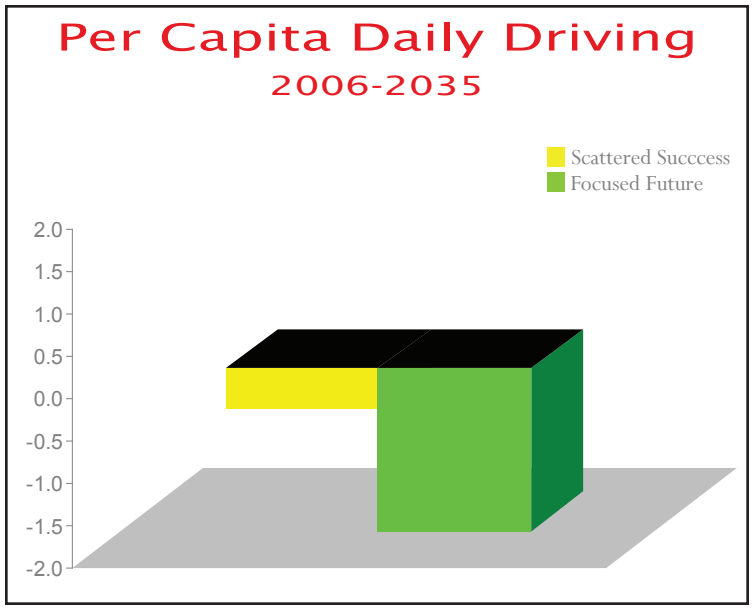
The land use scenarios, **Scattered** and **Focused**, have been tested to determine their impacts on each of the regional targets at the county level. Total change in Solano County's VMT (driving), carbon emissions, particulate matter, traffic delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

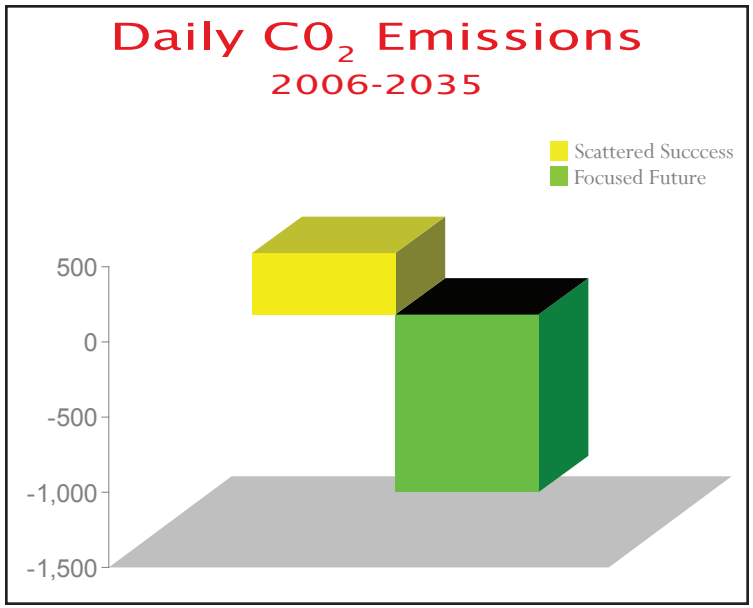
### Driving

Per capita driving is projected to decline under either scenario in Solano County. In the **Scattered** development pattern, daily per capita driving is projected to decrease 0.5 of a mile by 2035. However, total VMT increases by 3.8 million daily miles. Under the **Focused** development pattern, daily per capita driving declines by almost 2 miles, while total VMT increases by 1 million miles, 2.8 million miles less than under the **Scattered** scenario.

### Carbon Dioxide Emissions

The growth in total VMT in Solano County under each scenario creates very different outcomes for carbon dioxide emissions from the transportation sector in the county. By 2035, under a **Scattered** development pattern, it is projected that carbon emissions will increase by 409 tons per day, for a total of almost 8,000 tons. Under the **Focused** scenario, emissions from cars and trucks are projected to decline over 2006 levels, by almost 1,200 tons per day.



### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for Solano County. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, almost 6 tons of PM10 were emitted each day in Solano County. Coarse matter is projected to increase by 2.4 tons per day in the **Scattered** scenario and by 0.8 tons in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

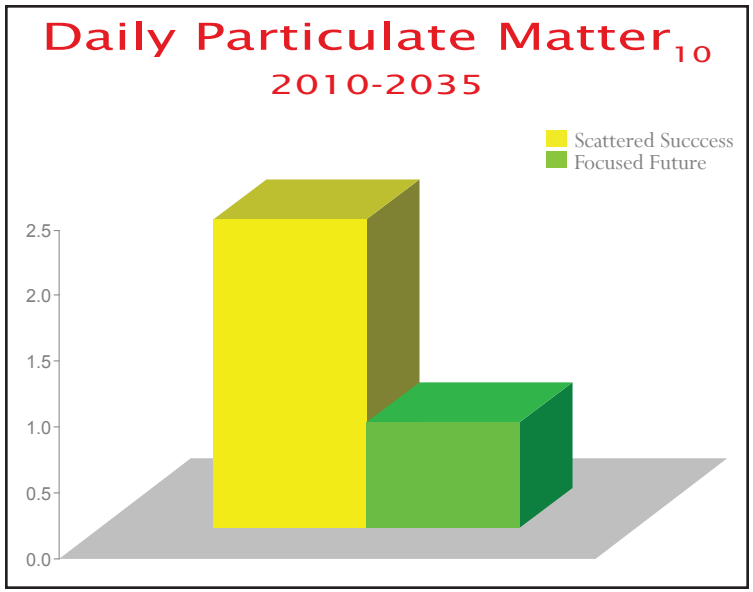
Fine road dust also increases in Solano County under both development scenarios. In 2006, almost 2 tons of PM2.5 were emitted each day in Solano. Fine coarse matter is projected to increase to 2.2 tons per day under the **Scattered** scenario and to 1.7 tons under the **Focused Future** alternative.

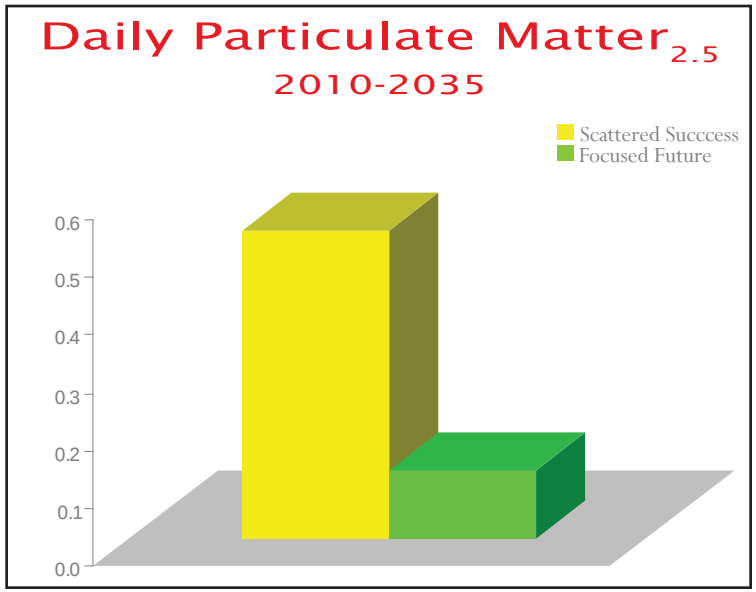
### Annual Traffic Delay

In 2006, annual traffic delay, or congestion, was 26 vehicle hours per person in Santa Clara. Daily delay is projected to increase by almost 9 annual hours per person by 2035 under a **Scattered** development pattern. Under the **Focused** growth pattern, delay is projected to decrease by almost 3 annual hours, compared to 2006 levels.

### Greenfield Development

In 2010, 79,540 acres, or 14 percent of the land area is projected to be developed for urban use in Solano County. By 2035 under a **Scattered** development pattern, an additional 11,500 acres are projected to be developed. This amounts to an average of 462 acres per year over the 25 year period. Under a **Focused** growth pattern, less than half of that

