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**LUSCAT Submission to
CARB Scoping Plan on
Local Government,
Land Use and
Transportation**

May 5, 2008

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1.0 Introduction

This report was prepared by the Land Use Subgroup of the California Climate Action Team (CAT). The Land Use Subgroup, LUSCAT, is one of eleven multiagency subgroups formed to provide recommendations to the California Air Resources Board (CARB) for consideration as the board develops a plan to reduce GHG emissions in California. The CARB Scoping Plan will lay out state policies and actions to meet the GHG reductions targets in AB 32, the Global Warming Solutions Act of 2006. Almost 20 state agencies comprise the LUSCAT team; agency representatives worked in collaboration to prepare the background information and recommendations contained in this report. A list of state agency LUSCAT members is found in Appendix A. A list of stakeholder organizations and representatives who graciously contributed their time and insights to LUSCAT's efforts is found in Appendix B.

How Californian communities are designed and built has large consequences on the state's greenhouse gas emission levels, and as a result, has an impact on global climate change. The majority of the State's GHG emissions are the result of infrastructure and development decisions: how we build our buildings, where we put them, and the quality and types of infrastructure that are required to serve them. The act of designing the physical footprint and form of communities is called land use planning. In California, local governments are responsible for making land use and local infrastructure decisions.

The LUSCAT focused on identifying existing programs and developing new cross-cutting land use planning strategies that could be adopted by State agencies for climate change mitigation and adaptation. The members of the LUSCAT represent agencies with broad experience and knowledge of the land use planning practices and principles in use in California. Members were drawn from the following agencies, boards and departments: CEC, Cal/EPA, ARB, BTH, Caltrans, DOC, CIWMB, OPR, SWRCB, PUC, DWR and HCD. The sub-group also worked closely with an advisory group comprised of stakeholders from local and regional governments, special districts, planning professionals and NGO's.

Land use planning plays a role in all of the CAT subgroups. It involves the identification of a land use pattern that will accommodate the residents, businesses, and attendant infrastructure needed as California grows. Decisions about where commercial, residential and civic buildings go, roads and transit systems, water supply, building design, natural resources, open space, agriculture, and energy infrastructure are all part of land use planning. Together these activities or sectors determine the level of state GHG emissions. Because of this, improving land use planning in California can assist in reducing the growth of GHG emissions.

The CARB's implementation of Assembly Bill 32 will address GHG emission reductions in a variety of these sectors. Most of these sectors have multiple activities that impact GHG emissions. Because of this, a substantial amount of GHG emissions that result from land use planning activities will be accounted for under other sectors. For example, green building practices are often considered an energy- and GHG-efficient land use planning practice. But since emissions from the production of electricity, use of natural gas and efficient use of water

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are expected to be covered under the Energy and Water Sectors, the GHG benefits of green building practices will not be attributed to land use.

Because land use planning GHG reduction strategies are found throughout the other sectors, this report will primarily focus on policies, programs, and practices that provide for reductions through the integration of transportation and land use planning. Regardless of the distribution of GHG-efficient land use planning benefits to different accounts in the ARB's inventory, it is crucial that land use planning policies are developed and implemented in an integrated fashion and support all the state's land use, economic development, transportation, housing and resource planning goals.

The GHG reduction strategies developed by all the subgroups will be approved by the CAT and submitted to ARB for incorporation into the Scoping Plan. The LUSCAT paper will provide a context for those strategies, and address an overall vision for land use planning over the long-run and actions for reducing GHG emissions that can be initiated in the near-term. It is understood that some of what is discussed here will likely change or evolve as experience is gained and new challenges unfold as we tackle the dual issues of climate change mitigation and adaptation.

1.1. Long-term Vision for Land Use Planning in California

The strategies and measures outlined in this paper are only the initial steps in the efforts needed to adequately reduce GHG emissions from this sector. The Governor's Executive Order S-3-05 established goals for 2050 which will require an integrated approach to land use planning that ties together federal, state, regional and local planning processes and tools. Following is a 'roadmap' which outlines initial thoughts on forward-looking and far-reaching planning principles that will guide the state to both meet its mandated GHG emission targets in 2020, and lay the groundwork for 2050 goals and beyond. The success of the roadmap requires both partnership and leadership, from all levels of government and each participant in the land use planning conversation.

State policy objectives for affordable housing, transportation, air quality, water supply, economic development, environmental integrity, agricultural land preservation, and wildfire issues, as well as GHG and climate change, and others involve state agencies in land use planning issues, indirectly or directly. Achieving these multiple policy objectives, requires that any policies the State adopts to reduce GHG emissions support and enhance existing economic, environmental and equity related policies.

1.1.1. Long Term Land Use Vision Principles

The vision for an Integrated Land Use Planning Process incorporates the principles described below.

- 1. Planning to Reduce GHG Emissions:** To effectively address GHG emissions, existing and potential planning strategies and processes should be identified at all levels of government. Ways to strengthen and coordinate these strategies and processes to assist in reducing GHG emissions associated with land use decision making should be articulated by the State.

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Although one of the primary goals of this planning effort will be GHG mitigation, the effort will also carefully consider adaptation to ongoing and predicted climatic changes. The planning process must strive to enhance other co-beneficial opportunities such as resource conservation, fostering better health for Californians, increasing the supply of affordable housing, and facilitating better access to services and recreation.

2. **Comprehensive Yet Flexible to Adapt to Changing Circumstances:** An integrated and comprehensive land use planning policy should be developed by the State to coordinate the goals and requirements of Federal, State, Regional and local government agencies, and be flexible enough to be responsive to the needs of each. The planning policy should be responsive enough to react appropriately to changing circumstances due to variations in climate, population, demographics, economics and technology. Due to the need for California to adapt to changing and unpredictable climate conditions, the planning policy will include decision making guidelines that are themselves adaptable. Adaptation to climate change in land use planning will need to be integrated with all efforts addressing GHG mitigation.
3. **Coordination of Planning Efforts:** A statewide planning policy will facilitate the coordination of federal, state, regional and local planning efforts to promote efficient use of existing planning resources and control costs of infrastructure extension and maintenance. A State planning policy should, facilitate information exchange, and avoid conflicting requirements or redundant processes. Training, education and outreach will need to be available for staff of all involved planning agencies. The planning process will facilitate the sharing of data between planning entities through the use of GIS and other technologies. State-level planning will include cooperative agreements with neighboring states in order to maximize the effectiveness of efforts to reduce GHG emissions or address mitigation of climate change impacts that may affect border communities.
4. **Land Use Planning Incentives:** Any successful statewide planning policy should address existing financial disincentives to GHG related local and regional planning and recommend incentives. The planning process will provide incentives for inter- and intra-regional cooperation, promote the consideration of quality of life measures, including housing and resource conservation, and will consider life cycle costs and life cycle assessment in planning evaluations. The development of an integrated and comprehensive planning policy would include consideration of tax reform efforts and the interaction of those activities with long-term efforts to reduce GHG emissions. The policy will also explore links with federal transportation funding and advocate for federal funding decision criteria which reflect California's land use goals.
5. **Builds upon Existing Models for Improved Planning Capability:** Integrated and comprehensive planning should build upon existing planning models for regional development as outlined in the *Regional Blueprint* project. These models encourage participation of a wide array of stakeholders to work on plans that start at the neighborhood level and build to a regional consensus. The models should include consideration of GHG emissions at the regional or general plan level. Regional planning would address inter- and intra-city transportation options. The process would also be designed to promote investments in transportation infrastructure to reflect the anticipated needs of future Californians, while supporting desired patterns of growth. The goals of transportation infrastructure planning criteria would also be established with the aim of facilitating the

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movement of goods and services, over short and long-distance, while reducing the overall vehicle miles traveled. Initiatives such as the high speed rail project would be promoted and local governments would be encouraged to plan new developments consistent with the location and extent of these new transportation options.

6. **Include Utilities in Infrastructure Planning:** An integrated and comprehensive planning policy will consider the distribution of water and power, including electricity generation, along with other future infrastructure needs. Consideration will be given to resource availability and lifetime resource costs in designing the process.
7. **Includes Consideration of Planning Decision Impacts on Population Growth and Distribution:** An integrated and comprehensive land use planning policy will lead to consideration of the impacts of planning decisions on efficiently accommodating population growth and distribution in future policy decisions. Restrictive land use practices that limit infill and an adequate housing supply will be discouraged or prohibited.

It will also lead to the consideration of the appropriate distribution of recreational and commercial resources and how population growth and distribution will interact with these resources. Areas that may become less suited to certain uses should be identified and alternative locations for those uses should be developed

1.1.2. GHG Land Use Policy Principals

1. To achieve the goals of AB32 and Executive Order S-3-05, the State's land use policy objectives should include GHG mitigation in addition to existing policies regarding housing availability and affordability, access to mobility, health protection, water and energy supply, resource and habitat protection, healthy economy, community and cultural resources, etc.
2. The State Constitution gives local governments the authority to make land use decisions within their municipal boundaries. However, in order to ensure State-wide policy objectives are also met the California Legislature and past Governors have vested various state agencies with influence over a number of land use decisions. Going forward the State will adopt policies to address land use decisions directed at reducing GHG emissions in a collaborative effort with local and regional governments.
3. The State must significantly reduce the GHG emissions from the transportation sector. Reductions of GHG emissions from the transportation sector will come from a combination of vehicle efficiency improvements, low-carbon fuels, and implementing transportation demand management (TDM) policies and strategies. The effectiveness of efforts to provide transportation alternatives to the automobile and TDM can be measured in terms of reductions in vehicle miles traveled (VMT) or expected growth in VMT. VMT reductions correlate directly with reductions in GHG emissions.
4. TDM and alternative mobility options, including walking, biking, and mass transit, will require improvement in land use through a combination of state, regional and local planning. The State will encourage and support integrating land use and transportation policies to maximize the efficient use of existing transportation systems and provide for the increased availability

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and use of efficient transit, walking and biking infrastructure to increase mobility, improve health, and provide other economic and environmental benefits.

5. The State's development policies and financing programs for the siting of State-owned facilities should support GHG emission reduction goals. The State will lead by example and incorporate GHG emission reduction as a fundamental element of planning, design, development, and operation of state-owned facilities.
6. The State's various programs that affect land use should be encouraging growth patterns that support the State's GHG policies. The State will incorporate GHG considerations into appropriate fiscal, technical, and/or regulatory land use programs guidelines, standards, and criteria. This will help to ensure that all appropriate state-assisted infrastructure, land use planning, and development is consistent with the state's climate goals. Housing development capacity of regional and local land use plans should not be limited for the purpose of reducing or limiting the growth in vehicle trips or vehicle miles traveled.
7. Reducing GHG emissions through improved land use and mobility planning and implementation requires a regional approach. Efforts such as the Regional Blueprint Planning process will be further strengthened and expanded to include GHG emissions reduction targets.
8. Government agencies from the federal through to the local level plus thousands of special districts make decisions that guide land use in California every day. The State will adopt policies and programs that reflect this shared responsibility and increase collaboration across all levels of government on how to reduce GHG emissions through improved land use decision-making.
9. The State needs to work with stakeholders to develop clear guidance and expectations for regional and local government in the form of guidelines, information, methodologies, technical resources and regional emission reduction targets. The California planning community must have the tools, resources and ability to implement new climate policies enacted by the State.
10. Through partnerships with stakeholders, the State will design policies and programs that provide legal and technical assistance to guide decision-making and build capacity at all levels of government. Local government will need financial and regulatory assistance and implementation flexibility to achieve GHG reductions.

1.2 Framework for LUSCAT strategies and measures.

The five objectives discussed below provide the framework for the strategies and measures outlined in later sections of this report.

- **Define Regional Land Use and Transportation Targets**
LUSCAT recommends that ARB define GHG emission reduction targets for land use and transportation related GHGs at both the State and regional levels. These goals should be developed to not only help meet 2020 goals, but also should lay the foundation for reaching 2050 goals set by Executive Order S-3-05. Land use policies and actions that

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reduce GHGs take time to add up to a significant level. It is critical to start making land use decisions that help reduce GHGs now to ensure an accumulation of benefits large enough to help meet our long-term carbon goals.

Major metropolitan areas in California are actively pursuing Blueprint planning and/or other comprehensive planning processes that encourage land use development and transportation infrastructure that improves air quality, reduces vehicle trips and trip lengths, and provides more transportation and housing options. Regional planning agencies must work with local governments to provide regional visions that map out what is necessary to reach regional land use-related GHG targets and then work collaboratively to reach those targets. All levels of government need to work together to ensure that the State get land use that allows for the achievement of California's various land use policy goals while ensuring that development proposals not be subject to overlapping and redundant requirements for mitigation of GHG emissions.

- **Provide Guidance on Measurement and Best Practices**

It is important that the State provide regional and local government clear guidance on how to measure and estimate future expected GHG emissions within their jurisdiction. LUSCAT recommends that ARB provide a GHG quantification protocol and guidance for local governments that allows for statewide uniform measurement and estimation of expected jurisdiction-wide GHG emissions. Any measurement tool should also allow local governments to evaluate and compare the GHG emissions of alternative land use planning decisions.

The LUSCAT recommends that the State provide guidance to regional and local governments on best practices for reducing GHG emissions, including measures to reduce GHG emissions from sources that can be directly affected by local governments such as municipal operations and discretionary land use practices; protocols for emission reduction accounting; and appropriate modeling tools to support emission quantification at the local level.

- **Create Partnerships**

LUSCAT recommends the creation of a stakeholder partnership process to analyze and prioritize the key policies necessary to provide an enabling structure that helps regional and local agencies reach the regional targets developed. The stakeholder partnership would include State, regional and local agencies and public and private stakeholders. The timing of the stakeholder partnership process should coincide with the timing of the development of the regional targets. This process should also include guidance on how to address GHG emission reduction and climate change in regional and local Climate Action Plans. The guidance should include model Plan format, language and content as well as public participation direction and be coordinated with Regional Blueprint Plans, Regional Housing Need Plans, Regional Transportation Plans, and General Plans.

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- **Promote State Leadership**

The State should provide leadership in GHG reduction efforts. Many state agencies have direct control over state-owned and operated infrastructure and facilities. Incorporation of GHG considerations into the planning, design, development, and operation of these facilities has the potential to result in considerable GHG emissions reductions and provide best practices information to local and regional government partners and the private sector.

Many state agencies do not have direct control of GHG emissions but have indirect influence over the emissions associated with broader local land use and transportation decisions. The State's indirect influence is exercised through implementation of its various fiscal, technical, and/or regulatory programs.

LUSCAT recommends incorporating GHG considerations into appropriate State program guidelines, standards, and criteria to help ensure that state-assisted infrastructure, land use planning, and development is consistent with the state's climate goals.

- ***Reduce Barriers to Efficient Land Use Development***

Many barriers exist to GHG-efficient growth at all levels of government policy in the State. There are also structures and processes that have been developed that are used as tools to prevent what would otherwise be GHG-efficient growth. For example, CEQA has sometimes been used to block otherwise appropriate infill development. In addition, local regulatory barriers to infill housing and an inadequate supply of appropriately zoned land for housing can result in development being pushed to the fringe of a community, causing increased VMT.

If the State is going to be successful in reducing the impact of land use planning and development on climate goals, then these barriers must be reduced or eliminated.

The LUSCAT recommends that the OPR and BTH in coordination with the Strategic Growth Council convene a multi-stakeholder advisory group to examine ways to improve land use coordination and goal attainment and offer recommendations for inclusion in the Scoping Plan and a report for the governor and Legislature for their consideration.

- ***Measure Progress***

A feedback loop is essential to successful program implementation. LUSCAT recommends that the State create and update inventories of GHG emissions. The data will allow regions to track progress towards goals and allow for assessment of the need to revise current, or implement further, measures.

The strategies and measures identified in this report fall into the above categories, and are either action items that State agencies can implement with existing authority, and are recommended to be pursued in the near-term or items that bear promise for the State but LUSCAT is recommending further analysis be done.

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The LUSCAT subgroup was presented with over 180 proposals for the reduction of GHG emissions from land use planning. The submittals were prioritized and only those that could either be shown to provide feasible reductions or set the stage for reductions in the future were included in this study. Other strategies and measures may be included after input from stakeholder groups and as more is learned about how changes in this sector can help move California forward to the goals of 2020 and beyond.

Implementation of the recommended strategies should have a net zero cost through 2020. Based on analysis put forth it is assumed that state, regional, and local agency partners will be able to redistribute and leverage existing funding revenues for land use and transportation activities to meet the state's regional GHG targets, while continuing to meet the balance of the State's other land use and transportation goals. This is not to say that significant investment will not need to be made in both the hard and soft infrastructure of our local communities. The LUSCAT recognizes the need for direct investment of State funds, flexibility in the implementation of State-administered programs and tax policy reform to enable local and regional governments to bring about a new land use pattern.

Facility siting and land use, and development and transportation infrastructure planning and siting decisions of the past have disadvantaged low income and minority communities with adverse environmental and health impacts, dislocation, and intersection. However, policies to promote sustainable multiple use communities with increased access to affordable housing, jobs, transportation options, and educational and recreation resources will provide many benefits to low income and minority communities as well as to the population of California as a whole.

Such policies must holistically consider the broad spectrum of potential impacts (beyond VMT reduction) of land use decisions, as well as their relationships to reducing cumulative environmental health risks, improving overall health and communities' abilities to adapt, and addressing disproportionate impacts in low-income and minority communities. This report recommends a series of strategies to ensure GHG emission reduction land use policies do not disproportionately affect low income and minority communities.

2.0 Sector Background

2.1 Role of Land Use and Local Government in Climate Change.

The California Climate Action Team Land Use Subgroup's (LUSCAT) has undertaken an examination of how land use decisions can help reduce GHG emissions pursuant to the Governors Executive Order S-01-07 and AB 32, the Global Warming Solutions Act of 2006,. Land use decisions impact many sectors responsible for GHG emissions – transportation, electricity, water, waste, etc. However, the primary impact of land use development on GHG emissions is related to vehicle use. While this paper will make recommendations on land use strategies that impact multiple sectors, it will highlight the relationship between land use and transportation and how this relationship impacts GHG emissions.

