Sacramento Region: The Evolution of Integrated Transportation Planning

To Accompany Oral Testimony of:
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Chairman Boxer and members of the Committee: thank you for the opportunity to participate in your hearing on the Clean Energy Jobs and American Power Act. I will focus on the sections of the bill that relate to transportation planning and funding. I believe the bill has the right approach in these areas, and will result in significant changes and benefits to citizens in urban, suburban and rural areas throughout our country.

After offering my thoughts on the legislation before you I provide a case study of the Sacramento Area Council of Governments' (SACOG) evolution in integrated transportation, land use and air quality planning over the last ten years. The Sacramento region provides a good test case for the country. Over the past few decades we have been a fast-growing, mid-sized, metropolitan area. Today, we have over 2.3 million people in 22 cities and six counties. Our central city, Sacramento, is the state capital and the region's largest employment center. However, we have two other large employment centers in our inner-ring suburbs of Rancho Cordova/Folsom and Roseville/Rocklin. We have a number of small towns, with roots in our storied gold rush and agricultural history. We have some of the best farmland in the world, and large expanses of high-quality natural resources and forested areas. We are also the intersection of major north-south and east-west truck and rail freight corridors. The Sacramento region's demographics are very similar to the country's, and the region is sometimes used for marketing research for this reason.

SACOG's story will also be of interest because it is now part of a statewide effort in California to integrate climate change, transportation, land use and housing plans. Many of the other regions in the state have conducted similar scenario planning over the last several years, and a year ago Governor Schwarzenegger signed Senate Bill 375, which directs the California Air Resources Board to provide 18 regional agencies with greenhouse gas emissions reduction targets for cars and light duty vehicles by 2010. The regions must meet the targets through their Regional Transportation Plans (RTPs, or Metropolitan Transportation Plans (MTPs) in the Sacramento region), if feasible, but it is not a mandate. Local land use authority is preserved, and reforms to the California Environmental Quality Act provide strong incentives to make it easier to build housing and mixed-use development projects that help to reduce greenhouse gas emissions. The law is in its early stages of implementation.

The fundamentals of the transportation planning provisions in the legislation you have before you are relatively straightforward. From the perspective of this regional agency executive director, they send three basic messages:

- the federal government will identify a targeted amount of greenhouse gas emissions reductions from the surface transportation sector as a national policy goal;
- states and regions will be required to meet certain quality standards for data, modeling, analysis of a range of future scenarios, and to set their own performance targets for greenhouse gas emissions reductions in the surface transportation sector; and
- federal agencies will provide guidance, technical assistance and financial incentives to help the states and regions succeed in meeting their targets.

The SACOG story told below leads me to believe that this simple, practical approach to improving the state and regional transportation decision-making processes will yield substantial results. Over a decade, we have learned some important "big" lessons from our integrated planning commitment, including:

1. It is possible for a relatively small regional agency (about 50 employees) to develop state-of-the-art data, models and civic engagement methods.
2. Information is very powerful — citizens, stakeholders, local governments and others will act to change their traditional practices if provided credible, objective information about future impacts, trade-offs and choices.
3. Broad-based cooperation and agreement is possible — citizens, stakeholders and local governments through traditional democracy processes are capable of thinking beyond their borders and selecting options that optimize benefits at all scales for a wide range of conditions and interests.
4. Improved quality of life is about increasing choices, not decreasing choices — the growth patterns of the recent past too often limited transportation, housing and community living environment choices to monolithic products.
5. New growth patterns that provide choices cost less — by over $16 billion through 2050 in our region alone.
6. A classic top-down regulatory system is not needed to effect change — in fact a bottom-up approach is more effective because it stimulates locally tailored innovation, and competition.

I do encourage you to increase the allowance for clean transportation projects beyond the roughly 3 percent in the bill. The transportation sector contributes nearly 30 percent of the greenhouse gas emissions in the country, and there is a lot of evidence that there are viable ways that sector can produce major reductions in emissions, both in the short term and over the long term. A higher transportation allowance would send a stronger signal to the states and regions that improvements in the transportation sector are a high national priority. I also support tying the funding to performance. The SACOG story, below, highlights the strong performance outcomes that can be realized by increasing access to transit funding, in particular, in the near-term in order to achieve the full benefits of integrated regional planning.

THE EVOLUTION OF INTEGRATED REGIONAL TRANSPORTATION PLANNING IN THE SACOG REGION

For the past decade, the Sacramento region has been deeply invested in the development, adoption and implementation of integrated land use, transportation and air quality planning. The effort is led by the Sacramento Area Council of Governments, the Metropolitan Planning Organization (MPO) for the six-county region (Sacramento, Yolo, Sutter, Yuba, Placer and El Dorado) and the twenty two cities within. Since 1999, the SACOG Board of Directors has adopted four major plans: the 1999 Metropolitan Transportation Plan (MTP), the 2002 MTP, the Blueprint long-range growth strategy (adopted in 2004), and the 2008 MTP. As the surface transportation law has evolved from ISTEA (1991) to TEA-21 (1998) to SAFETEA-LU (2005), so too has the way that the Sacramento region does transportation planning.