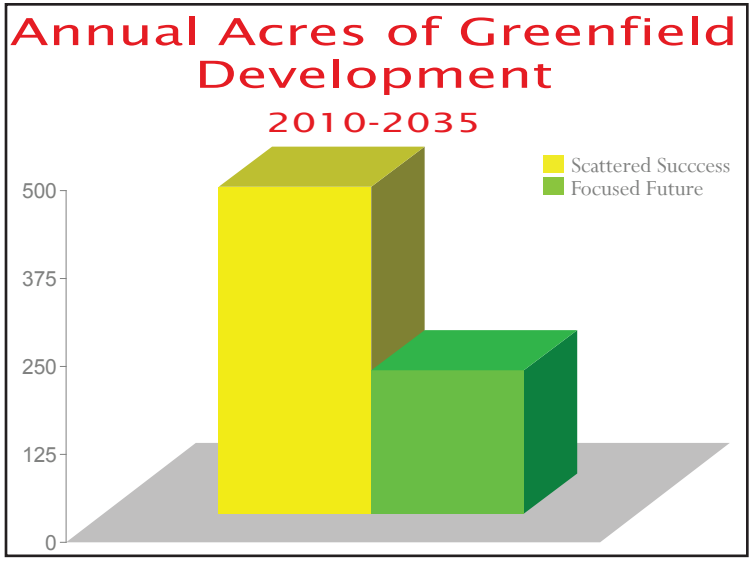


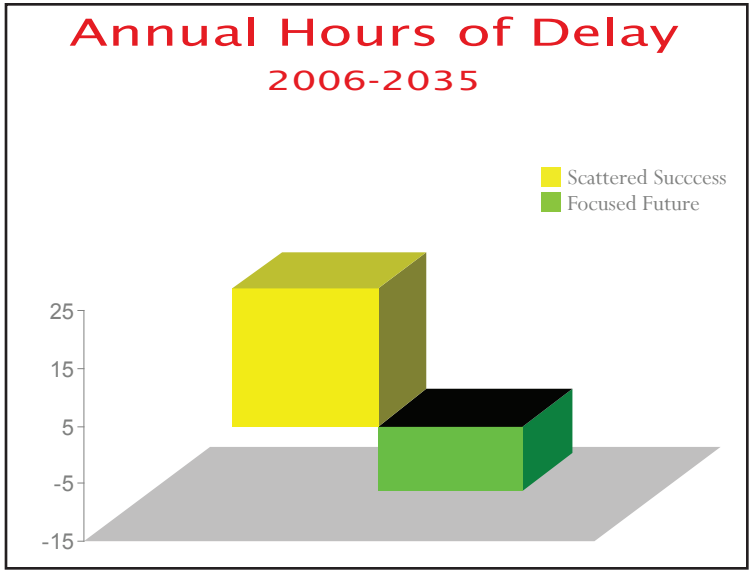



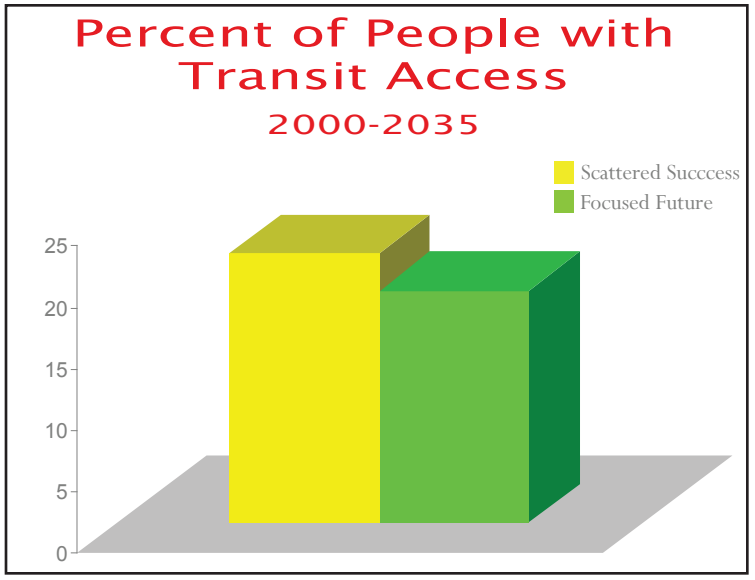
amount will be developed each year. Under **Focused**, about 200 acres are projected to be developed each year within the county. By 2035, 84,600 acres will be developed for urban use in Solano County.

### Non-Auto Access

In 2000, almost 32,000 people, or 24 percent of Solano County's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 22 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 19 percent, over 2000 levels. This decline is due to the absolute decrease in total population growth projected for Solano County under the **Focused** alternative.