2.1.1. Emissions from Transportation and Vehicle Use

The federal and state investment in a comprehensive highway system has given Californian's increased choices in where they live and work. Homeowners can elect to reside outside urban centers. The availability and low-cost of land away from urban centers has resulted in new development becoming increasingly less dense. As a result, Californians are more dependent than ever on the automobile to connect them to jobs, services, and amenities.

This less dense, more dispersed development pattern has resulted in sharp annual increases in the distances (hence, amount) people drive as measured by vehicle miles traveled (VMT). The amount of miles traveled by California residents increased at a rate of over 3 percent a year between 1975 and 2004, outpacing population growth which grew at less than 2 percent annually over the same time period. This increase in VMT directly correlates to an increase in petroleum use and GHG production. Passenger vehicle (cars and light trucks) emissions of 136 million metric tons of CO₂ equivalent (MMTCO₂e) per year represented, in 2004, about 30 percent of the state's total GHG emissions. That makes passenger vehicles the biggest GHG emitters in California. It also results in the transportation sector as whole being the largest emitters of GHGs in the State – 38 percent of the 2004 inventory. On-road vehicles emit the vast majority of California's transportation related GHG emissions – 172 MMTCO₂e or 36 percent of the state's approximately 475 MMTCO₂e total. Other transportation sources—mostly trains, planes, and ships—emit just 2 percent of the total.

Transportation Sector

All forms of transportation (passenger vehicles and light trucks, planes, trains and ships) make up the transportation sector. There are three interrelated components that can contribute to transportation sector emission reductions: (1) vehicle technology, (2) fuels, and (3) vehicle use.

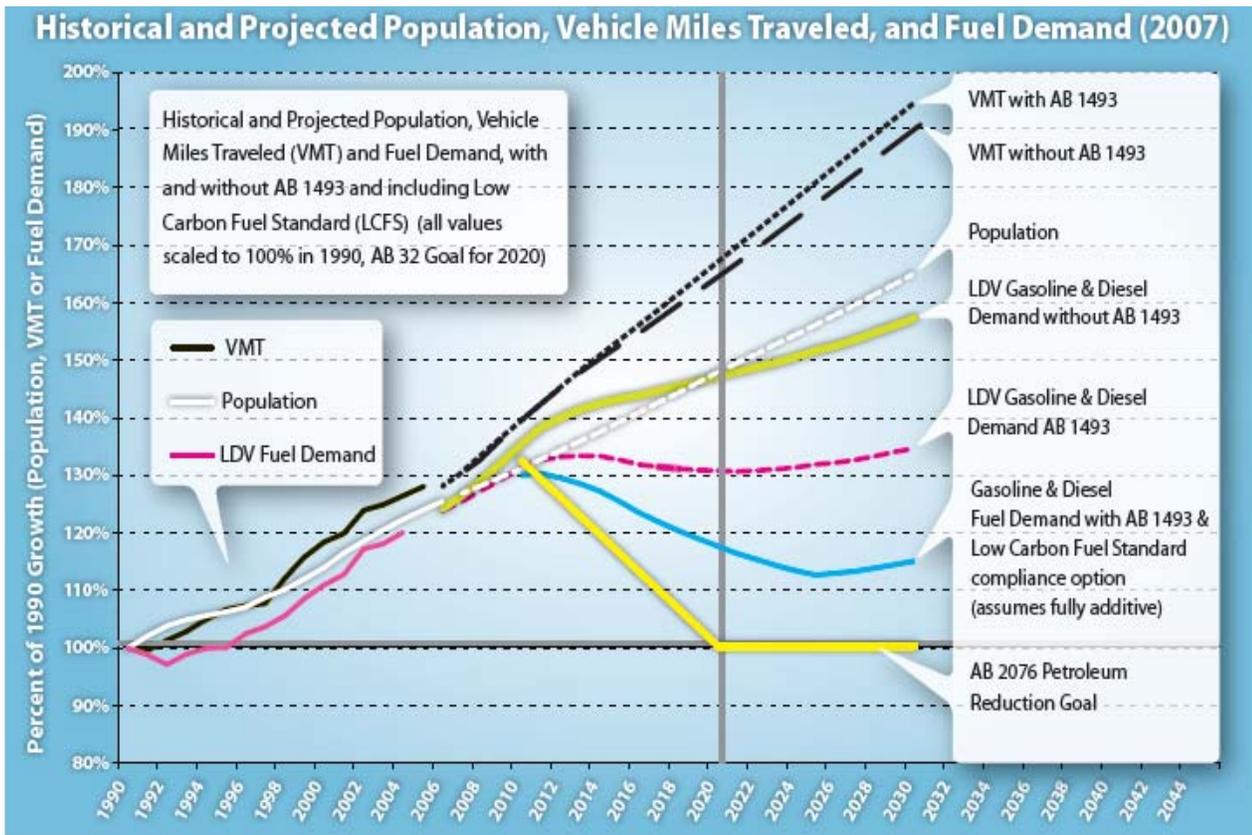
The state is actively addressing vehicle technology and fuels through various programs and legislation. AB 1493 (Statutes of 2002, Chapter 200) directs the California Air Resources Board (CARB) to achieve the maximum feasible and cost-effective GHG reductions from light-duty

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motor vehicles. The Governor's Executive Order S-01-07, signed on January 18, 2007, calls for a reduction in the carbon intensity of fuel used on California roadways.

Vehicle use strategies are also important to reaching the State's climate change goals. Past trends and future business-as-usual projections show a significant increase in VMT. Californians continue to drive more, because the population is growing, but also because current land use patterns increase the miles per capita people must drive to sleep, study, work, and play. There are a number of factors influencing this, e.g., suburban growth fueled by post-war baby-booms, a thriving economy, and low-priced gasoline. In the last few decades, employment has decentralized from core cities in many areas; a recent study found that "roughly 65 percent of all residents and nearly 60 percent of all jobs are now located in the suburbs"¹. Research has established a relationship between political fragmentation and the degree of job decentralization within regions of the U.S.² An inadequate supply of appropriately zoned residential land, especially proximate to employment centers, causes longer commutes as employees have to search further and further away to find affordable housing.

The chart below shows a projected steady increase of per capita driving averaging about 3 percent per decade from 1990 through 2040. Such growth will continue to erode the gains we make by tackling the other two legs of the stool to reduce GHG emissions (vehicle technology and fuels).



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2.1.2. Factors influencing current land use practices

Population

The state's current population of around 36 million is expected to increase to 42 million by 2020 and reach 60 million by 2050. About 70 percent of the population is located along the coast, but the fastest rate of population growth is occurring inland. California's senior population of about 4 million is expected to double in the next 25 years and triple in the next 50.

Development Patterns

As previously noted, VMT has been growing by 3 percent a year, and Caltrans expects a similar growth into the future. Caltrans modeling estimates assume current population growth rates and the continuation of current development and transportation practices. Research on the effect of land use practices on transportation patterns suggests that different development patterns could reduce VMT growth rate.

A 2002 U.S. Environmental Protection Agency study compared the impacts of compact and dispersed development patterns, also known as sprawl, on transportation patterns. The following land use characteristics were chosen as the key factors of sprawl based on a review of 83 of the nation's largest metropolitan areas³:

- Population dispersed in low density residential development.
- A rigid separation of homes, shops, and workplaces.
- A lack of distinct, thriving activity centers, such as strong downtowns or suburban town centers.
- A network of roads marked by very large block size and poor access from one place to another.

The EPA research suggests that counties with the least occurrences of the above characteristics had significantly less: average vehicle ownership, daily VMT per capita, annual traffic fatality rate, and maximum ozone level days. At the same time, shares of work trips by transit and walk modes increased to a significant degree.

Density, Mixed Use, and Vehicle Miles Traveled

The EPA research examined the variables that have a significant effect on the overall VMT and number of vehicle trips of individuals and households, mostly through their effect on the distance people travel and modes of travel they choose.⁴

Their research suggests that of the many factors that can be used to analyze the relationship between development and transportation, density may have the most significant relationship to travel and transportation outcomes. Controlling for other factors, the difference between the length and amount of trips in low versus high density U.S. metropolitan areas is more than 40

³ Ewing R., R. Pendall, and D. Chen, "Measuring Sprawl and Its Impact," Smart Growth America/ U.S. Environmental Protection Agency, Washington D.C., 2002.

⁴ Ewing R. and R. Cervero, "Travel and the Built Environment," *Transportation Research Record*, Vol. 1780, pp. 87-114, 2001.

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percent daily per capita VMT. EPA found that a doubling of neighborhood density can be expected to result in approximately a five percent reduction in both the number of vehicle trips and their length..

Of particular note was the difference between centrally located developments and development along the outskirts of established areas. Areas of high accessibility—such as center cities⁵—seemed to produce substantially lower VMT than dense mixed-use developments in the exurbs⁶. They found that number of trips seemed to depend mostly on socioeconomic and demographic factors, but overall VMT and vehicle trips declined as accessibility, density, and/or land-use mixing increased.

A San Francisco Bay Area study found that, all else being equal, “[e]very 10 percent increase in the number of retail and service jobs within four miles of one’s residence is associated with a 1.68 percent reduction in shopping and personal-service VMT... [Also,] a doubling of accessibility to retail and service activities was associated with a 13.7 percent decline in daily hours spent getting to and from shops and consumer-service outlets” (p. 483).⁷

Transitioning California towards more compact, transit-oriented patterns and practices poses a major challenge. It will require policies that not only discourage development on the fringes, but remove barriers to, and allows, without burdensome discretionary review, development in appropriate infill locations. But, the challenge is not insurmountable. “Nearly half of what will be the built environment in 2030 doesn’t even exist yet, giving the current generation a vital opportunity to reshape future development.” [Source: Arthur C. Nelson, “Planning for a New Era,” *Journal of the American Planning Association*, Fall 2006.]

Jobs-Housing Balance

The jobs-housing imbalance in many regions is pushing housing farther and farther away from job centers, resulting in inefficient land-use patterns—one of the greatest threats to California’s environmental quality.

It is generally agreed the root cause of this problem in California is the lack of sufficient supply of housing, including affordable housing. The housing affordability challenge is in large part an availability problem. Strong demand for an extraordinarily constrained supply in areas where people already live and jobs are being generated drives prices and rents higher. Too many local governments are not planning adequately to meet their own population increases, further exacerbating the supply problem.

Finance

Land use patterns, and the resulting VMT, are influenced by the funding available to local governments. One of the largest impediments to local governments’ embracing of energy-

⁵ A city’s downtown and adjacent neighborhoods.

⁶ Prosperous rural communities beyond the suburbs that become commuter towns for an urban area.

⁷ Cervero, Robert and Michael Duncan, 2006, Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? *Journal of the American Planning Association*, Autumn 2006, Vol. 72, No. 4.

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efficient and climate-friendly growth patterns is the structure of local-government finance. Proposition 13 and the subsequent Proposition 218 reduced the role of property-based taxation as a local government revenue source and increased reliance on other sources, particularly local sales taxes. Before Proposition 13, property tax rates were individually levied according to the city, county, school district, and state's assessed value. Each entity could independently assess the value of a property and levy a tax based on that value. Overall tax rates were often in the range of 2 percent to 3 percent of a property's assessed value. Proposition 13 restricted the property tax rate to 1 percent of assessed value, and it prohibited reassessment of property except when it was sold. Thereafter, annual increases can amount to no more than 2 percent or the rate of inflation, whichever is less.

Proposition 13 significantly cut local tax revenue and altered the way local governments fund public services and infrastructure. In particular, it encouraged cities and counties to impose heavier exactions — sometimes known as developer fees or impact fees — to pay for roads, sewers, parks, and schools.

Local governments receive 1 percent of the state's 7 percent sales tax for sales in their local districts. So in addition to exacting fees on developers, local governments also started encouraging development that increased sales tax revenue, such as shopping malls, car dealerships and hotels. By contrast, land uses that produce only property taxes and have a high public service cost, such as moderately priced housing, became less desirable. This is believed to cause counties and cities to favor sales-tax generating retail development rather than property-tax-bound residential uses. This is commonly referred to as “the fiscalization of land use.”

Other revenue demands, particularly education, have also crowded the property-tax base, making it less available for local government purposes and reducing incentives to improve the base through residential development. In 1992 and 1993, facing a \$14 billion shortfall in revenue, the Legislature shifted billions of dollars in local property tax revenues to schools to meet the state's minimum funding obligation to schools under Proposition 98. The shifted property taxes went into a fund established by the Legislature called the Educational Revenue Augmentation Fund.

As a result of these property tax policies, local land use planning and decision making commonly demonstrates a bias toward tax revenue-driven development. Such development often may pit one community against another in an effort to attract businesses that generate sales tax. Local competition for retail and auto malls rarely balances community housing needs with the benefits of non-retail business and industry, and may exacerbate transportation and associated environmental problems. The competition for the sales tax revenue can lead to local governments in the region offering escalating incentives to attract retail establishments, often through waiver of fees, favorable zoning and other means. This competition for expected sales tax revenue is commonly referred to as “the race to the bottom.” These large retail establishments are often sited on large lots away from densely populated areas, requiring more vehicle travel by customers.

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2.2. Land Use Planning

2.2.1. Background

General Plan

California Planning and Zoning Law (Government Code Sec. 65300) requires every one of California's 58 counties and 478 cities to develop and adopt a general plan. General plans establish policies and goals for future actions regarding development and government operations for the next 15 to 20 years. State law requires cities and counties to include information from seven categories or elements in their general plans. The seven mandatory elements are land use, circulation, housing, conservation, open space, noise, and safety. The general plan also must include a land use map showing where residential, commercial, and industrial development should be located and where open space should be protected or new park space created. All project-level decisions must be consistent with general plan policies.

Cities and counties have the option of adopting other elements, such as an energy element, an economic element, a healthy communities element, or a climate action plan element. For example, San Diego's General Plan EIR specified the adoption of a climate action plan as an "element" of the general Plan. Some counties have also amended their general plans to recommend that the city prepare a GHG Emissions Reduction Plan.

A General Plan update must undergo CEQA analysis before adoption. Zoning ordinances are then developed and/or amended to conform with the General Plan.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires California public agencies to identify and reduce, when feasible, any significant environmental impacts of proposed "projects". CEQA applies to both public sector activities and private sector activities (projects) that require discretionary approval actions by local governments. This will include everything from city and county land-use planning activities (general and specific plans, transportation plans, zoning ordinances, etc) to the approval of public and private development activities such as the construction and operation of government, housing, commercial, industrial, agricultural and infrastructure projects. CEQA also applies to the many approval actions taken by LAFCO's, COG's and Special Districts (School, Water, etc.) which may have impacts on local land use and development.

CEQA informs both decision makers and the public on how governmental actions may affect the environment. CEQA provides a legal framework to hold public agencies accountable for their decisions which may have an environmental impacts. A "project" is defined in CEQA as, "an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

(a) An activity directly undertaken by any public agency.

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(b) An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.

(c) An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies” (PRC 21065).

To comply with CEQA, public agencies must analyze and disclose the potentially significant adverse environmental impacts of a proposed project. The agency must consider and adopt, when feasible, mitigation measures that reduce or avoid the identified significant environmental impacts. The agency must consider project alternatives that may reduce significant environmental impacts. When approving a project the public agency must make certain “findings” regarding the environmental impacts of the project and the agency’s rationale for approval of a project if the project will cause a significant impact on the environment.

If the agency fails to follow the CEQA process correctly, makes erroneous or inaccurate conclusions, or fails to ensure that the mitigation measures are carried out, the public has the right to enforce CEQA’s requirements by challenging the agency’s action(s) in court. However, too often, even when an agency appropriately complies with the CEQA process, opponents to development may challenge a CEQA determination and delay or prevent otherwise appropriate and meritorious projects from proceeding. Such challenges are a major impediment to approving the amount of infill housing necessary to address GHG emissions in many communities and regions.

State Agency Coordination, Review, and Technical Assistance

The Governor’s Office of Planning and Research’s (OPR) State Clearinghouse coordinates the state level review of environmental documents pursuant to the CEQA and provides technical assistance on land use planning and CEQA. OPR and the Resources Agency are responsible for updating the *CEQA Guidelines*. OPR also publishes the *General Plan Guidelines* which provide cities and counties with advice on developing, adopting, and amending the local general plan. Several other state agencies and departments also play roles in both CEQA and planning at the local level through permit approval, general plan element review, regulatory authority and technical assistance.

Local Area Formation Commissions

Local Area Formation Commissions (LAFCo) are responsible for coordinating logical and timely changes in local governmental boundaries, conducting special studies that review ways to reorganize, simplify, and streamline governmental structure and preparing a sphere of influence for each city and special district within each county.

A sphere of influence is a planning boundary outside of an agency’s legal boundary (such as the city limit line) that designates the agency’s probable future boundary and service area. Factors considered in a sphere of influence review focus on the current and future land use, the current

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and future need and capacity for service, and any relevant communities of interest. Spheres for all cities and special districts are reviewed every five years.

LAFCo's efforts are directed toward seeing that services are provided efficiently and economically while agricultural and open-space lands are protected. LAFCos regulate, through approval or denial, the boundary changes proposed by other public agencies or individuals. LAFCos do not have the power to initiate boundary changes on their own, except for proposals involving the dissolution or consolidation of special districts and the merging of subsidiary districts.

LAFCOs coordinate the orderly development of a community through reconciling differences between agency plans so that the most efficient urban service arrangements are created for the benefit of area residents and property owners.

2.2.2. Land Use Planning Activities Underway

Strategic Growth Council and Plan

The Strategic Growth Plan (SGP) was launched in January 2006, as a 20-year infrastructure and development investment plan for restoring and maintaining California's roads, schools, ports, and water supply. In November 2006, California voters approved the first installment of that 20-year vision to rebuild the state.