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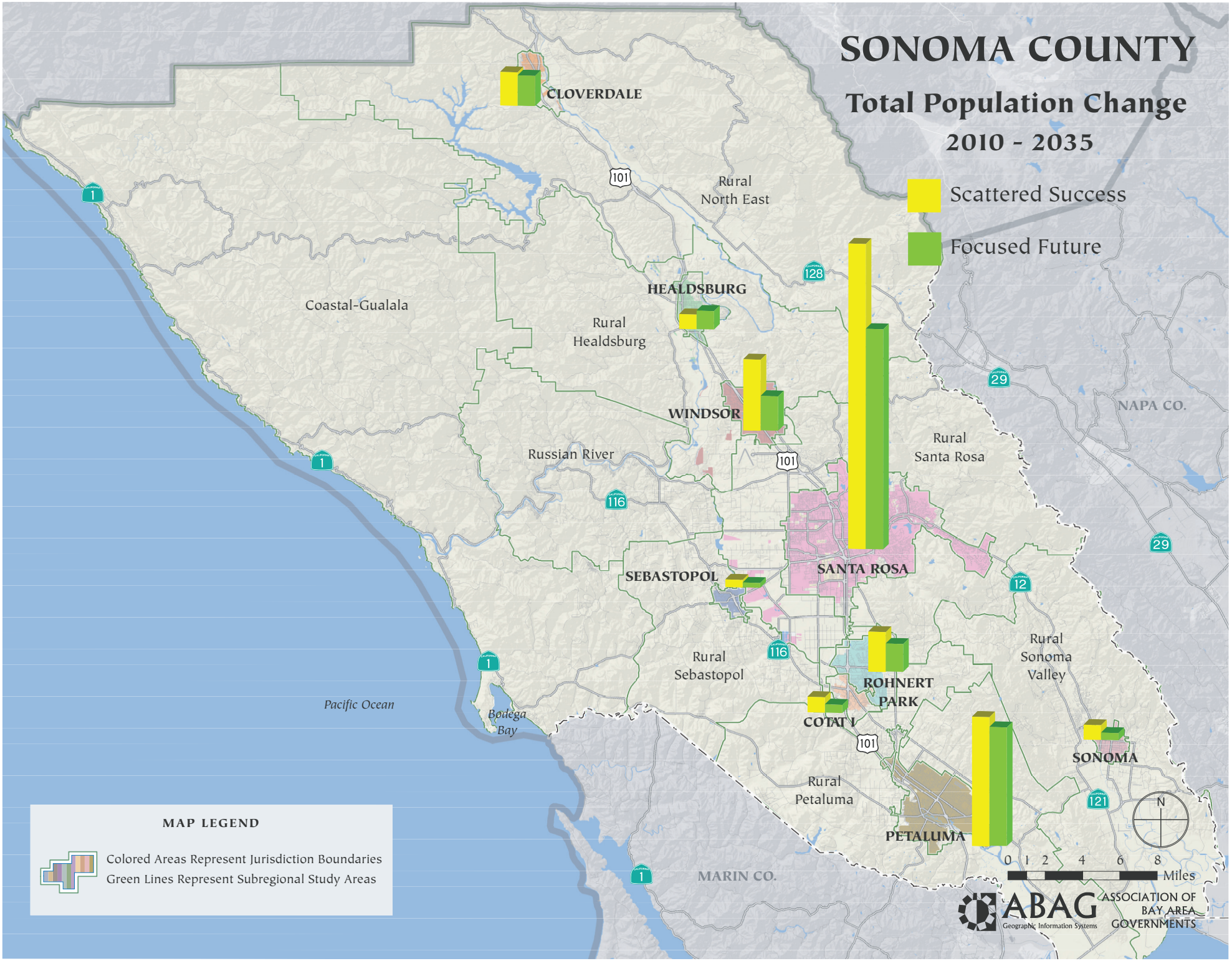

SONOMA COUNTY
Total Population Change
2010 - 2035
Scattered Success
Focused Future
CLOVERDALE
HEALDSBURG
WINDSOR
SANTA ROSA
SEBASTOPOL
ROHNERT PARK
COTATI
SONOMA
PETALUMA
Rural North East
Coastal-Gualala
Rural Healdsburg
Russian River
Rural Santa Rosa
Rural Sebastopol
Rural Sonoma Valley
Rural Petaluma
NAPA CO.
MARIN CO.
Pacific Ocean
Bodega Bay
101
1
128
29
116
12
121
MAP LEGEND
Colored Areas Represent Jurisdiction Boundaries
Green Lines Represent Subregional Study Areas
N
0 1 2 4 6 8
Miles
ABAG
Geographic Information Systems
ASSOCIATION OF BAY AREA GOVERNMENTS