As part of the Governor's Budget Proposal for 2008-09, Governor Schwarzenegger proposed the creation of a Strategic Growth Council (Council) to aid in the continued implementation of the State's SGP. The primary purpose of the Council would be to coordinate state infrastructure and development projects to encourage sustainable land use, protect natural resources, improve air and water quality, increase the availability of affordable housing, improve transportation, and meet the goals of the Global Warming Solutions Act (AB 32).

Climate Change Guidelines for General Plans

OPR is mandated to create and publish advisory guidelines on how to address the required information in General Plans. OPR also includes information in the guidelines that is relevant to current planning practices and needs. In the next update of the General Plan Guidelines, which is currently underway, OPR will provide information about how to address climate change issues in general plans through policies, objectives and implementation measures. There is currently no established timeline for the update although OPR expects the process to last at least until the end of 2008.

GHG Guidelines for CEQA

During 2007 there was a flourish of activity dealing with GHG, climate change, CEQA and land use planning.

The Governor signed Senate Bill 97 (Chapter 185, 2007) which requires OPR to develop CEQA guidelines "for the mitigation of GHG emissions or the effects of GHG emissions." OPR is

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required to “prepare, develop, and transmit” the guidelines to the Resources Agency on or before July 1, 2009. The Resources Agency must certify and adopt the guidelines on or before January 1, 2010. Even in the absence of “guidelines” on CEQA and GHG and climate change many lead agencies have already begun to include GHG and climate change analysis in their CEQA documents.

The California Attorney General, as well as several environmental organizations filed suit and provided written comments regarding local agency actions regarding GHG, climate change, land use, and CEQA.

Many cities and counties have adopted, or begun the process of developing, policies, guiding principles and climate action plans dealing with climate change and GHG reduction.

Regional Energy Plans, Smart Growth Plans, and General Plan Energy Elements

Regional Energy Plans and General Plan Energy Elements have been produced in many areas of the state (San Diego, San Luis Obispo, Santa Barbara, Siskiyou, Mono, Butte, Modoc and other counties). These energy plans provide examples of both urban and rural energy policy that should be updated as needed and could be distributed for use by other regions and by the state.

The Energy Commission is funding a partnership with the San Diego Association of Governments to develop model general plan, Regional Comprehensive Plan, and Regional Climate Plan materials, with a focus on transferability to other regional and local bodies. It is important to understand that these plans can be developed in concert with long term growth planning by using the available Blueprint database and planning outcomes as the baseline and future growth quantification. If planning is coordinated in this way, then energy cost, emission, and alternatives information will be a meaningful component of regional and local economic and environmental policy.

Regional Community Smart Growth Planning Grants

In both San Diego and Sacramento, the regional governments are offering local communities funding support to develop projects that integrate smart growth land uses and transportation facilities described in the regional Blueprint planning and smart growth documentation. Eligible projects include: bicycle and pedestrian paths and bridges; on-street bike lanes; pedestrian plazas; pedestrian street crossings; and pedestrian bulb-outs or traffic circles. In addition, other potential projects are transit stop amenities, and streetscape enhancements such as median landscaping, street trees, lighting, and street furniture. In San Diego, beginning in 2008, a more comprehensive \$280 million smart growth incentive program will be funded through the local TransNet half-cent sales tax program.

Community Operations Toolkit

The ARB is developing a “tool kit” of voluntary measures and best practices for GHG emission reductions for local governments and small businesses (collectively called “communities”). A

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Community Operations Toolkit will assist communities in the reduction of GHG emissions through operational and behavioral changes such as increasing energy efficiency, green building, cool community practices, water conservation, waste management, renewable energy generation, climate-friendly procurement, and promoting community and individual actions. While a handful of local governments and small businesses in California have already started to plan and implement local GHG emission reduction measures, development of a Community Operations Toolkit will encourage and support greater and coordinated local action statewide. Furthermore, development of this resource will help ensure consistency and coordination between the multiple state agencies involved with implementing the Global Warming Solutions Act, with regard to supporting and advising local government and small business actions for GHG reductions.

This initiative was approved as an Early Action Item and will be presented to the Board in September 2008. The “tool kit” will include among other resources a Municipal Operations Protocol, which will assist cities and counties to establish a baseline GHG emissions inventory and provide methods to quantify GHG emission reductions. ARB staff is working closely with the California Climate Action Registry and ICLEI, Local Governments for Sustainability, to develop the Municipal Operations Protocol. This will be the first in a suite of protocols to assist cities and counties in California.

A toolkit can bring uniformity to the emission accounting, reporting, and verification process and recognition that the changes implemented result in real, verifiable, and permanent GHG emission reductions. Various stakeholders have suggested that the state require all local governments to develop climate action plans or include a climate element to their existing general plans as a mandatory measure to reduce GHG emissions. LUSCAT does not support mandatory local climate action plans. But, as an appendix to the toolkit, LUSCAT recommends that ARB develop a Climate Action Plan Template to assist local governments and small businesses to 1) conduct a baseline, 2) adopt an emissions reduction target, 3) develop a plan for reducing emissions, 4) implement policies and measures, and 5) monitor and verify results. A state provided template would provide a consistent method to ensure voluntary actions taken by communities are consistent and verifiable.

2.2.3. Improving Land Use Planning

Technical Assistance

There is a lack of guidance for local and regional governments on how to include climate change considerations into their planning activities. Success depends upon the quality of the integrated planning necessary to achieve both smart growth outcomes and GHG reduction.

The state should provide regional and local governments both 1) guidance on how to include climate change considerations into their planning activities, including removing barriers to smart housing development, and 2) education, training and mentoring for data collection and maintenance, travel and land use modeling, planning methods, public participation, Guidance also should be provided for methods of using the regional and local data and planning

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processes to adapt land use choices, policies and programs to reduce the adverse effects of expected impacts of climate change and protect resources for terrestrial sequestration.

Data Provision and Development

The state should make its GIS data available to local and regional government. The state should work with regional and local government to identify missing crucial planning data and identify strategies to obtain or develop it.

Consistent Planning and Implementation Funding

There is a lack of funding for local and regional governments to adequately engage in long range comprehensive planning efforts and their implementation. For example:

(1) City and county general plans require multiple technical studies, extensive public outreach, and CEQA review. In addition, the implementation of a community's general plan requires the production of zoning codes, the updating of all other plans so they are consistent with the general plan. There may also be additional plans or actions that are indicated in the general plan such as park plans, habitat plans, safety plans and community plans.

(2) Regional plans, such as Habitat Conservation Plans (HCPs) and Natural Communities Conservation Plans (NCCPs) are time consuming and costly. The State should invest in data and regional planning efforts.

(3) Regional Blueprint Plans provide an opportunity to coordinate multiple planning activities for more efficient and effective results; however the current funding stream limits the effectiveness of the plans by allowing them to only use funds for transportation related activities.

There is also lack of funding or alternative financing mechanisms for local governments to engage in the implementation of activities to reduce GHG emission reductions, particularly related to infrastructure and transit.

The state should work with regional and local government to develop consistent funding mechanisms to support planning activities and plan implementation that are not solely dependent on sales tax revenues, new development, or transportation funds.

State, Regional and Local Coordination

The state should use the Strategic Growth Council to better coordinate state infrastructure and development activities. The SGC should provide clear policy direction on state land use and resource goals concerning the implementation of projects using state funding. The state should continue to support ongoing urban regional blueprint plans and support the creation of rural blueprint plans.

The state should work with regional and local governments to develop planning processes that allow for effective coordination and allow all levels of government to more quickly respond to the impacts of climate change. The ability of the state to adapt to a rapidly changing environment will determine our future economic and social health.

2.3. Transportation Planning

2.3.1. Background

Federal government agencies in transportation planning

Most federal transportation functions are consolidated under the U.S. Department of Transportation. Two agencies within the DOT are critical to the transportation programming/funding process in California: The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). These two agencies work together to administer ISTEA and its transportation programming and funding requirements. In this capacity, they oversee the work of state, regional and local transportation agencies.

The Federal Transportation Efficiency Act (TEA), reauthorized every six years (but with frequent delays), guaranteed spending, in its delayed 2005 reauthorization, of \$286.4 billion dollars over six years. About fifteen percent was guaranteed for transit. This was a 38 percent increase in overall funding from the prior reauthorization; however the allotment for transit did not increase much. The next reauthorization is due in about 2009. Locally, these transit dollars do not go very far to meeting defined needs. Since 2000, about 70 percent of local ballot measures to increase transit funding have passed by voters. In Denver, a very successful transit system that will add 119 miles of light rail track, 18 miles of bus rapid transit and 50 new transit stations was approved. Eighty percent of the \$4.7 billion dollar price tag was paid locally by a voter improved sales tax increase.

FHWA is responsible for all federally sponsored highways programming and funding. In this capacity it oversees the preparation of each state's State Transportation Improvement Program (STIP), which is required under federal transportation law. FHWA also oversees the distribution of ISTEA highway money.

FTA is in a parallel position with respect to transit. The agency administers all federally sponsored programming and funding for transit-related projects. FTA has works directly with regional and local transportation agencies.

State government agencies in transportation planning

The two state agencies in California primarily responsible for transportation are the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans). The CTC's primary job is to allocate all federal transportation funds and all state transportation funds, including gas tax and sales tax revenue. The CTC's main programming vehicle is the STIP. This document includes a five-year plan for funding of all transportation capital projects.⁸

The STIP is composed of 1) "regional projects" (that are nominated by regional entities and 2) "interregional projects" (that are nominated by Caltrans in their ITIP). Three quarters of STIP funds go to the regional entities and one quarter goes to Caltrans. Of the 75% that go the

⁸ The STIP is funded with both federal (seventy percent) and state (thirty percent) dollars. Although the amount varies each year, about \$1.5-\$2.0 billion total is allocated annually for the projects prioritized in the STIP.

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regional entities, a formula is used that further subdivides the money into county shares, based on population and highway miles.

Caltrans is responsible for engineering and planning, and for the construction and maintenance of all state highways and major arterials and roads. Caltrans also provides funding for a variety of other transportation projects and programs ranging from intercity rail lines to transportation demand management programs to the landscaping of scenic highways.

The California Transportation Plan (CTP) is a statewide, long-range transportation policy plan that provides for the movement of people, goods, services, and information. The CTP offers a blueprint to guide future transportation decisions and investments that will ensure California's ability to compete globally, provide safe and effective mobility for all persons, better link transportation and land use decisions, improve air quality, and reduce petroleum energy consumption.

The CTP, which is the product of extensive public outreach and consultation with transportation partners and stakeholders, presents a vision for California's future transportation system, and defines goals, policies, and strategies to reach the vision. The CTP vision is one of a fully integrated, multimodal, sustainable transportation system that supports the three outcomes (3Es) that define quality of life – prosperous economy, quality environment, and social equity.

The California High Speed Rail Authority

The California High Speed Rail Authority (Authority) was created pursuant to state legislation in 1996 to develop a plan for the construction, operation, and financing of a statewide, intercity high-speed passenger train system offering intercity service. The Authority does not have responsibility for other intercity transportation systems or facilities used for intercity trips, such as highways, airports, conventional passenger rail or transit.

In June 2000, the Authority adopted the final business plan (Business Plan) (California High Speed Authority 2000) for an economically viable 700-mile-long (1,127-kilometer-long) HST system. This system would be capable of speeds in excess of 200 miles per hour (mph) (322 kilometers per hour [kph]) and would travel on a mostly dedicated system with fully grade-separated tracks with state-of-the art safety, signaling, and automated train control systems. It would connect and serve the major metropolitan areas of California, extending from Sacramento and the San Francisco Bay Area through the Central Valley to Los Angeles and San Diego. Such a system would be expected to carry a minimum of 42 million passengers annually, representing 32 million intercity trips and 10 million commuter trips, by the year 2020 and would have revenues in excess of operations and maintenance costs.

Regional Transportation Planning and RTPs, RTIPs, and RTPAs

State and federal transportation law requires local and or metropolitan agencies to engage in a wide variety of transportation activities. The metropolitan planning organization (MPO) is a regional agency designated by the U.S. Department of Transportation to carry out several

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functions specifically required under federal transportation law. Among other things, the MPO is charged with preparing a Regional Transportation Plan (RTP), the long-range plan for transportation in a particular region. Rural Transportation Planning Area (RTPAs) in California serve areas outside of the MPOs. In some cases an RTPA is embedded in a MPOs and benefits from the MPOs resources.

The federal government requires that MPOs and RTPAs prepare RTPs to address transportation needs at least 20, often 25 or more years into the future. These plans must be updated every four years if the MPO is in a non-attainment area according to the Federal Clean Air Act and every five years if in attainment. The result is that MPOs are updating and improving data, modeling capacity, planning methods and outreach on a very regular and frequent schedule. Between now and 2020 it is likely that an additional three RTP cycles will have been completed in most MPOs. By 2020, RTPs will be analyzing and planning for land use and travel at least out to 2040, and more likely 2045 or 2050.

Regional Transportation Improvement Plans (RTIPs) are also produced by MPOs and RTPAs. These are short term versions of the RTP and lay out projects determined to be ready to be built. RTIPs can affect the value of speculative land near the projects listed. In this way, they can be a tool for inducing investment into Blueprint compliant and GHG reducing action. Therefore, the state can develop funding order rules to provide an incentive for sustainable projects within a region. RTIPs are provided to Caltrans and consolidated into the State Transportation Improvement Plan.

RTPs and RTIPs integrate the transportation plans of all of the cities and counties within their jurisdictions. Once the RTIPs are funded and set into motion, transportation fuel demand is essentially set for many decades. Transportation energy consumption associated with the actions included in the RTIP can then only be affected by changes in end-use technology or regulatory intervention.

RTP Guidelines

The CTC adopts and updates RTP Guidelines, which are intended to provide direction to MPOs and RTPAs in the development of RTPs consistent with federal and State transportation planning requirements. While MPOs and RTPAs have the flexibility to be creative in selecting transportation planning options that best fit their regional needs, the Guidelines reflect both the mandates of state and federal statute and regulations, as well as the Commission's expectations for the use of best practices.

Pursuant to a request forwarded in a letter to the CTC from Senate Pro Tempore Don Perata in January 2007, the CTC undertook a review of its RTP Guidelines to determine how climate change emission reduction measures could be incorporated. As a result of this process, the Guidelines have been amended to include considerations and strategies for developing GHG-reduction strategies within RTPs. Furthermore, as part of this process, recommendations for statutes requiring RTPs to include a GHG reduction strategy were forwarded to the legislature.

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Each RTP cycle offers an opportunity to advance the GHG technology and programs. Locally elected city and county officials comprise the Board of MPOs. This provides a direct mechanism to transfer information from regional to local planning tables and back again. The relationship between RTPs and General Plans provides an opportunity to link GHG reduction assistance, mandates, and incentives with federal investment in transportation infrastructure, transit planning, land use and economic development planning, and citizen participation into one arena. It also provides access to one of the larger infrastructure planning cycles to integrate advanced 2050 goals and climate change adaptation policy as those portions of the California climate change effort evolve.

Figure 1 – California MPOs and RTPAs

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needs.⁹ More integrated, longer term plans will benefit transportation planning by coordinating multiple levels of government in rural areas, produce plans that are more consistent and comparable, and potentially contribute to rural economic development and environmental protection.

An opportunity exists to improve the land use, transportation and GHG reduction planning capacity of RTPAs by providing education, training and better on line access to planning software. If the MPOs use similar software, the integration of urban and rural plans will be simplified. Additionally, if MPOs gather and share data, analytical capacity could be improved and resources could be conserved.

MPOs are working to improve the ability to integrate rural lands into regional plans by improving rural data, land use practice knowledge, and economic strategies. This will help to promote land use practices in rural areas that are economically viable for land owners and environmentally sustainable. Issues the planning development effort will address include, but are not limited to: alternative agricultural practices, natural resources protection, infrastructure needs in rural areas (e.g., processing facilities and worker housing/schools), energy production, and methods to promote jobs-housing balance (with a specific emphasis on effective job-generating practices in appropriate areas). Because this information can be integrated with urban and suburban components, it will improve the regional planning capacity for flood control, groundwater recharge, and carbon sequestration, which all are enhanced through a comprehensive approach to urban and rural planning.

2.3.2. Transportation Planning Activities Underway

CalTrans Climate Action Program

In June of 2007 CalTrans started a new interdisciplinary effort intended to promote and facilitate GHG emission reduction measures and greening within the Department. The overall objective of the Climate Action Program is to encourage innovative ways to balance progressive program delivery and responsible environmental stewardship such that:

- transportation strategies, plans, and projects as a whole contribute to the State's GHG emission reduction targets, and
- proper guidelines, procedures, and a quantifiable set of reporting protocols are in place to monitor GHG footprints and provide feedback for program development and implementation.

The Climate Action Program serves as a resource for technical assistance, training, information exchange, and partnership-building opportunities.

California Regional Blueprint Planning Program

The Regional Blueprint Planning Grants Program was initiated in 2005 by the Secretary of Business, Transportation and Housing and is currently managed by Caltrans and OPR. This

⁹ Federal Highway Administration, Planning for Rural Needs, <http://www.fhwa.dot.gov/Planning/rural/planningfortrans/appendixb.html>

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program, which has distributed nearly \$5 million annually in the last three grant cycles, funds the enhancement of linkages between land use and transportation planning by using planning scenarios to support coordinated regional and local decision-making. The program promotes the pro-active engagement of community residents, as well as critical stakeholders such as business interests, academia, builders, environmental advocates, conservationists and state entities to foster consensus on a vision and a preferred transportation land use plan. Regional Blueprint Planning is underway in 16 of 18 MPOs within California. In addition, Caltrans has recently initiated rural Blueprint grants.

Two key goals of the state Blueprint Planning Program are to:

- Foster a more efficient land use pattern that (a) supports improved mobility and reduced dependency on single-occupant vehicle trips, (b) accommodates an adequate supply of housing for all incomes, (c) reduces impacts on valuable habitat, productive farmland, and air quality, (d) increases resource use efficiency, and (e) results in safe and vibrant neighborhoods.
- Provide consumers more housing and transportation choices.