# Sonoma County

## Scattered Success

In the **Scattered Success** scenario, 564,000 people are projected to live in Sonoma County by 2035; 12 percent or 66,000 more people than today. Sonoma County's most northern city, Cloverdale, will see the greatest percent change in population. This small town is expected to grow by 27 percent over the next 25 years. Santa Rosa will add the most new residents; 33,000 additional people are projected to live in Santa Rosa by 2035. Petaluma, Windsor and Rohnert Park are also planned for growth, adding 9,800, 5,800 and 3,800 people, respectively. Over 111,000 new jobs have also been added to the county's economy, mostly in the wine and visitor-serving industries. Job growth is forecasted to take place mostly in Santa Rosa, Rohnert Park and Petaluma, as well as in Cotati and Windsor.

Under **Scattered Success**, Sonoma is projected to make some progress in directing growth toward the county's downtowns and transit centers. Overall, the county is expected to increase the number of jobs near transit or in downtowns from 5.6 percent to 6.4. In Santa Rosa, over 10 percent of the city's jobs are expected to be located in downtown, where people can use transit to get to and from work, and walk to restaurants during the day. Housing is expected to remain problematic. By 2035, less than 4 percent of homes in Sonoma County are expected to be in transit accessible neighborhoods.

## Focused Future

Under **Focused Future**, Sonoma County is expected to grow at a slower rate. By 2035, the total population is projected to grow 9 percent, resulting in 15,000 fewer people than projected under **Scattered**. Cloverdale remains as the city with the greatest percent change in population. Santa Rosa is still expected to add the most new residents - however, 6,000 fewer than the **Scattered** scenario. Petaluma and Windsor will also grow, though at lower rates than would typically be forecasted. Slightly fewer jobs are projected for Sonoma County, 5,000 fewer than **Scattered**. As with **Scattered**, Sonoma County's new jobs are projected to be added to the county's wine and visitor-serving industries. Most job growth will take place in Santa Rosa, Rohnert Park and Petaluma, as well as in Cotati and Windsor.

In **Focused**, Sonoma is expected to have relatively greater success in focusing growth toward each city's downtowns and transit centers. Overall, the county is expected to increase the number of jobs near transit or in downtowns from 5.6 percent to 7. In Santa Rosa, over 12 percent of the city's jobs are planned for the downtown, as compared to 10 percent in **Scattered**. More homes are also located near transit. Over 7 percent of homes in Sonoma County are expected to be in transit accessible neighborhoods.

## Sonoma County Scenario Performance

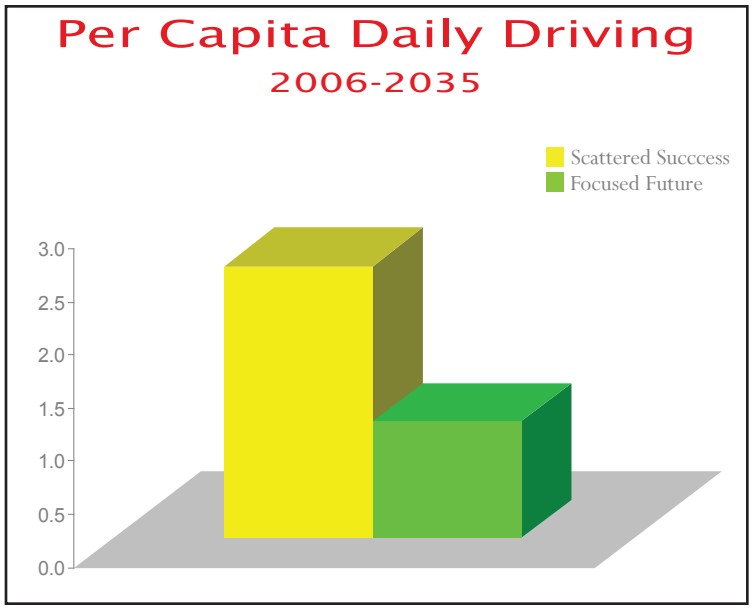
The land use scenarios, **Scattered** and **Focused,** have been tested to determine their impacts on each of the regional targets at the county level. Total change in Sonoma County's VMT (driving), carbon emissions, particulate matter, traffic delay, greenfield development and non-auto access to jobs and services under each scenario is presented here. For each target and scenario, change is presented relative to the years 2000, 2006 or 2010.