The analysis of GHG reduction is not required by the Blueprint grants but it is recommended and Blueprints that address GHGs and climate change are given extra consideration. Many of the MPOs have been independently working on GHG and energy issues in an attempt to understand the risk imposed on regional mobility from energy supply disruptions, peak oil, cost increases, and emission regulation changes, including GHG emission reduction. In addition, Blueprints analyze the VMT created or reduced in each scenario. Since VMT is roughly equivalent to GHG, all the Blueprint scenarios give some idea of the GHGs they create or reduce.

The California investment in regional blueprint planning could have tremendous benefits to both transportation and building energy savings and GHG gas emissions reduction. This program could serve as the analytical regional and local government backbone of the state's efforts to affect sustainable energy use and greenhouse reduction in multiple disciplines.

Of key importance is the fact that Blueprint Plans are the joint product of MPO and local government collaboration. MPOs hold transportation planning and funding authority. Cities and counties possess land use authority. The MPO Board of Directors is comprised of elected officials from the cities and counties of the MPO's jurisdiction. The MPO, then, is an ideal forum to build consensus and political will, deploy legal authority to take action and schedule funding to implement sustainable land use, transportation and energy plans. However, given the complexity of the challenge and diversity of stakeholders the State should provide technical assistance, resources and clearer direction to ensure more effective stakeholder engagement and actual implementation of Blueprint plans.

Blueprint Learning Network

The Business, Transportation and Housing Agency (B,T&H) established the Blueprint Learning Network (BLN) to bring together state, regional and local decision makers to support regional blueprint planning. The purpose of the BLN is to work with regional teams (MPOs and stakeholders) to establish a forum, including a series of workshops on overcoming the

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challenges and obstacles to effective regional blueprint planning, and to share experiences and advice.

2.3.3. Improving Transportation Planning

Blueprint Program Improvements

The Blueprint Program and the data, integrated planning process, and public awareness it has created, can serve as an established vehicle for integrating climate change policy into RTPs and into local government General Plans that implement the RTPs. The comprehensiveness and detail of the many Blueprint Plans developed with state grant funding should be both improved and made more consistent statewide. In addition, the State must ensure the regions move beyond planning and developing Regional Blueprint Plans and begin to effectively implement. Any additional Blueprint funding resources should be tied to demonstration of progress in implementation across all blueprint goals, including housing, transportation, and resource protection. GHG emission reduction objectives can also be more effectively achieved if existing Blueprint Plans improve their progress and focus on increasing opportunities for higher density and affordable housing.

Transportation Modeling

Transportation demand modeling (TDM) has been used for many years to predict effects of new development on roadway congestion and mass transit ridership. However, predictive models in use today by many metropolitan planning organizations are out of date resulting in many planners being unable to accurately account for the benefits of urban infill and smart growth. As a result, development strategies with recognized benefits and VMT reduction potential may be discounted.

A few of the California MPOs¹⁰ are using or developing activity based travel modeling capacity known to be better at quantifying smart growth options needed for GHG-efficient land use planning, quantification and tracking. These tools also provide co-benefits including better air quality conformity studies, policy analysis (if parcel based) and prioritizing of transportation projects for funding.

Data Development and Maintenance Opportunities

If regional data collectives are established and activity-based travel models become the standard, then GHG emission reduction quantification, planning and tracking of results should be improved within each MPO and across the state's major MPOs. As new technical data linking land use and GHG emissions is developed, it can be formatted to be more readily integrated into data bases and models if they have, over the RTP cycles, become more standardized. A central state-supported system to provide technical and policy assistance could be used to inform MPOs and local governments and to deploy new data and tools in a quality controlled manner.

¹⁰ San Francisco County Transportation Authority (SFCTA), the Metropolitan Transportation Commission (MTC) in the Bay Area, the Southern California Association of Governments (SCAG), and the Sacramento Area Council of Governments (SACOG).

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Training, Education and Resources

Local and regional governments need training and technical assistance to ensure transportation planners and engineers have a working knowledge of climate issues and ability to address these issues in the development of transportation plans and projects. State guidelines and policies should include provisions for the integration of GHG emission reduction measures.

Transportation Financing Program Criteria

Criteria for State programs that fund local transportation projects do not consider the role of projects proposed for funding in mitigating climate change. State agencies with transportation funding programs should examine their criteria and, when within their statutory authority, incorporate climate change considerations.

2.4. Housing

2.4.1. Background

State Housing Policies and Laws

State law requires each city and county to adopt a general plan containing at least seven elements including housing. Unlike the other mandatory general plan elements, the housing element, required to be updated approximately every five years, is subject to detailed statutory requirements and mandatory review by a State agency (Department of Housing and Community Development (HCD)). Housing elements have been mandatory portions of general plans since 1969. This reflects the statutory recognition that the availability of housing is a matter of statewide importance and that cooperation between government and the private sector is critical to attainment of the State's housing goals.

Housing element law requires local governments to adequately plan to meet their existing and projected housing needs, including their share of the regional housing need. Housing element law is the State's primary market-based strategy to increase housing supply, choice, and affordability. The law recognizes that in order for the private sector to adequately address housing needs and demand, local governments must adopt land-use plans and regulatory schemes that provide opportunities for, and do not unduly constrain, housing development.

The housing element process begins with HCD, in cooperation with the COGs, allocating a region's share of the statewide housing need to COGs based on Department of Finance population projections and regional population forecasts used in preparing RTPs. The COG develops a Regional Housing Need Plan (RHNP) allocating the region's share of the statewide need to the cities and counties within the region. The RHNP is required to promote the following objectives to:

- increase the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner;
- promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns; and
- promote an improved intraregional relationship between jobs and housing.

Housing element law recognizes the most critical decisions regarding housing development occur at the local level within the context of the periodically updated general plan. The RHNP component of the general plan requires local governments to balance the need for growth, including the need for additional housing, against other competing local interests. The RHNP process of housing element law promotes the State's interest in encouraging open markets and providing opportunities for the private sector to address the State's housing demand, while leaving the ultimate decision about how and where to plan for growth at the regional and local levels. While land-use planning is fundamentally a local issue, the availability of housing is a matter of statewide importance.

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Housing element law requires local governments to be accountable for ensuring projected housing needs can be accommodated. The process maintains local control over where and what type of development should occur in local communities while providing the opportunity for the private sector to meet market demand.

Regional Housing Need Allocation Process

As described above California's Housing Element Law mandates that COGs develop the RHNP for their service area. The Regional Housing Need Allocation (RHNA) is a minimum projection of additional housing units needed to accommodate projected household growth of all income levels by the end of the housing element's statutory planning period. The allocation period is for a short term period of 7.5 – 8.5 years.

The RHNA has two parts as required by state law. Part 1 is an allocation of the total number of housing units to each jurisdiction for which zoning capacity must be provided for a given 7 and a half year period. This part is referred to as the "overall regional allocation". Part 2 is the distribution of the same total number regional allocation of units among four income categories; the sum of the housing units within the four categories must add up to the regional total overall number of units. Part 2 is referred to as the "income category distribution," which is used to plan for a mix of housing types and affordability.

The four income categories are:

- Very Low (0-50% of AMI)
- Low (51-80% of AMI)
- Moderate (81-120% of AMI)
- Above Moderate (over 120% of AMI)

In addition to State housing element law, a number of other state statutes address housing needs and conditions and both require specific local action or act to limit arbitrary denials of affordable housing. Many of these laws are designed to both promote housing affordability and promote higher densities and maximize existing land resources. Examples of such laws include:

Least-Cost Zoning Law.

The least-cost zoning law requires local agencies to zone sufficient vacant land to meet the housing needs of all segments of the population, including low- and moderate-income households. The law also requires that the zoning standards adopted by local agencies allow for the production of housing at the lowest possible cost. There are penalties for noncompliance, including a court order to approve applications related to the zoning deficiency.

Density Bonus Law

This law requires local governments to provide density increases and regulatory incentives or concessions when a housing developer agrees to set aside a specified proportion of the units in a proposed housing project for units affordable to very low, low, or moderate income households. The law establishes a mandatory sliding scale density bonus provision based on the proposed level of affordability and also mandates limits on parking standards under specified conditions.

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No-Net Loss Law

This section of state law generally prohibits downzoning of sites identified in the housing element unless the local government can demonstrate the downzoning would result in no net loss of housing capacity and the community can still identify adequate sites to address their regional housing need.

Housing Accountability Act

This act prohibits local governments from denying approval of specified housing developments affordable to low or moderate income households unless certain findings are made.

Federal and State Fair Housing laws

State Law (Government Code Section 12900 et seq.) prohibits discrimination through land use practices and decisions that make housing opportunities unavailable. Similarly, the federal Fair Housing Act (42 U.S.C. Sec. 3601 et seq., or "Title VIII") has been held to prohibit land use practices and decisions that have a disparate impact on protected groups.

State law also forbids using planning and zoning powers in a manner that discriminates against affordable or multi-family housing development proposals, developers or potential residents.

Inclusionary Housing

Local governments may establish inclusionary zoning provisions, requiring new housing developments to include a certain percentage of affordable units. More than 100 local agencies throughout the state use this strategy. The typical inclusionary ordinance requires that between 10 and 20 percent of all new units be affordable to moderate-, low-, or very low-income families. In most cases the affordability requirements last for at least 30 years, although some are much longer. Local agencies must monitor the units while the affordability requirement is in effect to ensure that they are rented or resold at affordable rates.

2.4.2. Housing Activities Underway

Infill Infrastructure Grant Program

The Infill Infrastructure Grant Program was funded by Proposition 1C, the Housing and Emergency Shelter Trust Fund Act of 2006. Its primary objective is to promote infill housing development. The program seeks to accomplish this objective by providing financial assistance for infrastructure improvements necessary to facilitate new infill housing development.

Under the program, grants are available as gap funding for infrastructure improvements necessary for specific residential or mixed use infill development projects. Both infill projects and areas must have either been previously developed or be largely surrounded by development.

Specific eligible improvements include: development or rehabilitation of parks or open space, water, sewer or other utility service improvements, streets, roads, parking structures, transit linkages, transit shelters, traffic mitigation features, sidewalks and streetscape improvements.

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Funds will be allocated through a competitive process, based on the merits of the individual infill projects and areas. The application selection criteria include project readiness, housing affordability, housing density, proximity and access to transit, parks, employment centers, and consistency with a regional blueprint or similar regional growth plan.

Transit Oriented Development (TOD) Housing Program

The TOD Housing Program was funded by Proposition 1C, the Housing and Emergency Shelter Trust Fund Act of 2006. Its primary objectives are to increase the overall supply of housing, increase the supply of affordable housing, increase public transit ridership, and minimize automobile trips. The program seeks to accomplish these objectives by providing financial assistance for the development of housing and related infrastructure near public transit stations.

Under the program, low-interest loans are available as gap financing for rental housing developments that include affordable units, and as mortgage assistance for homeownership developments. In addition, grants are available to cities, counties, and transit agencies for infrastructure improvements necessary for the development of specified housing developments, or to facilitate connections between these developments and the transit station.

Research indicates that TOD development is most effective in minimizing automobile trips and increasing public transit ridership where there is substantial roadway congestion and convenient and reliable transit in high density areas. For this reason, assisted developments must be located in areas with these characteristics.

Numerous other State housing programs provide incentives and competitive advantage for housing projects located in infill locations and close to jobs, transit or amenities.

Brownfield Development

Brownfields are properties that are or perceived to be contaminated and are underutilized due to cleanup costs and liability concerns. When agricultural and green spaces are developed for residential, commercial or industrial uses, infrastructure such as roads and sewers must be developed. That redundant infrastructure wastes scarce tax dollars and adds to the burden on California's environment. Redeveloping urban brownfields properties optimizes the use of existing infrastructure and protects our precious resources. The Department of Toxic Substances Control, State Water Resources Control Board, and Regional Water Quality Control Boards have integrated existing programs and developed a number of new tools to facilitate reuse of brownfields properties.

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2.4.3. Improving Housing Availability

Training, Education and Resources

Local governments need technical assistance on strategies to incorporate climate change considerations into housing element updates. HCD should expand its technical assistance for housing element updates to include climate change strategies.

Housing Financing Program Criteria

State programs that fund local housing projects should consider how existing funding requirements could more effectively promote developments that contribute to mitigating against climate change. State agencies with housing funding programs should examine their criteria and, when appropriate and within their statutory authority, incorporate climate change considerations.

Removal of Barriers

Land Availability for Housing

More land must be zoned for higher density, attached single family and multifamily housing.

Infill Development Barriers Drive up Costs and Limit Development of Affordable Housing

There is distinct difficulty in developing the economies of scale necessary (small parcels, scattered sites, expensive site remediation) for infill and affordable development to be built. Strategies to address barriers to infill development must be adopted by all levels of government.

Infrastructure and Land Costs

Additional resources and strategies are needed to address the high costs of upgrading or expanding inadequate infrastructure or to develop new infrastructure and high land costs which represent significant obstacles to infill and affordable housing projects.

Neighborhood resistance

There is significant public resistance to new housing development, particularly higher density or affordable housing. Often, those impacted by new infill development or densification (neighbors) don't reap the broader public benefits from it. Public engagement and education strategies must be developed and implemented.

The entitlement process for housing, especially infill, is uncertain, lengthy, and costly.

The inappropriate use of the CEQA process thwarts more than facilitates residential infill development. Existing infill exemption provisions for infill do not work. Mitigation practices, including Level of Service standards, favor accommodating auto use. More residential development certainty and streamlining the approval process for infill and affordable housing is necessary.

Insufficient amounts of affordable housing, especially proximate to job centers, results in poorer quality of life for families and longer commutes. A reliable, permanent source of funding for affordable housing must be identified and adopted.

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Meeting housing needs will require allowing a greater mix of housing types in a variety of locations. While it is critical for more infill housing to be developed, more compact and efficient housing development is needed in locations throughout the state.

2.5. *Natural Resources Protection and Agricultural Land*

2.5.1. Background

The Department of Conservation (DOC) provides information, maps, grants, funding and technical assistance to local governments, landowners, resource conservation districts, property owners and non-profit organizations through the State with the goal of conserving the state's agricultural and natural resources through the following programs:

The California Land Conservation Act, better known as the Williamson Act protects 16.9 million of the state's 29 million acres of farm and ranch lands. Cities and counties that elect to participate in the program offer 10 year contracts to landowners who agree to restrict their land to agricultural and open-space uses. In return, landowners receive property tax assessments which are 20 to 75 percent lower in tax liability, as opposed to full market value of the lands.

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data to assist local, state and federal governments in analyzing impacts to, and making informed land use decision about, the best utilization of California's farmlands. Maps and statistical data are provided on the amount, type and quality of farm lands and the conversion rate to non-agricultural use. Agricultural lands are mapped according to classifications such as prime and unique, along with other categories to help prioritize lands to protect. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance.

The California Farmland Conservancy Program provides grant funding to establish agricultural conservation easements to preserve agricultural lands. Agricultural conservation elements are voluntary, legally recorded deed restrictions which keep land permanently in agriculture. The CFCP also provides planning grants to local governments and qualified non-profit organizations. The DOC provides assistance to California's 102 Resource Conservation Districts (RCDs) in their mission to develop a land stewardship ethic that promotes long-term sustainability of the state's rich and diverse natural resource heritage

2.5.2. Natural Resources and Agricultural Land Protection Activities Underway

The DOC is establishing an advisory group to help identify ecosystem services and tools to evaluate green house gas impacts from conversion of agricultural and open space lands in local land use planning decisions.

The DOC has also begun research on: 1) tax policies which may be encouraging conversion of agricultural and open space lands and 2) ways to improve transfer of development rights in California.

The DOC is currently reviewing its funding programs, including, but not limited to, watershed grants, recycling grants, farmland easements and incorporating climate change considerations, where appropriate.

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The DOC is working with the California Watershed Advisory Committee to develop a statewide watershed management approach that meets state objectives, including green house gas reduction targets.

The DOC is working with California Association Resources Conservation Districts to determine how districts can help California meet its green house gas reduction targets.

2.5.3. Improving Natural Resources and Agricultural Land Protection

Valuing Ecosystem Services

There is no market system in California that can put a value on the ecosystem services or identify the affects of GHG emissions on agricultural and open space lands so that mitigation measures and markets can be developed. Terrestrial sequestration is a service that could have significant benefit for meeting the State's climate goals if its value could be quantified.

Tax Policy

Tax and fiscal policies encourage the conversion of agricultural lands to non-agricultural uses. Cities, counties, school districts, landowners, etc. are influenced by these policies. The State should examine these perceived impacts and offer recommendations on alleviating them.

Mitigation

Currently the use of mitigation as an option to comply with natural resources protection programs does not involve the valuing of the sequestration potential of either project or mitigation land. The State should consider climate impacts in the mitigation programs that it oversees or sets guidelines for.

Natural Resource Protection and Agricultural Land Protection Financing Program Criteria

Criteria for State programs that fund land or resource protection projects do not fully consider the role of projects proposed for funding in mitigating against climate change. State agencies with land or resource protection funding programs should examine their criteria and, when within their statutory authority, incorporate climate change considerations.

2.6. Water Planning, Distribution and Quality

2.6.1. Background

Working with stakeholders the Department of Water Resources (DWR) develops the California Water Plan, the state's strategic plan for managing water resources statewide. It is updated every five years, as required by the California Water Code. The Water Plan is a key element in the Governor's Strategic Growth Plan. The last update, released in 2005, outlined two key initiatives:

- Promote integrated regional water management through regional partnerships and diversified management strategies.
- Maintain and improve statewide water management systems.

The Water Plan helps to enable GHG-efficient growth by committing DWR to working with other state agencies to develop and help implement strategies to reduce GHG emissions, as well as by encouraging state and local government agencies to improve coordination between land use planning, water planning and management.

California Water Plan Update 2009 will track and report progress on action plan items and initiatives, and will address the potential impacts of climate change. The update will be prepared in partnership with 16 other state agencies.

The State Water Resources Control Board (SWRCB) is responsible for administering the state's storm water management program. The SWRCB oversees 9 Regional Water Resources Control Boards (Water Boards) that adopt NPDES¹¹ storm water permits for municipal separate storm sewer systems (MS4s) that serve a population of 100,000 or more in their particular regions. Municipalities and counties must comply with the requirements established by their regional boards in these permits. Many of California's municipalities have adopted storm water ordinances or other regulatory tools and implemented programs of their own to comply with the conditions of the NPDES municipal storm water permits. To date, the majority of California's municipal storm water permits require that pollutant discharges be reduced to the maximum extent practicable. Numeric treatment requirements have not been established at the state or regional level.

In early 2005, the SWRCB adopted sustainability as a core value for all California Water Boards' activities and programs, and directed Water Board staff to consider sustainability in all future policies, guidelines and regulatory actions. One of the outcomes of this is Low Impact Development (LID). Unlike traditional stormwater management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate

¹¹ National Pollution Discharge Elimination System

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and detain runoff close to the source of rainfall. LID is seen as an alternative to conventional storm water management. This can reduce the amount of stormwater needed to be treated as well as recharging groundwater supplies, which can reduce the need to import energy intensive water supplies.

The Water Boards are advancing LID in California through the following:

- Regulation through site-specific and general permits.
- Providing advocacy and outreach to local governments through the Water Board's Training Academy and regional workshops.
- Researching how to incorporate LID language in to Standard Urban Storm Water Mitigation Plan (SUSMP) requirements.
- Funding LID related projects through the consolidated grants program.

2.6.2. Water Planning, Supply and Quality Activities Underway

The State Water Board held a joint meeting with the Department of Water Resources (DWR) in August 2007, to solicit public input on how both agencies could help meet the goals of AB 32 and integrate climate change considerations into existing policies, regulatory responsibilities, and grant programs. Recommendations from the joint meeting have been evaluated by State Water Board staff, and in April 2008 the State Water Board directed staff to proceed with development of several of the measures, including the following, which have a direct or indirect link to land use:

- Consider GHG emissions that could be produced in the development of water quality standards.
- Develop partnerships (pilots) with local entities to evaluate strategies and measures at the local level before recommending for statewide consideration.
- Increase research and adopt standards that address potential (emerging) contaminants and public concerns of recycled water and storm water, such as xenobiotics, in order to ensure a safe supply and increase public confidence and acceptance.
- Address climate change in Basin Plans in order to reduce energy use and enhance local water supply. Promote water conservation, storm water reuse and recycling through state policy.
- Promote research to identify ways to reduce GHG emissions from septic tanks and increase regulation to limit those emissions accordingly.

In addition, the SWRCB and Water Boards' Draft Strategic Plan Update 2008-2012 directs staff to ensure that climate change and other Water Board priorities are appropriately balanced and integrated.

2.6.3. Improving Water Planning, Supply and Quality

State-wide water management and supply

Currently the system of water management is dependent on conveyance and export water. In order to provide more regional self sufficiency, water supply needs to be managed in a manner

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that reduces demand, reduces regional reliance on imported water, and increases a mixed portfolio of water sources and management.

Land use

Patterns of land use affect water use and water demand has a direct correlation with energy. Agricultural production should be directed toward good soils, mild climate and available water. When prime and productive farmlands are converted to urban development, agriculture may be displaced to other locations, which could impact water and other resource uses. Traditional large lot urban development produces high water demand for landscaping, oversized parks, golf courses and commercial business parks with landscaping. As urban development occurs in hotter regions of the state, this pattern of land use is projected to increase water use for landscaping to about 80% of total water demand. More compact, mixed use urban development reduces landscaping water demand.

Infrastructure

The current water supply infrastructure is energy dependent and relies on energy brought to the location of the pump or processing facility.. By using alternative energy and on-site generation for water conveyance, groundwater pumping, water treatment and waste water treatment, GHG energy sources would be reduced. Other water supply and conveyance infrastructure barriers are the lack of regional interties and other more efficient ways of transporting and supplying water.

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2.7. Electricity Generation and Transmission

2.7.1. Background

Prior to 1975 utilities were required to go through a multi-year process to obtain permits from numerous federal, state and local agencies before constructing new power facilities. The Legislature revised this process in 1975 and established a comprehensive siting process for new energy facilities at the California Energy Commission (CEC). The Legislature gave the CEC the statutory authority to license thermal power plants of 50 megawatts (MW) or greater and related transmission lines, fuel supply lines, and related facilities.

The CEC ensures that needed energy facilities are authorized according to this process in an expeditious, safe and environmentally acceptable manner. In addition, the CEC prepares all environmental documentation required by CEQA.

When new transmission lines or upgrades to the power grid are necessary to transmit power produced by a new power plant, investor-owned utilities (which own transmission lines) must obtain approval from the Public Utilities Commission (CPUC). Conversely, publicly owned utilities obtain approval to build or operate their own transmission lines from their elected boards or commission. Investor-owned utilities must apply for and obtain a certificate of public convenience and necessity (certificate) from the CPUC. The certificate may be granted if the line will provide increased reliability, is justified on economic grounds such as providing access to lower cost power, or facilitates goals related to renewable power.

The CEC is required by State law to develop and adopt a Strategic Plan for electricity transmission that identifies and recommends actions needed to ensure reliability, relieve congestion, and meet future load growth in electricity load and generation.

The CEC is directed to designate suitable transmission corridors for high-voltage electric transmission lines to ensure reliable and efficient electricity delivery. The designation of a transmission corridor could be proposed by the CEC or by application to the CEC from any person or entity planning to build an electric transmission line in California. The designation of a transmission corridor is subject to CEQA, and the CEC is the lead agency responsible for preparing an environmental assessment for all transmission corridors proposed for designation.

After receiving notice from the CEC regarding the designation or revision of a transmission corridor zone within its jurisdiction, each city or county will have to consider the designated transmission corridor zone when making a determination regarding a land use change within or adjacent to the transmission corridor zone that could affect its continuing viability to accommodate a transmission line planned within the transmission corridor zone.

Cities and counties are required to consider the Commission's comments prior to acting on the proposed development project that a city or county determines would threaten the potential to construct a high-voltage electric transmission line. If the Commission objects to the project, a city or county is required to provide a detailed written response as to why it did not accept the Commission's comments and recommendations.

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2.7.2. Energy Generation and Transmission Activities Underway

Power Plant Siting

The CEC is the Lead Agency under CEQA for thermal power plants of 50 Megawatts (MW) or greater. Through the environmental review process for power plant siting cases the CEC currently requires applicants to quantify and report the expected GHG emissions from the project. The CEC does not require these emissions to be mitigated as part of the final approval of the project.

Renewable Energy Transmission Initiative (RETI)

The Renewable Energy Transmission Initiative (RETI) is a statewide initiative to help identify the transmission projects needed to accommodate the State's renewable energy goals, support future energy policy, and facilitate transmission corridor designation and transmission and generation siting and permitting.

RETI is assessing all potential renewable energy zones in California and in neighboring states that can provide significant electricity from renewable sources to California consumers by the year 2020. RETI is also identifying those zones that can be developed in the most cost effective and environmentally benign manner and will prepare detailed transmission plans for those zones identified for development.

The RETI effort is supervised by a coordinating committee comprised of California entities responsible for ensuring the implementation of the state's renewable energy policies and development of electric infrastructure.

Programmatic Environmental Impact Statement (PEIS)

The West-wide Energy Corridor Programmatic Environmental Impact Statement (PEIS) evaluates potential impacts associated with the proposed action to designate corridors on federal land in 11 Western States (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) for oil, gas and hydrogen pipelines and electricity transmission and distribution facilities.

For purposes of preparing the West-wide Energy Corridor Programmatic EIS, an energy corridor is defined as a parcel of land (often linear in character) that has been identified through the land use planning process as being a preferred location for existing and future utility rights-of-way, and that is suitable to accommodate one or more rights-of-way which are similar, identical or compatible.

Based upon the information and analyses developed in the PEIS, the agencies issuing the PEIS would amend their respective land use plans by designating a series of energy corridors effective upon signing of the Record(s) of Decision.

These corridors would then have an approved environmental review, significantly streamlining the approval process of any transmission developer that would like to build lines there.

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2.7.3. Improving Energy Generation and Transmission Planning and Siting

GHG Mitigation for Power Plant Projects

Currently the CEC and CPUC do not require applicants for power plant or transmission line siting approval to mitigate the expected GHG emissions impact from the project. CPUC's environmental staff is considering GHG mitigation in some of their pending EIRs. The Resources Agency will be promulgating guidelines for the quantification and mitigation of projects by January 2010. An interim policy may be needed until such time as this guidance is adopted.

Transmission Infrastructure to Support Strategic Growth

New Jersey has issued regulations that specifically integrate smart growth principles into utility service policies. Any developer building in non-smart growth areas must pay the full cost of utility line extensions. The CPUC may want to examine policies related to the use of rate-payer funds for transmission line extension and its impact on GHG emissions.

Reporting of Energy Usage in CEQA

The CEQA Initial Study Checklist does not contain questions regarding a project's electric and gas infrastructure requirements. However, most proposed development projects require construction of new electric and gas utility infrastructure. CEQA requires evaluation of impacts associated with the "whole action" and Appendix F (Energy Conservation) of the CEQA Guidelines does describe how energy issues should be addressed in Environmental Impact Reports, including possible mitigation. Lead Agencies should include a thorough discussion of energy issues in their CEQA documents.

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2.8. Air Quality

2.8.1. Background

State Air Quality Management Plans (AQMPs) are produced by Air Quality Management Districts (AQMDs) to project future air quality and address necessary measures to attain or maintain federal and state health-based ambient air quality standards.

Federal air quality regulations also affect the transportation planning process. When a metropolitan area does not meet National Ambient Air Quality Standards (NAAQS), federal Clean Air Act Amendments (CAAA) require local AQMDs to work with MPOs to develop plans that bring RTPs and the projected air pollution emissions from projects into conformity with CAAA. The CAAA allow the US Environmental Protection Agency to impose sanctions or penalties, such as blocking federal highway funds and imposing more stringent pollution offsets, when projects do not conform.

AQMDs provide many services associated with both stationary and mobile sources of air pollution that could be amended to include GHG reduction. Within regional and local land use planning activities, AQMDs certify conformity of RTPs with the prevailing AQMP. If guidelines, rules or targets are developed for GHGs, air districts could work hand-in-hand with the MPOs and local governments to modify plans and programs as needed to achieve the desired reductions. In very many instances, the efforts that likely will be required for GHG reduction from land use and transportation sources are similar to the efforts necessary to attain RTP/AQMP conformity with established criteria pollutants.

2.8.2. Air Quality Activities Underway

General Plan Air Quality Requirements

Cities and counties within the eight counties comprising the San Joaquin Valley Air Pollution Control District will be required to include statutorily specified provisions within their general plans by late 2010.

CEQA Guidelines

The California Air Pollution Control Officers Association (CAPCOA) has released a resource guide to address GHG emissions from projects subject to the CEQA. The resource guide contains a review of available tools and models for evaluating GHG emissions, and an overview of strategies for mitigating potentially significant GHG emissions from projects. CAPCOA intends to revise the resource guide periodically to include updated tools and models, and the most current mitigation strategies.

Indirect Source Review

An Indirect Source Rule (ISR) recently was adopted in December 2005 in the nine-county San Joaquin Valleywide Air Pollution Control District (SVJ APCD) and the Imperial County Air Pollution Control District. These ISRs requires developers to reduce or mitigate pollution caused by future use of their developments, impacts on traffic, and the larger land use pattern. Its intent is to advances development patterns that favor high density development and reduced VMT. To

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increase the local environmental and economic value of these ISRs the AQMDs should consider directing fees toward GHG emission-reducing infrastructure in the community, such as transit, sidewalks and bike lanes and infrastructure that supports infill development.

Interest in expanding ISRs to all air pollution management districts, resulting in a statewide ISR, has been submitted to the LUSCAT. This request asserts that any ISR should be designed to encourage that reductions occur through actual onsite measures, with allowance for offsite mitigation if needed (possibly through a fee mechanism that reflects the cost of reducing emissions offsite). Many of the same project design elements are required or recommended by various local governments, transit agencies, RTPAs, air districts and affordable housing subsidy programs. Consideration of ISRs must be reconciled with other existing and proposed emissions mitigation requirements of general or specific plans, RTPs, AQMPs, and the environmental review documents for these plans and any CEQA mitigation requirements for development applications, of all relevant agencies. Redundant mitigation for emissions reductions should be expressly precluded, including requirements that would have the effect of assessing a fee for mitigation measures already reviewed for in a local government permitting process.

2.8.3. Improving Air Quality

Indirect Source Rule

While two air pollution control districts have adopted indirect source rules, the South Coast Air Quality Management District (SCAQMD) is considering "Proposed Rule 2301- Control of Emissions from New or Redevelopment Projects,": to mitigate emissions growth from new residential commercial and industrial and institutional development and redevelopment projects. This policy may hold promise as a market mechanism to reduce GHG emissions from new development if adopted by other districts or required State-wide by the ARB. Any ISR regulations or guidelines that might impact residential development needs to ensure that affordable housing development is advanced and not impeded by overlapping and costly additional permit processing requirements.

If improved travel and land use modeling is made available to developers proposing housing projects in a region with an ISR, they would be able to preplan development proposals to meet the ISR requirements before submitting for approvals. And, like any development proposal, the city and county planning departments and AQMDs could work with the developer using the same software to assess options, assess return on investment, and facilitate resolution.¹² The outcome should net cleaner air and lower development costs.

¹² An example of a similar negotiation using I-PLACE3S was conducted by the City of Sacramento, SMUD, private land owners, and developers to revise the 65th Street area development plan. The resulting plan, now built, supports existing bus and light rail access and the needs of the nearby college campus while meeting the profit needs of the development team.

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2.9. State Capital Outlay

2.9.1. Background

Assembly Bill (AB) 857 (Wiggins, Chapter 1016, Statutes of 2002) outlines the state's overarching vision for land development in California through its establishment of state planning priorities. The priorities include: promotion of infill development and equity in existing communities; protection and conservation of agricultural and environmental resources; and more efficient use of land, energy, transportation and public resources outside of infill areas. The bill requires that all state entities' functional plans, as well as state agency infrastructure requests demonstrate consistency with these planning priorities as part of the state's five-year infrastructure plan.

AB 857 also requires that the Governor's Environmental Goals and Policy Report (EGPR) be consistent with these priorities. The EGPR provides a broad 20 to 30 year overview for state growth and development, which then informs state expenditures (i.e. major investments, capital projects, and allocation of resources through budget and appropriations process). It details state environmental goals, including land use, development, conservation of natural resources, transportation, and air and water quality, among others, and the state policies and programs to implement these goals. Together, AB 857 and the EGPR are intended to inform the State's land use and resource planning policy.

2.9.2. State Capital Outlay Activities Underway

Location of State-Owned and Leased Offices

Executive Order D-46-01 provides the Department of General Services (DGS) direction on locating State-owned and leased State offices to promote smart growth policies. The criteria for locating offices includes compliance with existing and applicable statutory requirements and State policies, consideration of agency facility and program needs, cost effectiveness, ownership verses leasing, the availability of existing State-owned property, and implementation of sound and smart growth policies. These include locating in a central city area to strengthen California's population centers; locating in proximity to transit and available and affordable housing; fostering relationships with local governments, businesses, and communities; observing environmental concerns; and supporting historic, cultural, or architectural preservation opportunities. Additionally, energy efficiency, green and sustainable building practices and design excellence in public buildings will ensure the quality and integrity of a State building's design, operation, and place in the community.

Transit Access

State law stipulates that acquisition or construction of a State facility which employs more than 200 people or directly serves the public be located within one-quarter mile of a public transit corridor. As defined in Health and Safety Code Section 50093.5, a public transit corridor is that area within one-quarter mile of a route on which level of service (headway) is at or above the average for the system as a whole.

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Transportation Management

Executive Order D-73-88 requires State agencies to implement a transportation management program designed to result in an annual reduction in the number of commute trips by State employees.

2.9.3. Improving State Capital Outlay

AB 857 Compliance

Compliance with the requirements of AB 857 is hard to measure and track. While the State could place greater emphasis on the compliance, there may need to be legislative changes to the statute to enable it to fulfill its desired outcomes.

State Agency Criteria

There needs to be a set of clear and applicable GHG emissions reduction criteria developed for State agencies to be able to integrate into their capital outlay programs. These criteria should be flexible enough to fit the wide variety of State programs.

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2.10. School Construction

2.10.1. Background

School Siting

Under State law, the California Department of Education (CDE) establishes standards for school sites and adopts school site regulations to guide school districts towards school sites that can contain necessary educational components.

The CDE must approve all new school sites and additions to school sites, when a school district requests State funds. Districts that do not request State funding must follow applicable laws and regulations governing site selection but do not need the CDE site approval.

2.10.2. School Siting Activities Underway

City / County / Schools (CCS) Partnership

The CCS Partnership is a joint effort of the League of California Cities, California State Association of Counties and California School Boards Association. The Partnership promotes the development of public policies that build and preserve communities by encouraging local collaborative efforts among cities, counties and more than 1,000 school boards and districts the partners represent. The primary functions of the CCS Partnership relevant to reducing GHGs include: coordinating local government policy efforts at the state level; supporting coordinated local planning and implementation of services, capital resources and funding for neighborhoods and communities; and technical assistance workshops on community-wide planning for infrastructure and land-use planning.

Proposition 1D High Performance Incentive Grant (HPIG) Program

Proposition 1D (2006) set aside \$100 million for the High Performance Incentive Grant (HPIG) program to promote the use of high performance attributes in new construction and modernization projects for K-12 schools. These attributes include using design and materials that promote energy and water efficiency, minimize and treat runoff after construction, maximize the use of natural lighting, minimize parking lots, improve indoor air quality, use recycled materials and materials that emit a minimum of toxic substances, and employ acoustics that aid in teaching and learning.