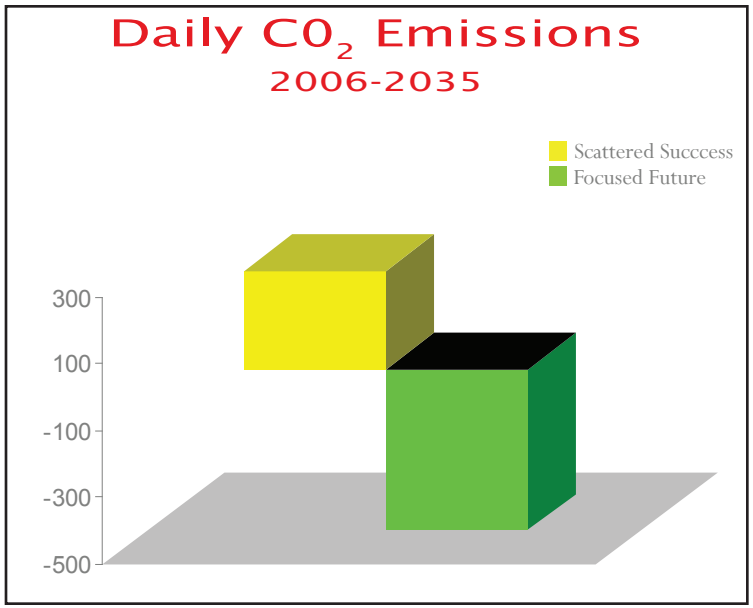
### Driving

Per capita driving is projected to increase under either scenario for Sonoma County. In the **Scattered** development pattern, daily per capita driving is projected to increase by 2.6 miles by 2035. Under the **Focused** development pattern, daily per capita driving increases much less, or by slightly over 1 mile.

### Carbon Dioxide Emissions

Carbon dioxide emissions from the transportation sector are projected to increase in Sonoma County under a **Scattered** development pattern. By 2035, emissions are projected to increase by almost 300 daily tons, for a total of 6,270 tons per day. Under the **Focused** scenario, emissions from cars and trucks are projected to decline over 2006 levels by almost 480 tons per day.



### Particulate Matter$_{10}$

Coarse road dust, or particulate matter, increases under both development scenarios for Sonoma County. This is due the absolute increase in driving anticipated under each land use scenario. In 2006, almost 5 tons of PM10 were emitted each day in Sonoma. Coarse matter is projected to increase by 2 tons per day in the **Scattered** scenario and by 1 ton in the **Focused Future** alternative.

### Particulate Matter$_{2.5}$

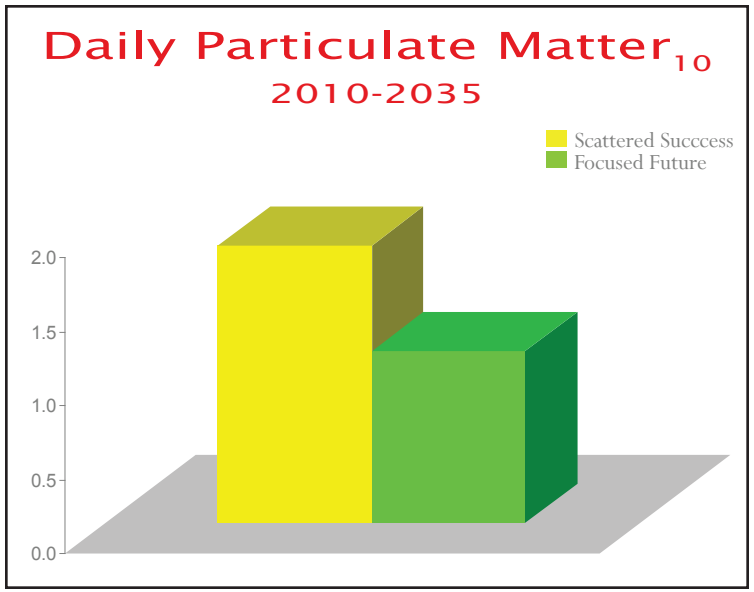
Fine road dust also increases in Sonoma County under both development scenarios. In 2006, 1.3 tons of PM2.5 were emitted each day in Sonoma County. Fine coarse matter is projected to increase to 1.8 tons per day under the **Scattered** scenario and to 1.6 tons under the **Focused Future** alternative.