The HPIG amount will be based on the points attained by the district within the following categories: 1) site; 2) water; 3) energy; 4) materials; and 5) indoor environmental quality.

1.
The State verifies the HPIG rating criteria to determine the number of points the project receives. These points are multiplied by a percentage factor which will ultimately provide an increase to the projects base grant ranging from two to ten percent.

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Collaborative For High Performance Schools (CHPS)

CHPS is a collaborative of state agencies, utilities, and non-profits formed to implement high performance practices into new school construction and renovation in California. The organization has written six volumes of a Best Practices Manual. Best Practices Manual Volume I is directed towards school district administrators and planners to aid them in the process of planning high performance schools. Best Practices Manual Volume II is directed at architects and engineers to aid in the design process and includes systems, designs, and material products. Best Practices Manual Volume III describes the criteria that CHPS uses to measure high performance schools.

2.10.3. Improving School Siting

School Siting Guidelines

The current school facility siting guidelines contain measures that encourage the siting of facilities in a GHG efficient manner. The State may want to look for additional opportunities to identify other guidelines that could help with the siting of school facilities that are centrally located to existing or planned neighborhoods, minimize transportation distances and costs, encourage transit and pedestrian travel, preserve greenfields, and encourage joint use facilities and thus reduce the growth of GHG emissions.

HPIG Program

The current HPIG program uses criteria that rewards districts that site facilities that avoid locations that would result in a significant increase in vehicle travel. This criteria is only optional. The State may want to consider weighting climate or transportation based criteria higher than other criteria, requiring some of the siting criteria as a prerequisite for grant funding or adopting the criteria as a State requirement for any facility funding.

3.0 Sector Structure

3.1. *Defining the Target*

Providing GHG reduction targets for the transportation and land use sector is a key part of providing guidance on how these sectors can help California attain the reduction needed to meet AB 32 requirements and California's vision for a low carbon future. These targets, in combination with technical information and incentives, will help define what successful plans should look like.

LUSCAT recommends that ARB define emission reduction targets for transportation and land use related GHGs at both the state and regional levels. These targets should be developed to not only help meet 2020 goals but also should lay the groundwork for reaching the 2050 goals set by Governor Schwarzenegger's Executive Order S-3-05. Land use and transportation policies and actions that reduce GHGs take time to implement. Once in place, their impact lasts for decades and is hard to reverse. Changes in land use and transportation development also take time to compact GHG levels. This means that land use and development decisions made today will have long term consequences on GHG emissions. It is critical to make land use and transportation decisions now that help ensure that the state meets its long-term reduction goals.

The statewide transportation and land use related GHG emission reduction target should be based on projections of expected emissions from all sectors, as well as analyses of the potential that could be achieved by analyzing alternative statewide growth scenarios. These scenarios should be derived with knowledge of the current empirical and modeling literature on the effects of land use policy strategies. The best available integrated land use and transportation modeling tools should be used and should take into consideration anticipated GHG reductions from vehicle and fuel technology. Collaboration with affected parties and a strong commitment to transparency should be built into the process for establishing the targets.

Working in consultation with cities, counties, local air districts, MPOs, RTPAs and other affected local and regional agencies, regional transportation and land use related GHG emission reduction targets should be based on the analysis performed to set the statewide goal with consideration of specific characteristics of each region.

Targets in all sectors should be analyzed for cost per ton of reduction ARB should base its targets and recommendations on where the greatest reductions can be achieved for the lowest cost.

Setting targets at the regional level makes sense because regional plans can most effectively balance the needs of population growth, housing, resource protection, and integrated transportation infrastructure (including transit). Additionally, transportation activity and emissions are already estimated at the regional level by MPOs and RTPAs. These agencies have the modeling capabilities to estimate transportation related emissions. They currently provide ARB with the activity data (vehicle travel and vehicle speed estimates) incorporated into ARB's

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statewide vehicle emissions model (EMFAC) which is the modeling tool used for creating criteria pollutant emission inventories and for transportation-related GHG emission forecasts.

The State should use this information to help create the appropriate incentive structure through its state funding, technical assistance, regulatory programs and guidelines (e.g. CEQA). This structure would be designed to encourage and support the regional agencies, local governments in meeting GHG targets.

Local governments have been increasing their attention to GHG's either through general planning efforts or through local climate plans. Local government actions play an important role in meeting the statewide and regional targets because most land use decisions are made at the local level. Therefore it is important that State and regional agencies work with local agencies to ensure consistency between local planning efforts and the regional targets.

GHG measurement tools for local agencies also will play a very important role at the local level, as uniform measurement is necessary to providing financial and other incentives for actions that reduce GHGs, as well as for possible trading of credits. The next section speaks to the need for guidance and measurement tools for locals.

3.2. Guidance and Measurement

It is important that the State provide regional and local government clear guidance on how to measure GHG emissions within their jurisdiction. LUSCAT recommends that ARB provide a GHG quantification protocol and guidance for local governments that allows for statewide uniform measurement of jurisdiction-wide GHG emissions. Protocols provided for emissions accounting should consider consistency, to the extent practicable, with existing protocols, such as those developed by the California Climate Action Registry (CCAR) and the International Council for Local Environmental Initiatives (ICLEI).

It is also key that the State provide guidance to regional and local governments on best practices for reducing GHG emissions. LUSCAT recommends that ARB provide guidance on: measures to reduce GHG emissions from sources that can be impacted by local governments such as municipal operations; protocols for emission reduction accounting; and appropriate modeling tools to support emission quantification at the local level. Guidance and tool development should be developed in partnership with existing organizations like CCAR, United States Green Building Council, ICLEI and the Institute for Local Government, where practicable. ARB should work with other state agencies and entities that provide land use guidance to local governments to develop best practices and other technical assistance.

OPR will develop, in conjunction with the resources Agency, CEQA guidelines for the evaluation and possible mitigation of GHG emissions. These guidelines should be based on input from stakeholders and practitioners.

LUSCAT recommends that the State evaluate the inventories of GHG emissions from regional agencies and local governments to track progress against targets. ARB should measurements of transportation and land use GHG emissions from these entities on a regular basis.

3.3. State Infrastructure and Programs

3.3.1. State-owned and Operated Infrastructure

The State should provide leadership in GHG reduction efforts to its regional and local partners by example. Many state agencies have direct control over state-owned and operated infrastructure and facilities. Incorporation of GHG considerations into the planning, design, development, and operation of these facilities has the potential to result in considerable GHG emissions reductions.

In order to ensure that GHG considerations are fully incorporated into state agency facilities and operations, it is recommended that an interagency team, co-chaired by the ARB and DGS, develop GHG emission reduction guidance for State Agencies to better incorporate GHG considerations into State Agency capital outlay programs, or facility and infrastructure investment programs. Emission reduction guidance should be a tool that guides each agency's review of existing and future buildings, transportation, siting, and land use changes to help identify and quantify potential GHG reduction opportunities. State agency land use decisions should support regional Blueprint plan land use designations, when appropriate. Guidance should also include examples of cost-effective GHG reduction measures based on relevant case studies, literature review of current research on land use and transportation demand management strategies, and consideration of criteria put forth by existing sustainable building programs with siting elements, such as the U.S. Green Building Council's Leadership for Energy and Environmental Design for Neighborhood Development (LEED ND).

Utilizing the guidance put forth by the interagency team, all State Agencies involved in capital outlay management and implementation, including DGS, would assess their own programs and develop agency specific commitments for incorporating GHG considerations into their respective programs.

3.3.2. State Programs and Policies

Beyond their direct control of GHG emissions associated with state-owned infrastructure and facilities, many state agencies have indirect influence over the emissions associated with broader local land use and transportation decisions. The State's indirect influence is exercised through implementation of its various fiscal, technical, and/or regulatory programs. Incorporating GHG considerations into the State's program guidelines, standards, and criteria would help to ensure that all state-assisted infrastructure, land use planning, and development is consistent with the state's climate goals.

LUSCAT recommends that an inter-agency team, co-chaired by the ARB and OPR, develop GHG emission reduction guidance for State Agencies to help incorporate GHG considerations into programs and policies affecting local government land use and infrastructure. The inter-agency team would closely coordinate with the efforts of the Governor's Strategic Growth Council to maximize consistency across State programs and policies. The emission reduction guidance should be a tool that guides each agency's review of existing and future programs affecting local land use and infrastructure, as well as provides recommendations for how GHG

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considerations could either be added or strengthened. Guidance should be based on relevant case studies and input from interagency officials, staff, regional and local government stakeholders.

Using the guidance put forth by the inter-agency team, it is recommended that HCD, Caltrans, SWRCB and all other State Agencies with programs that may directly or indirectly influence local land use and infrastructure decisions assess their respective programs and develop agency-specific commitments for incorporating GHG considerations into their respective programs.

3.4. *Reduce Barriers to Efficient Land Use Development*

There exist many barriers to GHG-efficient growth at all levels of government policy in the State. There are also structures and processes that have been developed that are used as tools to prevent what would otherwise be GHG-efficient growth. For example, CEQA has sometimes been used to block otherwise appropriate infill development. In addition, local regulatory barriers to infill housing and an inadequate supply of appropriately zoned land for housing can result in development being pushed to the fringe of a region, with VMT impacts.

If the State is going to be successful in reducing the impact of land use planning and development on climate goals, then these barriers must be reduced or eliminated.

The LUSCAT recommends that the OPR and BTH in coordination with the Strategic Growth Council convene a multi-stakeholder advisory group to examine ways to improve land use coordination and goal attainment and offer recommendations for inclusion in the Scoping Plan and a report for the governor and Legislature for their consideration.

4.0 Sector Strategies

This section summarizes the GHG emission reduction strategies that State Agencies are currently undertaking that LUSCAT recommends the State consider for further study or adoption.

The strategies fall into three main categories:

- Regional Targets
- Enabling Strategies
- Specific Reduction Strategies

4.1. *Regional Targets: Land Use and Transportation Vision*

A key policy recommendation from LUSCAT, described in Section 3, is the development of regional targets that will act to guide the reduction of transportation and land use-related GHGs to help reach the goals of AB 32 and the State's goal for a low-carbon future set by Executive Order S-3-05.

Major metropolitan areas in California are all actively pursuing Blueprint planning and/or other progressive planning processes that encourage land use development and supportive transportation infrastructure that reduces the rate of increase in vehicle trips and trip lengths, provide more transportation options, and reduce overall vehicle travel. The regional GHG target strategy envisions regional planning agencies working with local governments to develop regional visions to reach regional transportation and land use-related GHG targets and working collaboratively to reach those targets.

4.2. *Strategies for Local Actions to Reach Regional Targets*

Since land use decisions are made at the local level, local government actions play an important role in reaching regional targets. There are many barriers to implementing successful land use strategies, as outlined in Section 2. The following strategies include policies, programs, incentives, and guidance to help implement actions to reduce GHGs. The vast majority of these strategies are aimed at incentivizing and spurring local government actions.

LUSCAT recommends creation of a stakeholder partnership process to analyze and prioritize the key policies necessary to assist and empower regional and local agencies reach the regional targets developed. The stakeholder partnership would include State, regional and local agencies and public and private stakeholders. The timing of the stakeholder partnership process should coincide with the timing of the development of regional targets.

4.3. *Specific Reduction Strategies*

The third category (specific reduction strategies) are those that could significantly reduce emissions and are recommended to be considered through the Scoping Plan process.

- Pricing signals.
 - Congestion Pricing
 - Pay As You Drive Insurance Premiums
- Mitigation of High Transportation Carbon Footprint Development
- Strategies to reduce employee commute trips

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- Public education to promote transportation conservation

4.4. Strategies

The following strategies form a foundation for the recommended Stakeholder Partnership to reach regional targets and develop an implementation action plan..

The strategies are listed by the system they impact:

- 4.4.1. Land use
- 4.4.2. Housing
- 4.4.3. Transportation
- 4.4.4. Water
- 4.4.5. Energy
- 4.4.6. General

And in three groupings for each system:

*Vision/Planning
Funding/Financial assistance, and
Guidance/Analysis.*

The strategies that State agencies will be implementing are listed first, followed by the strategies that LUSCAT recommends for further State consideration.

More detailed descriptions of the State agency strategies are provided in Appendix XX.

4.4.1. Land Use

Land Use Vision / Planning

Strategic Growth Council

In his 2008 Budget, Governor Schwarzenegger established a Strategic Growth Council to coordinate the state's strategic growth plan projects and spending. The five-member Council will help state agencies allocate SGP money in ways that best promote efficiency, sustainability and support the Governor's economic and environmental goals. The Council will bring public and state representatives together to chart the best path for growth. Chaired by the Director of the Office of Planning and Research, the Council will consist of the Secretaries from four state agencies (Resources; Environmental Protection; Business, Transportation and Housing; Food and Agriculture).

In addition to coordinating bond expenditures, the Council will:

- Award and manage grants and loans from Proposition 84 funds to support the development of sustainable communities. The Council's responsibilities will include establishing application requirements and evaluation criteria.
- Coordinate the four member state agencies, as they undertake infrastructure and development projects, to encourage sustainable land use; protect natural resources; improve air and water quality; increase the availability of affordable housing; improve transportation; and meet the goals of the Global Warming Solutions Act (AB 32).

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- Recommend policies to the Governor, the legislature and state agencies that encourage sustainable development.
- Collect and provide data to local governments to help them develop and plan sustainable communities. While the state has little direct say in local land-use planning, the Council will provide leadership and support for locals.

Blueprint Planning

Caltrans, along with its other state agency partners including HCD and OPR, will continue to support adoption of Blueprint plans at local and regional agencies. The department will continue to provide grants to Metropolitan Planning Organizations to engage in integrated planning that will lead to an on-going framework for collaboration among regional agencies, local governments and State agencies to promote mobility, more housing and transportation choices, access to jobs, healthy communities, and a thriving economy.

Important improvements the state could support include:

- Establishing a central State point of contact for regional and local governments to collectively deploy many interrelated services including mentoring planners, elected officials, and modelers; access to trained professionals for analysis, modeling, planning and public involvement; user groups for land use planning software, structured and easy access to state agencies to resolve issues, provide grant funding and oversight, and track net effects; free access to on-line planning software and training; and awards for innovation and excellence in GHG reduction.
- Assisting regions to develop data collectives to reduce the time and cost of data collection, improve the overall quality, usefulness and access, and facilitate collaboration among the cities, counties and others within the region. As new technical data linking land use and GHG emissions is developed, it can be formatted to be more readily integrated into data bases and models if they have, become more standardized.
- Developing more comprehensive, timely and accurate state natural resource and conservation data for MPOs to base their transportation decisions. During the California Transportation Plan update, the need for improved natural resources data on a regional scale was identified as a high priority. Better natural resource data and spatial information would help transportation planning organizations and local governments develop better scenarios for regional plans, reduce costs and help meet the state's environmental objectives.
- Ensuring the regions move beyond planning and developing Regional Blueprint Plans and begin to effectively implement these plans. Any additional funding resources should be tied to demonstration of progress in implementation across all blueprint goals, including housing, transportation, and resource protection.
- Improving progress and focus on use of Blueprints to increase opportunities for the higher density housing and infill housing needed to improve mobility and housing affordability.
- Developing an on-line library of the most successful Blueprint products. Streamline transferability by providing links to templates for mapping, data assessment, and policy development. If each region's Blueprint plan has transportation and land use components that are reasonably standardized, it will permit the state to add regional planning outcomes to get useful statewide land use, energy, and climate change program information. This information will be built upon high-quality local government data provided to the MPOs and therefore supported by each local government and the MPO.

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- Tracking the full set of Blueprint projects underway and develop research and development programs designed to assist in meeting specific needs that will improve GHG goal attainment.
- Requiring Blueprint Grant recipients to address climate change and energy demand (Gasoline, natural gas and electricity).

Land Use: Funding / Financial Incentives

Tax Policy

The Department of Conservation will compile the relevant land use-related tax laws that lead to GHG inefficient growth in order to facilitate suggestions for reform.

Land Use Guidance / Analysis

CEQA

The Governor's Office of Planning and Research will develop CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions.

Development Guidelines

The Integrated Waste Management Board will develop watershed-friendly, sustainable landscape guidelines that reduce GHGs for adoption and customization for local climates and conditions.

The California Energy Commission will update the Energy-Aware Planning Guide to incorporate climate and energy considerations. The Guide is designed to guide local governments through the energy data gathering, analysis, policy development, quantification and impact analysis and implementation stages of developing a comprehensive energy and GHG reduction plan.

The Department of Conservation will develop a model planning program based on protocols that will guide local land use decision-makers in valuing ecosystem services on working land. By developing protocols and a working lands model that can be adapted to the needs and circumstances of a particular local government, the consequences of GHG emissions and other ecosystem services can be factored into the local land use decision-making process.

The Air Resources Board will prepare guidelines to foster the establishment or transition to cool communities (for example: light colored paving, cool roofs, and shade trees).

Protocols

ARB will develop GHG emission reduction guidance and suggested strategies for local businesses

ARB will develop guidance documents for Local Governments that outline GHG reduction opportunities and protocols for emission reduction accounting.

The LUSCAT *recommends* the State consider the appropriateness of the following strategies:

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CEQA Improvements:

Identify improvements to CEQA to reduce barriers to approving more compact developments, infill and affordable housing during the process for updating the CEQA Guidelines pursuant to AB 97.

Sequestration

Provide guidance for regional blueprint planning to evaluate land conservation to sequester carbon, prevent the release of stored carbon, and reduce VMT related to land use development.

Consider revising CEQA guidelines to analyze and mitigate for the GHG impacts of the conversion and/or fragmentation of working landscapes. The recommendations should consider the inclusion of forestlands in Appendix G: the environmental checklist.

Permit Streamlining

Providing guidance for streamlining local approval processes and reducing discretionary approvals for multifamily, infill and affordable housing developments.

Rural Assistance

Consider developing a package of programs and resources targeted at rural community assistance. Rural areas require a different approach to growth and GHG reduction than urban areas and often have fewer resources available.

Air Quality Provisions of General Plans

Where there are air quality provisions in general plans, the State should consider providing guidance on methods for the inclusion of GHG reduction policies.

Land Use Planning Funding Assistance

Examine directing investment of open space and conservation funds towards projects with both high sequestration and co-benefit potential.

Work with private lenders to expand the pool of financing available for mixed use, compact and other innovative development products.

Explore State funding opportunities for local GHG planning efforts.

Examine tying investments in utility infrastructure to preferred growth areas.

Cap and Trade

Consider earmarking a portion of any proceeds from a market auction system to encourage compact development, improve existing infrastructure or mitigate brownfields.

Explore using new streams of revenue created under AB 32 to protect working and natural landscapes with high sequestration value and to support acquisition and management activities that enhance the ability of these areas to adapt to climate changes already projected or underway.

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Explore using new streams of revenue created under a market system to invest in urban forestry, urban parks, and urban farming programs.

Consider transit investment as a possible offset provider under any market-based compliance mechanism.

Examine creating incentives for jurisdictions that provide natural resource and agricultural land protection.

Guidelines

Explore the promotion of the LEED-ND standards and other comparable programs through a coordinated technical assistance program. The State should consider monitoring the forty-two California developments currently enrolled as LEED-ND pilot projects and determine whether these provide models which could be replicated.

Develop and/or fund efforts to provide sample ordinances that support GHG-reducing land use development patterns. Guidance could include staff reports, fiscal analyses, and draft resolutions.

Prepare guidelines to incorporate consideration of land conversion and protection of natural and working “carbon reserves” into climate action plans, general plan climate elements, and other local plans related to climate change.

Provide technical assistance to increase infill development near transit stations/stops and employment centers in the regional and local land use planning.

Examine school siting guidelines to look for opportunities to support siting schools in locations that are centrally located to existing or planned neighborhoods, minimize transportation distances and costs, encourage transit and pedestrian travel, preserve greenfields, and encourage joint use facilities.

Consider the exemption of, or the incorporation of crediting for inclusion of, affordable housing for mitigation of greenhouse gas emissions.

The current High Performance Incentive Grant Program for schools uses criteria that rewards districts that site facilities that avoid locations that would result in a significant increase in vehicle travel. This criteria is only optional. The State should consider weighting climate or transportation based criteria higher than other criteria, requiring some of the siting criteria as a prerequisite for grant funding or adopting the criteria as a State requirement for any facility funding.

Modeling

Invest in sound regional modeling strategies, developed in a clear and transparent public process, and continue to develop more accurate information on all GHG emission sources to introduce into its modeling and decision-making. Assist local governments in developing and updating modeling capabilities to allow for better land use and transportation planning. Particular attention will be paid to parcel specific GIS data and natural resource mapping. Develop a state

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GIS system that can support regional and local modeling of state land use and resource planning goals.

Community Education

Develop an outreach plan aimed at reducing concerned resident opposition to higher density, infill and affordable development and to develop support for smart growth planning and projects. The outreach strategy will identify the benefits of smart, resource efficient growth including climate, resource protection, mobility, air quality, economic, housing affordability and reduced energy .

4.4.2. Housing

Housing Financing/Fiscal Incentives

Program Financing Criteria

HCD will include incentives to promote GHG emission reductions in appropriate HCD administered funding programs.

Housing Guidance/Analysis

Technical Assistance

HCD will update technical assistance and outreach efforts for housing elements to include climate change considerations. HCD will also collect and provide best practices for local governments to remove regulatory barriers to accommodating all housing needs and smart growth.

The LUSCAT *recommends* the State consider the appropriateness of the following strategies:

Location Efficient Mortgages

Examine policy opportunities to increase use of Location Efficient Mortgages, with a particular focus on policies that provide incentives for lenders and homebuyers.

Existing Policy Improvement

The State should ensure effective implementation of existing housing and land use laws and develop incentives to promote local approval of a mix of housing in a variety of appropriate locations.

4.4.3. Transportation

State Agency Strategies

Transportation Vision / Planning

Transit

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Caltrans will support integration of Bus Rapid Transit as an investment alternative in the state highway system and comprehensive corridor planning and project development processes.

Planning for GHG Emissions Mitigation

Caltrans will develop technical and strategic guidance for incorporating climate change and GHG emissions factors into State transportation planning and project development documents, including environmental documents. Caltrans will upgrade transportation demand and cost benefit analysis models to include energy efficiency and GHG production components to support technical analysis for transportation plans and projects.

The California Transportation Commission (CTC) will incorporate strategies to reduce mobile source GHG emissions in the Regional Transportation Planning Guidelines.

CTC will ask regional transportation planning agencies and Caltrans to provide information on how their lists of nominated projects impact GHG emissions and ask that the Commissioners consider GHG impacts in their decision to determine which projects to include in the State Transportation Improvement Program.

Funding / Financial Assistance

Guidance / Analysis

Guidelines

Caltrans will provide training and technical assistance to ensure transportation planners and engineers have a working knowledge of climate issues and greening practices and ability to address these issues in the development of transportation plans and projects and will provide refined transportation data to allow local governments and agencies to develop targeted reduction projects.

Caltrans will implement a "Complete Streets" program to assist transportation planners in designing safe access, for pedestrians, bicyclists, and transit riders of all ages and abilities.

The LUSCAT recommends *the State consider the appropriateness of the following strategies:*

Transit

Research the adoption of policies that increase transit capacity potential of suburban centers to better enable transit in those areas.

Consider opportunities to increase availability of, and access to, public transit opportunities through the following approaches:

- Fund transit oriented development planning and public involvement.
- Fund bicycle facility and route improvements, particularly to improve last-mile-to-transit access to bicycle riders.
- Provide funding for incentives to lower transit pass costs to increase ridership

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- Increase the pool of funds available for transit projects, and in particular for extending existing transit systems.
- Make funding available for capital investments and operations for feeder service to make the last mile connection to transit.
- Promote programs that reduce driving and congestion while promoting healthy physical activity and connecting interested residents with information and incentives to add more walking, bicycle riding, public transit (including BART), and carpooling
- Make additional investments by the state into modernizing transit facilities, vehicles, systems and trackways to expand capacity and retain current ridership.
- Examine how support for transit could take into account the costs of transit system shift to clean fuels and efficient vehicles.

Investigate opportunities to include considerations for land use impacts in corridor operations and performance. Help ensure that decisions on land use are coordinated across jurisdictional and regional boundaries to ensure efficient corridor operations and sustained performance.

Parking

Examine the potential to influence GHG emissions via parking policy, including looking into: pricing, parking maxima/caps, shared parking, unbundling of parking costs, parking cash-out and outreach to employers.

Tax Incentives

Identify a list of tax incentives that would encourage GHG reductions, such as tax incentives for employers that provide transit benefits for employees, and for households that do not own an automobile.

Modeling

Develop standards for transportation simulation modeling and analysis.

RTP Guidelines

Update guidelines to include overt policies for regional transportation agencies to adopt to reduce, mitigate, and monitor GHGs from transportation projects.

4.4.4. Water

State Agency Strategies

Funding / Financial Incentives

Program Criteria

The DWR will adopt criteria for grants to support watershed planning for more self sufficient water portfolio to reduce water conveyance and associated energy costs; designate protected watershed lands for water absorption; direct urban development toward existing urban centers; avoid conversion of floodplains and farmlands (better soils require less water); foster regional partnerships; develop and implement integrated regional water management plans.

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The SWRCB will develop climate change criteria for Proposition 84 grants for clean beaches, stormwater, and agricultural water quality programs.

The State Water Resources Control Board (SWRCB) will require that the lifecycle GHG emissions be analyzed for subsurface cleanup technology and that these emissions be taken into consideration when evaluating the preferred technology for a given cleanup site. SWRCB will also require that periodic cleanup reports include actual GHG emissions to allow operational evaluation against the cleanup progress.

Water Efficiency Incentives

DWR will provide incentives to developers and local governments to plan and build using more resource efficient development patterns that reduce water and energy demands. Grants and other incentives should be used to increase consumer interest in urban living and to encourage infill and compact development forms.

Guidance/Analysis

Water Planning

DWR will make available water resource information, such as water supply and water quality and coefficients with energy in Urban Water Management Plans, for local governments that can be used in local and regional land use decisions, including general plan formulation and municipal service reviews.

DWR will assist local governments in reviewing the Urban Water Management Plans adopted by water agencies within their jurisdiction; and to work with these water agencies to show compliance with Water Code sections that require local governments to consider water supply availability when making land use decisions for significant (500 homes or more) new development projects, and to prepare the water resource and energy sections of their general plans as described in the State's General Plan Guidelines Update (OPR, 2003).

DWR will assist local governments and agencies to improve coordination between land use planning and water planning and management including energy and climate uncertainty.

The LUSCAT recommends the State consider the appropriateness of the following strategies:

Water Efficiency and Reuse Guidelines and Support

Provide public education and incentives to increase development and use of domestic gray-water systems.

Provide guidelines for outdoor water conservation including storm water management, permeable surfaces, landscaping requirements.

Develop guidelines and promote use of recycled water for all new and existing development that can use non-potable water (e.g. - golf courses, city parks, etc).

Low-impact Development

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Consider adopting new construction and redevelopment requirements in Phase I and Phase II municipal storm water permits that encourage Low Impact Development (LID) practices and other measures aimed at reducing the water quality and other impacts of hydromodification.

4.4.5. Energy

GHG Mitigation for Power Plant Projects

The State should consider requiring applicants for power plant or transmission line siting approval to mitigate the expected GHG emissions impact from the project as an interim policy until the Resources Agency promulgates guidelines for the quantification and mitigation..

Transmission Infrastructure to Support Strategic Growth

The State should examine policies related to the use of rate-payer funds for transmission line extension and its impact on GHG emissions.

4.4.6 Specific Reduction Strategies

Also submitted to LUSCAT were specific reduction strategies that could significantly reduce emissions and are recommended to be considered by the Air Resources Board during the Scoping Plan process.

- Pricing signals.
 - Congestion Pricing
 - Pay As You Drive Insurance Premiums
- Mitigation of High Transportation Carbon Footprint Development
- Strategies to reduce employee commute trips
- Public education to promote transportation conservation

Pricing Signals

Research has shown that sending market signals that reflect the cost of driving can make the transportation system more efficient and significantly reduce emissions. LUSCAT recommends that ARB consider two pricing strategies that were recommended by stakeholders: Congestion pricing and Pay As You Drive insurance premiums.

Congestion Pricing

It is unreasonable to encourage metropolitan regions to grow even more densely without providing a market-based means to manage travel demand and raise funds for needed transit investment. However, regional planning authorities need legal authority from the State to implement congestion pricing.

In a congestion pricing program, vehicles are charged a price, or toll, for traveling during peak hours on congested routes. Drivers who continue to travel on these routes during peak periods would pay more, but experience a faster, easier trip. Others would defer trips to off-peak hours, shift travel to less congested roadways, or switch to transit, carpools, or vanpools.

GHG emission reductions would come directly from the relief of severely congested traffic, some reduction in vehicle travel, and from the investment of funds in transit infrastructure that would provide additional transportation options during congested hours.

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LUSCAT recommends the creation of a State/Regional team that builds a coalition of supporters to pursue legislation providing regional planning agencies the authority to pursue the implementation of congestion pricing, with particular attention paid to equity issues.

Pay-As-You-Drive (PAYD) Insurance Premiums (Drive Less/Pay Less)

A strategy specifically recommended by the Economic and Technology Advancement Advisory Committee (ETAAC) in its report to ARB in February 2008 is Pay-As-You-Drive (PAYD) vehicle insurance premiums. PAYD insurance premiums are set based on driving record and other traditional risk factors, but are broken down into per-mile charges. Motorists would have the opportunity to lower their insurance costs by driving less. Some would. So PAYD insurance offered to a large percentage of California drivers would have the potential to significantly reduce vehicle miles traveled and GHG emissions.

PAYD insurance is currently being offered by insurance companies in Britain, the Netherlands, Israel, and South Africa, and has been piloted in some U.S. states, including Oregon, Texas, and Minnesota. ETAAC estimates that PAYD insurance could be implemented in California quickly by legislative and regulatory actions that allow insurance companies to implement these programs.

PAYD insurance would reduce emissions by including insurance premiums in the variable cost component of vehicle use. Instead of having insurance be a fixed cost of driving, PAYD insurance would result in about a 6 cents/mile increase in the everyday cost of driving (Victoria Transport Policy Institute, 2007), which would result in about a 40 percent increase in the current vehicle operating costs of about 15 cents/mile (American Automobile Association, 2007).

LUSCAT recommends the creation of a State agency team responsible for developing an implementation plan that includes analyzing the regulatory and implementation barriers of PAYD insurance premiums.

Mitigation of High Transportation Carbon Footprint Development

Household transportation surveys and modeling reveal that low-density development far away from employment centers and other destinations has a very high transportation carbon footprint. To help regions meet their GHG targets, regulatory or market mechanisms to mitigate for these types of high-GHG developments might need to be implemented. For instance, a GHG-based threshold for new residential developments would encourage carbon reductions from new low-density residential developments in California. The threshold could be set at levels similar to higher density, mixed-use suburban development. Thresholds could be limited to developments that are not included in regional plans that meet the set GHG targets.

Mitigation should involve reductions in VMT but also allow for other types of GHG mitigation. If thresholds were set at the average level of a mixed-use, higher-density suburban development, estimated VMT reductions might be approximately 20 percent per dwelling unit, the average difference between an auto-oriented, low-density suburban development and a mixed-use, higher-density suburban neighborhood (Ewing, 2007).

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Two potential mechanisms for implementation are an Indirect Source Rule, in which a threshold is met either through changes in the project design or the purchase of off-site reductions, or CEQA, in which exceeding the threshold triggers development of a full Environmental Impact Report. The State could develop a model ISR rule which regional partners could then choose to adopt and amend for their region's needs. Likewise, the State could develop a model CEQA threshold, which local governments could choose to adopt for their purposes. The State could also work with the regional agencies to develop incentives for regional agencies and locals to adopt the ISRs and CEQA thresholds.

LUSCAT recommends the creation of an ARB /state and regional agency, and stakeholder team to investigate the potential utility of ISR policies and their shortcomings. Additionally the LUSCAT recommends the creation of a regional agency team to work with OPR to develop a CEQA threshold based on reductions needed to meet regional targets. Any regulations or guidelines that might impact residential development needs must ensure that housing supply and affordability needs, including the Regional Housing Needs Plan are advanced and not impeded

Strategies to Reduce Employee Commute Trips

Telecommuting

The State of California will work to develop and implement telecommute and alternative work policies for State employees. These policies should be created in a way which will allow them to be adopted for use by local government and private employers.

Public Education to Promote Transportation Conservation

Land use measures mainly focus on new development. Only about one percent of total dwelling units per year are comprised of new development, so it takes a long time for land use strategies to accumulate into a significant benefit. Therefore it is important that VMT-related reductions from existing households are also pursued, especially in the short-term (2010-2020). Both work trips and non-work trips should be targeted.

Strategies to mitigate the impact of employee commute trips could include mandatory employer programs like Rule 2202 in the South Coast Air Quality Management District rule that requires employers to mitigate emissions due to employee commute trips (Rule 2202), or voluntary programs coordinated by regional or local agencies that quantify results and promote the most cost-effective trip reduction strategies.

Large-scale public education programs in California have been very successful at reducing energy use and waste. Reducing driving trips by 1 round trip per week would reduce the average driver's trip-making by 5 percent. The State should explore the possibility of engaging the public to reduce their transportation footprint by making some small adjustments (like combining trips) that could yield big results. Developing primary school climate change curriculum that includes transportation conservation would help raise a generation with a smaller footprint.

5.0 Strategy Costs and Cost Savings

Implementation of sector strategies should have a net zero cost through 2020. Based on analysis put forth it is assumed that state, regional, and local agency partners will be able to redistribute and leverage existing funding revenues for land use and transportation activities to meet the state's regional GHG targets, while continuing to meet the balance of the State's other land use and transportation goals.

While some cost benefits may accrue in the 2020 timeframe, significant capital cost savings from land use sector strategies are anticipated to accrue in the long term 2050 timeframe. Current research estimates that compact growth strategies, or GHG efficient growth strategies, will save an estimated 11 percent nationally for basic infrastructure (Ewing et al 2007, Burchell et al. 2002). Recent scenario planning work has demonstrated support for potential cost savings from sector strategies on state and region wide bases as well. In 2000, the statewide Envision Utah scenario planning process estimated that implementation of a statewide compact growth plan would yield a potential 17% (\$4.5 billion) infrastructure cost savings compared to business as usual development (Ewing et al 2007, Envision Utah 2000). At the regional level, the Sacramento region's Blueprint planning process has projected that implementation of their compact regional growth plan will yield a savings of about 12% (\$1.8 billion) in transportation system capital spending from a business as usual scenario in 2050 (SACOG Blueprint 2004).

6.0 Potential Legislative and Other Needs

6.1. Infrastructure

Allow local agencies that set zoning within a specified urbanized district or area at minimum densities or intensities to create special tax increment zone (with no eminent domain) to finance the kind of infrastructure necessary to serve that level of development.

6.2. Land Use

Initiate a smart location/development tax credit for developers, modeled after the Low-Income Housing Tax Credit. Consider LEED-ND and other appropriate standards while drafting the criteria for the smart location tax credit.

Improve implementation or enforcement of existing state laws relating to removing regulatory barriers to infill, higher density, and affordable housing. Particular attention should be paid to increased enforcement of the housing element law.

Require Local Agency Formation Commissions (LAFCOs) to consider infill capacity and GHG emissions prior to granting approvals for expansion of spheres of influence or annexations.