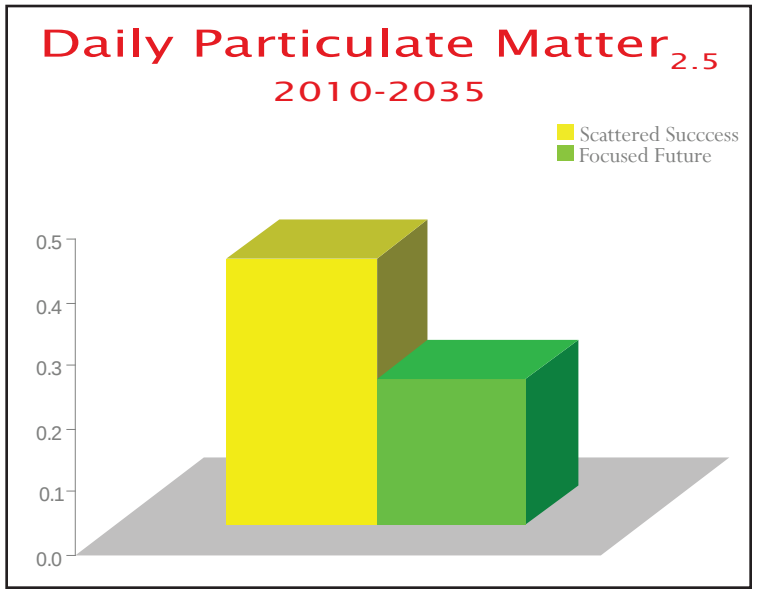
### Annual Traffic Delay

In 2006, annual traffic delay, or congestion, was 20 vehicle hours per person in Sonoma County. Daily delay is projected to increase by almost 18 annual hours per person by 2035 under a **Scattered** development pattern. Under the **Focused** growth pattern, delay is projected to actually decrease by 4 annual hours, compared to 2006 levels.

### Greenfield Development

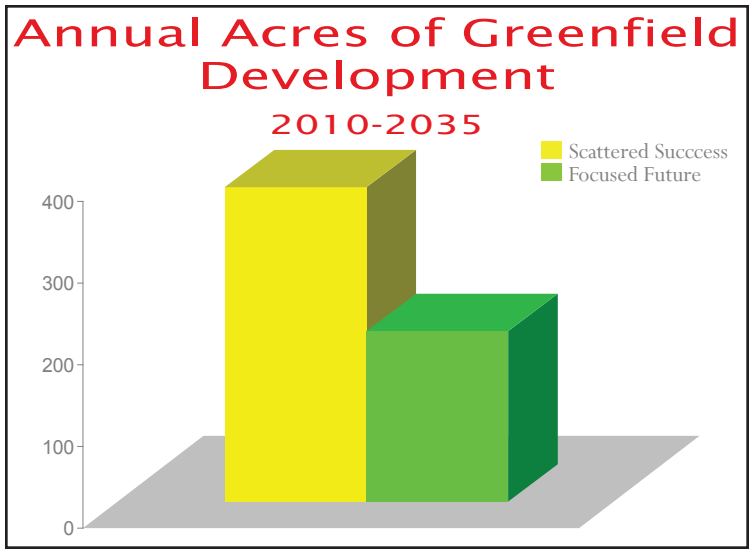
In 2010, 186,000 acres, 14 percent of Sonoma County's land area, is projected to be developed for urban use. By 2035 under a **Scattered** development pattern, an additional 9,570 acres are projected to be developed. This amounts to an average of 380 acres per year over the 25 year period. Under a more **Focused** growth pattern, about 200 acres are projected to be developed each year, for a total of 191,280 acres by 2035.