6.3. Housing

Provide a reliable, permanent source of funding for affordable housing.

Provide incentives, rewards and funding priorities for local governments that adopt compliant housing elements and approve infill, affordable and compact developments.

Streamline approval process and reduce discretionary approvals for multifamily, infill and affordable housing developments.

Improve CEQA to promote infill and affordable housing development

6.4. Modeling

Develop and work for passage of legislation that would require local transportation agencies to use up-to-date models and/or improve existing models. State agencies should also update their models and train local governments in the use of models.

6.5. Planning

Establish a revolving loan fund for cities and counties to use to update their zoning codes and make them consistent with general plan language favoring compact, mixed use, walkable development.

6.6. Schools

Review school funding mechanisms to encourage the rebuilding and revitalization of schools in existing urbanized areas where more compact growth should be encouraged. State policy should assure that the best schools are being built and revitalized in the areas where state policies are encouraging new growth.

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6.7. *Transportation*

Pass legislation that would broaden the parking cash out law to a wider range of employers and conditions and thus capture greater participation and GHG reductions.

Identify high-polluting corridors or congested city centers where appropriate road pricing coupled with increased transit services will likely result in significant GHG reductions. Prepare and distribute guidance on road-pricing strategies to local transportation planning agencies, and give preference in distribution of public transportation dollars to those projects that include pollution-reducing pricing strategies.

6.8. *Waste*

Increase mandatory recycling goals by jurisdiction from 50% to 75% by 2015.

7.0 Environmental Justice

Land use and facility siting processes and patterns have contributed to disproportionate adverse impacts (health, social, environmental and economic) often experienced in low-income and minority communities in California and elsewhere.¹³ These communities may experience significantly more environmental health risks when compared with surrounding communities. These risks may include:

- Poor air quality (due to proximity to point sources, roadways and traffic congestion)
- Poor drinking water quality (due to contamination by chemicals and runoff)
- Increased blood lead levels (due to poor housing quality)
- Contaminated food supplies (especially for subsistence fishermen)
- Noise
- Transport, storage/disposal and manufacture of hazardous materials
- Lack of open space (which impacts levels of physical activity and is associated with learning ability)
- Lack of access to healthy food and other key services (health care)
- Increased rates of violence and many health illnesses
- Inadequate supply of affordable housing and substandard housing conditions that also threaten the health and safety of occupants.

In addition, residents of low-income communities often spend a larger percentage of their income and time traveling to jobs. Fewer resources are available for quality housing, health food, medicines and other essentials. Increased commute times are associated with decreased social capital and community involvement, as well as increased stress levels. They also live under the threat of displacement and community disjunction when land use decisions favor gentrification or industrialization over preservation of their communities.

These impacts are exacerbated by the fact that many communities and subpopulations in California already experience excess *cumulative environmental health risks (CEHR)*.¹⁴ They do not experience the adverse impacts of just one environmental health risk, but instead are exposed to a multitude of synergistic risks through a variety of pathways all at the same time.

¹³ One example would be zoning that does not provide for the separation of incompatible land uses, resulting in the co-location of emission sources and residences or schools within low-income and minority communities¹³. Proximity to the point sources and roadways leads to increased exposure to air pollution and toxics and the related health impacts (e.g., cancer, asthma, other respiratory diseases, etc.)

¹⁴ This excess health risk is often a function of complex exposures to chemicals from a variety of sources (e.g., major roadways with high traffic density, or industrial activities), exposures to biological agents (e.g., dust mite, cockroach, and Ragweed allergens, or infectious diseases) and the many societal and biological factors that influence individual, community and population health vulnerability, such as socioeconomic factors (e.g., access to medical care, burden of chronic disease, and other health disparities) and the underlying health of the population. All of these factors are interwoven. More and more, public health practitioners have come to realize the role of land use, transportation planning, and community design in influencing lifestyle factors and environmental exposures, and ultimately cumulative environmental health risk.

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California is at the forefront of states adopting laws to incorporate environmental justice into the state, regional and local decision making processes. Among them are SB 115 (Solis), signed into law in 1999 to make California the first state in the nation to codify a definition of “environmental justice” as “the fair treatment of people of all races, cultures and income with respect to development, adoption and implementation of environmental laws, regulations and policies.”

SB 115 also established The Governor’s Office of Planning and Research (OPR) as the coordinating agency for state environmental justice programs. The bill required the California Environmental Protection Agency (Cal/EPA) to design an environmental justice mission for programs, policies, and standards within the agency, and to develop a model environmental justice mission statement for its boards, departments, and offices.

To fulfill its coordination responsibilities, OPR conducted workshops for state agencies and departments on environmental justice and established an EJ Contact List providing the contact information for state agencies’ and departments’ EJ point person. California state agencies subsequently developed and adopted policy statements providing for the consideration of environmental justice issues in their decision-making processes.¹⁵

Research indicates that low income and minority communities will be disproportionately impacted by climate change.¹⁶ These impacts include the need to deal with extremes in temperature within communities that are hard put to afford rising utility costs; increased health impacts including asthma and vector-borne diseases among populations that have limited access to health care; and higher prices due to impacts on agricultural production.

California’s design of a program to reduce GHG emissions in accordance with AB32, must address environmental justice issues and “[e]nsure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities.” To assist CARB in fulfilling this obligation, AB 32 mandated the establishment of an Environmental Justice Advisory Committee.

Facility siting and land use, and development and transportation infrastructure planning and siting decisions of the past have disadvantaged low income and minority communities with adverse environmental and health impacts, dislocation, and intersection. However, policies to promote sustainable multiple use communities with increased access to affordable housing, jobs, transportation options, and educational and recreation resources will provide many benefits

¹⁵ For a more complete history of the environmental justice movement and California Law see: Office of Planning and Research, “Environmental Justice in California State Government,” October 2003, which can be accessed at: http://www.opr.ca.gov/planning/publications/OPR_EJ_Report_Oct2003.pdf

¹⁶ See for example: Kalkstein, Laurence S. 1992 “Impacts of Global Warming on Human Health: Heat Stress-Related Mortality.” In *Global Climate Change: Implications, Challenges and Mitigation Measures*, Easton, Pa.: Pennsylvania Academy of Science; U.S. Global Change Research Program, Report of the California Regional Assessment Group, “The Potential Consequences of Climate Variability and Change for California,” June 2002; Sheers, John, “The Estimated Costs of Climate Change in California,” Center for Energy Efficiency and Renewable Technologies, July 2003; International Federation of Red Cross and Red Crescent Societies, at <http://www.ifrc.org/WHAT/disasters/dp/climate/>

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to low income and minority communities as well as to the population of California as a whole. Such policies must holistically consider the broad spectrum of potential impacts (beyond VMT reduction) of land use decisions, as well as their relationships to reducing CEHR, improving overall health and communities' abilities to adapt, and addressing disproportionate impacts in low-income and minority communities.

Examples of effective GHG reduction strategies that could fail to fully realize human health benefits or cause adverse consequences are infill projects, including housing, that sacrifice accessible park/open space elements; projects to reduce flooding, erosion or run-off that increase ground cover/trees that are highly allergenic; or concentrating schools, senior housing/facilities or hospitals along high traffic transit routes in order to reduce VMTs.

7.1. Recommendations

- Assess communities at risk from cumulative impacts and natural hazards
- Actively engage communities in the planning and decision making process
- Identify opportunities for mitigation, remediation and economic development
- Ensure facility siting, commercial and residential development and transportation improvements enhance communities rather than destroy or displace them.
- Promote the development of affordable housing
- Ensure access to safe and healthy schools
- Promote implementation of Health Impact Assessment in land use decision process

7.2. Co-Benefits of Improved Land Use and Transportation Planning

If the State pursues a policy to reduce vehicle miles traveled and the associated GHG emissions by developing in a more compact, transit-oriented manner, the state will realize a variety of advantages including economic, environmental, social, and health benefits. Many of these co-benefits can be quantified to demonstrate the economic benefits beyond fuel savings of better land use decisions. Others may not be as easily quantified, though they can provide important and tangible improvements to residents' quality of life. Co-benefits are described below according to specific category.

7.2.1 Economic and housing co-benefits

- More access to education and jobs for people without access to vehicles, such as young, elderly and low-income, and thus increased educational and vocational opportunities
- Increased cost effectiveness of public transit with increased public ridership and reduced public infrastructure costs as existing infrastructure used more efficiently
- Increased access to safe affordable housing can increase household income for other critical necessities. In 2006, 27.4 percent of the renter households in the State (1.3 million out of 5 million households) spent more than half of their income on rent. A full 35 percent of California households and 40 percent of renters spend more than 30 percent of their income on housing.
- Reduced household expenditures on transportation (CCAP report says TOD can reduce household transportation costs by up to \$3,000-\$4,000 annually)¹⁷

¹⁷ CCAP Transportation Emissions Guidebook (http://www.ccap.org/safe/guidebook/guide_complete.html)

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- Increased retail development at the local level and subsequent economic revitalization
- Rising property values and tax revenues at local level
- Increased accessibility and affordability of housing (increased densities and lower transportation costs)

7.2.2. Environmental co-benefits

- Preservation of open spaces and agricultural fields by directing greenfield development towards urban areas
- Improved water quality (due to decreased runoff) and air quality (due to reduced vehicle use)
- Reduced blight from abandoned undeveloped sites and reduced exposure to contamination through brownfield remediation and development.

7.2.3. Social co-benefits

- Increased social capital and sense of community as people spend less time alone in vehicles¹⁸
- More access to education and community centers for people without access to vehicles, such as young, elderly and low-income
- Increased public safety through more pedestrian friendly development and amenities, which further strengthens community ties

7.2.4. Health co-benefits

- More access to education, jobs, health care for people without access to vehicles, such as young, elderly and low-income. Increased household incomes provides increased funds for healthy food and medicine
- Increased public safety and reduced pedestrian injuries and fatalities due to more pedestrian-friendly development and improved street design
- Increased over health from improved social capital (e.g., prolonged life, cardiovascular health, improved mental health, faster illness recovery)
- Increased physical activity as access to, number of and proximity to open spaces and desirable destinations (shopping, entertainment, schools, etc) increases and development becomes more pedestrian- and bicycle-friendly. Moderate physical activity reduces many serious health risks, including coronary heart disease, diabetes mellitus, hypertension, anxiety and depression, and obesity. ¹⁹ Insufficient activity in children is a significant predictor of pediatric hypertension and increased risk for adult conditions (e.g., diabetes mellitus, some cancers, coronary artery disease, etc),²⁰
- Improved air quality as VMT decreases and reductions in adverse health impacts (e.g., death, cancer, exacerbation of asthma, etc) which are most realized in particularly vulnerable populations, the elderly, the young and the health-impaired. Some compact development, such as infill, may increase exposure to vehicle air pollution and other point sources that emit toxics and particulates. Increases in density should therefore be

¹⁸ Sullivan WC et al, and LEED-ND "Understanding the Relationship Between Public Health and the Built Environment"

¹⁹ LEED-ND "Understanding the Relationship Between Public Health and the Built Environment"

²⁰ Cummins and Jackson

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accompanied by decreased vehicle use (via increased transit service and more walkable communities) and buildings equipped with indoor air quality mitigation.²¹ .

- Decreased stress and number of traffic injuries and fatalities as commute times, traffic congestion and VMT reduced
- Decreased mental fatigue with increased access to greenspace, as well as improved cognitive functioning in children.²²
- Improved affordable housing reduces exposure to environmental risk factors (e.g., allergens and air pollutants, which affect asthma, and lead-based paint).

In order to assure the maximum advantage of co-benefits to low-income and minority communities, it will be incumbent upon the state to provide not only, a transparent and accessible public participation process in local and regional planning and siting decision, but also to provide public education and support for low income and minority community involvement in the decision making process.

²¹ LEED-ND “Understanding the Relationship Between Public Health and the Built Environment”

²² NACCHO fact sheet

8.0 Performance Measures

8.1. Indicators

The State should develop and track a set of indicators that will help monitor the effectiveness of the policies adopted in response to the LUSCAT's recommendations. While measurement results may be due to forces beyond the adopted policies the indicators can serve to inform the evolution of State policy. the LUSCAT recommends the following indicators be measured:

Place Indicators

- Focus on efficient use of land, transportation infrastructure, and resources such as energy and water
- Efficient Development – More housing and jobs on less land
 - Ratio of Single Family Versus Multi Family Building Permits
 - Ration of Jobs to Housing Units
- Movement of Goods and People – VMT
 - VMT per Household
 - Daily Vehicle Hours of Delay
- Transportation Choices – Alternative modes of transportation
 - Transit Ridership
 - Means of Transportation to Work
- Resource Use – Fuel, Natural Gas, Electricity
 - Fuel Consumption
 - Residential Energy Consumption
 - Natural Gas Consumption
 - Electrical Consumption
- Protected Lands – Land Preservation
 - Conversion of Agricultural Lands to Urban and Built Up Uses
 - Protected Open Space
- Air & Water Quality
 - Ozone Pollution – Decrease in Days Exceeding 8-Hour Standard
 - Decrease in Impaired Water Segments
- Housing Affordability/Burden
 - Percent of First Time Buyers that can Afford to Purchase a Median Priced Home
 - Percent of Households with Housing Costs Greater than 35% of Income

Prosperity Indicators

- Encompass fundamental measures of employment, income, and innovation

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- Employment Change
 - Percent Change in Total Nonfarm Employment
 - Employment Growth in Major Clusters/Industry Sectors
- Income
 - Real Median Household Income – 2005 Dollars and 2000-2005 Percent Change
 - Real Per Capita Income – 2004 Dollars and 2000-2004 Percent Change
- Innovation
 - Net Business Formation
 - Firms with Employees
 - Firms without Employees

People Indicators

- Encompass fundamental measures such as educational level, health status, and public safety
- Access to Opportunity
 - Educational Attainment – Share of Population by Highest Level of Education
- Health
 - Share of Population with Asthma
 - Share of Population Overweight/Obese

8.3. *Compilation of Measurements Tools*

- Completion/CARB adoption of Best Practices Toolbox for Communities (Early Action)
- Compile other measurement tools
- Resource Use: Reduction in fuel purchase per capita
- Resource Use: Reduction in energy consumption per capita
- State-regional collaboration data and methodology strategies

8.4. *Guidance/Policy*

- Tie measures to policy and investments
- Blueprint strategies
- CEQA Mitigation guidelines
- Local Government Commission's guidance
- Consulting firm guidance

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Appendix A

Land Use Subgroup of the Climate Action Team (LUSCAT)

The Climate Action Team Land Use Subgroup is tasked with coordinating climate change mitigation and adaptation efforts in cross-cutting areas that are crucial to meeting the state's greenhouse gas (GHG) emissions reduction goals related to local government and land use activities.

The LUSCAT is made up of the following State Agencies:

- California Energy Commission (CEC) (Chair)
- California Environmental Protection Agency (Cal/EPA)
- California Air Resources Board (CARB)
- Business Transportation and Housing Agency (BTH)
- California Department of Transportation (Caltrans)
- California Department of Conservation
- California Integrated Waste Management Board (CIWMB)
- Governor's Office of Planning and Research (OPR)
- California State Water Resources Control Board (SWRCB)
- California Public Utilities Commission (CPUC)
- California Department of Water Resources (DWR)
- California Department of Housing and Community Development (HCD)
- California Transportation Commission (CTC)
- Resources Agency
- California Department of Public Health
- California Department of General Services

- Center for Clean Air Policy (Consultant)
- California Climate Action Registry (Advisory)

The LUSCAT is tasked with undertaking the following activities:

1. Coordinate State agency activities related to the 2006 CAT Report Smart Growth strategies.
2. Develop State agency land use and local government strategies for 2008 CAT Report and 2009 ARB Scoping Plan.
3. Provide a centralized location for stakeholder input regarding the State's local government and land use climate change activities.
4. Develop and disseminate tools and resources to assist local governments in their efforts to adopt and implement climate action plans.

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Appendix B

<i>Name</i>	<i>Organization</i>
Mel Zeldin and Larry Allen	California Air Pollution Control Officers Association
Kyra Ross and Bill Higgins	League of Cities
Paul McIntosh	California State Association of Counties
Steve Sanders	Institute for Local Government
Judy Corbett and Kate Wright	Local Government Commission
Seth Miller	California Center for Regional Leadership
Sande George	American Planning Association-CA Chapter
Richard Lyon and Pete Montgomery	Building Industry Association
Angela Johnson-Meszaros	California Environmental Rights Alliance
Stuart Cohen	Climate Plan
Rusty Selix and Jerry Jaffe	California Association of Council of Governments
Bill Allayaud	Sierra Club California
Amanda Eaken	Natural resources Defense Council
Tom Adams	California League of Conservation Voters
Julie Snyder	Housing California
Paul Zimmerman	Southern California Association of Non-Profit Housing
Darryl Rutherford	California Coalition for Rural Housing
Wendy James	Global Warming Action Coalition
Lauren Navarro and Kathryn Williams	Environmental Defense
Susan Handy	UC Davis Sustainable Transportation Center
Jasmin Ansar	PG&E
Rick Bishop	Western Riverside Council of

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	Government
Mary Pitto and Staci Heaton	Regional Council of Rural Counties
Gary Cook and Brook Lee	ICLEI
Jay Hansen and Cesar Diaz	State Building & Construction Trades Council of California
Heather Crossner	Latham & Watkins
Tim Frank	American Farmland Trust
Larry Greene	Sac Metro AQMD
Brett Williams	Sen. Wiggins Office
Lisa Trankley	Attorney Generals Office
Erik Johnson	Saramento Area Council of Governments
Bonnie Holmes-Gen	American Lung Association of California
James Russell	WorldWatch
Erin Shaw	Asm. Ruskin Office
Justin Horner	NRDC
Linda Rudolph, MD	California Conference of Local Health Officers
Aaron Welch	Raimi & Associates, INC.
Val Joseph Menotti	BART, LKS-16
Ana Sandoval	Bay Area Air Quality Management District