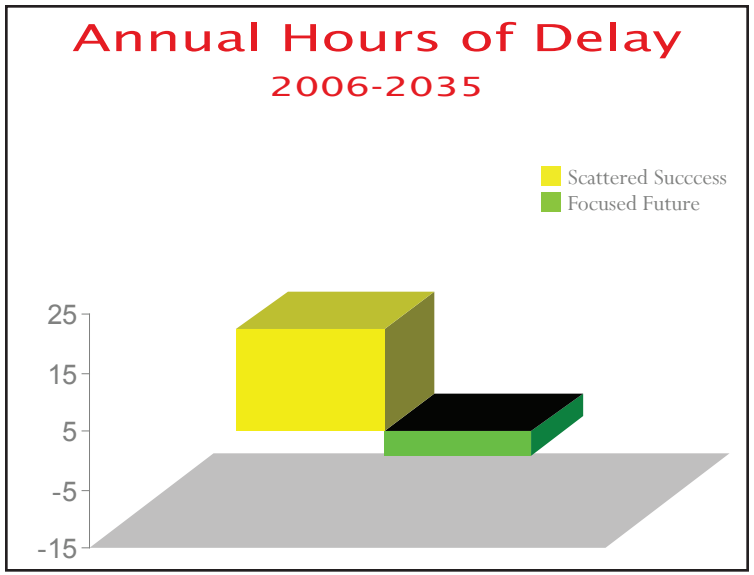


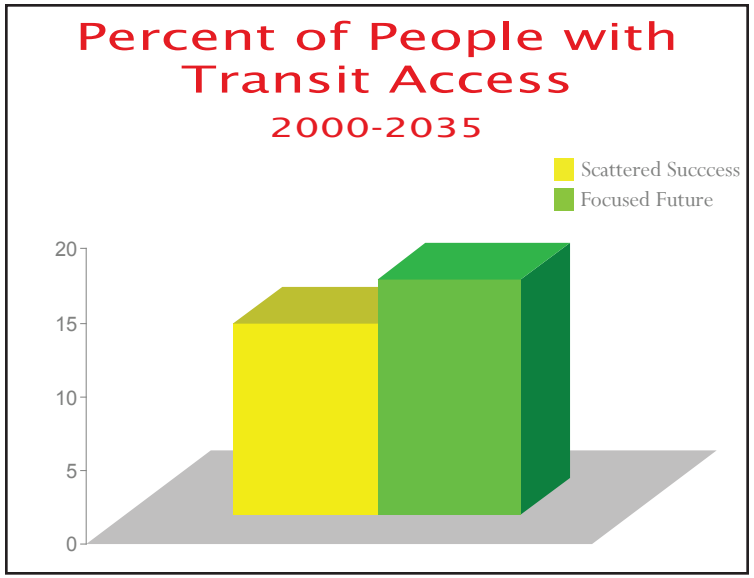



## Non-Auto Access

In 2000, over 66,000 people, or 39 percent of Sonoma County's population lived in neighborhoods with transit service. By 2035, under a **Scattered** development pattern, 13 percent more households will have direct transit access -or non-auto access to jobs and/or services. Under a more **Focused** growth pattern, that percent is expected to go up by 16 percent, over 2000 levels.



# Endnotes

1 Dataquick, http://www.dqnews.com/Charts/Monthly-Charts/CA-City-Charts/ZIPCAR.aspx

2 Metropolitan Transportation Commission, $CO_2$ emissions are calculated as a factor of VMT per household, which excludes non-home-based, commercial, and interregional travel. It only includes home-based travel (work, shop, social/recreation, school).

3 Metropolitan Transportation Commission, Transportation 2035, *Target Analysis Summary Report*, http://www.mtc.ca.gov/planning/2035_plan/tech_report.htm; Association of Bay Area Governments, *Projections 2009 Performance Targets* staff report, May 1, 2008, http://www.mtc.ca.gov/planning/2035_plan/tech_report.htm

4 Historic and projected population growth from Association of Bay Area Governments *Projections* series.

5 Historic and projected age data from Association of Bay Area Governments, *Projections* series.

6 Energy Information Administration, Weekly U.S. Retail Gasoline Prices, Regular Grade, http://www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_home_page.html

7 United States Environmental Protection Agency, Climate Change website, Basic Information, http://www.epa.gov/climatechange/basicinfo.html

8 Bay Conservation Development Commission, Shoreline Areas Impacted by Sea Level Rise Maps, http://www.bcdc.ca.gov/planning/climate_change/climate_change.shtml