1999 MTP — The last of the traditional transportation plans

As the MPO for the region, SACOG is required to regularly update its MTP in a manner that is consistent with federal and state requirements, including the Federal Clean Air Act. Since 1974, portions of the SACOG region have not been able to attain the standards of the Clean Air Act, requiring that each MTP meet "conformity" requirements to ensure that the region is making adequate progress towards meeting the clean air standards.

Like many regional agencies around the country, SACOG produced its 1999 MTP largely by combining the individual transportation plans of its member cities, counties, and various transit districts into what then qualified as a regional plan. While this approach had a certain perceived benefit to member agencies and partners, it did not optimize the regional travel performance of the transportation system or air emissions.

The underlying projected land use pattern for the 1999 plan was worked out by SACOG staff and senior planning staff of the local governments, based on their existing general plans, codes and development trends. There was no regional analysis or proactive behavior on SACOG's part, such as explaining how the trend in development patterns might damage or benefit regional travel patterns and air emissions. SACOG did not have parcel-level GIS data for most of its region, so it was unable to analyze land use trends in a detailed manner. SACOG's regional travel model, SACMET, was a traditional four-step travel model with households and employment aggregated to travel analysis zones as the basic unit of analysis. Citizen and stakeholder involvement was limited to one town hall meeting in each county, making requested presentations, consulting with a standing SACOG committee of primarily senior public works staff from local governments, and a public hearing.

The plan was unanimously adopted by the SACOG Board of Directors, but its projected performance was modest to disappointing. The share of trips by transit was projected to stay constant at 1 percent, the share of pedestrian and bicycle trips declined from 7.7 percent to 7.2 percent, the daily vehicle miles traveled (VMT) per capita increased by 6 percent, and commute period congested VMT per capita increased by 360 percent. A lawsuit against the MTP was filed by

a Sacramento environmental organization. The group opposed several road capacity projects in the plan and challenged technical and process details of the air quality conformity finding. The suit was settled in SACOG's favor, with a commitment to a more extensive public review process for the air quality conformity finding in the next MTP cycle.

2002 MTP — The first step towards integrated planning

The SACOG Board appointed a 55-person Transportation Roundtable to oversee development of the 2002 MTP. The Roundtable was broadly representative of the diverse interests in the SACOG region, from business and development interests to activists for environmental, housing and social justice issues, as well as civic organizations and academia.

Over a two-year professionally facilitated process, the Roundtable developed decision-making ground rules. To capture the broad range of ideas and opinions, the Roundtable designed a range of transportation scenarios and asked SACOG to model the impacts of each, including one scenario that invested all of the available funds into road capacity enhancements, and one scenario that, instead, invested all of the funds into improvements to transit, walking, and bicycling systems. SACOG's technical capabilities had improved since the 1999 MTP. A regional geographic information system (GIS) was forming with cooperative working groups of the cities, counties, electric utilities, fire services and others in the region. The Sacramento regional GIS Collective was formed to improve the quality and lower the cost of detailed land use data and to establish standards and protocols that enabled data sharing among agencies. A new travel survey of 4,000 households in the region was conducted and then used to update the SACMET travel model. Other data and model improvements included splitting some zones to improve details in certain areas, improving a Pedestrian Environment Factor first tested in 1999, auto and transit costs, and networks.

The results of modeling indicated that neither extreme approach would yield a well-functioning regional transportation system. The scenario that balanced investment in automobile capacity with investments in the other modes performed better.

Early in the Roundtable's work, some SACOG board members familiar with the Envision Utah scenario planning exercise advocated for a scenario to be developed that emphasized what were coming to be known as smart growth principles (e.g., mixing land uses, growing more compactly, and using pedestrian and transit-oriented design principles). Environmental members of the Roundtable were supportive. SACOG's senior staff, supportive in concept, believed that to address land use in a technically and politically effective way would require a greater effort than was possible in the final stages of the 2002 MTP cycle. The SACOG Board agreed with the slower approach recommended by the staff and asked the executive director to pursue funds to conduct a comprehensive land use study to inform the next major MTP update.

Although land use was not thoroughly analyzed in the 2002 MTP that the SACOG Board adopted, the plan did include several groundbreaking features. Most notably, for the first time it established four regional funding programs. A new community design program incentivized smart growth with a half-billion dollars over 25 years, with the three other programs increasing commitments to bicycle

and pedestrian investments, enhancing air quality programs, and investing in transportation demand management. Both the process to develop the plan and the plan's substance sent a very clear message to the region. The 2002 MTP was a true regional plan and not, as some had pejoratively described prior plans, a stapled compilation of the individual plans of the cities, counties and transit operators.

The 2002 MTP was unanimously adopted by the SACOG Board, and although the environmental organization that filed lawsuit over the prior plan was still dissatisfied with some of the road investments in the plan, it did not litigate this time. Nevertheless, for all the plan's groundbreaking features, its less-than-stellar projected future travel and air quality performance were of concern to the SACOG Board, staff and many members of the Roundtable. In particular, the plan projected a nearly 60 percent increase in per-household travel spent in heavy congestion over the next 25 years, even with the build out of the MTP's $25 billion list of transportation investments. This realization motivated many key people inside and outside of the government to get serious about a regional land use study. A shift in thinking among opinion leaders throughout the region began to be articulated: maybe congestion could not be resolved through transportation improvements alone. Maybe there was something about growth patterns in the region that was creating a demand for transportation improvements that simply could not be met. It was this environment that led the SACOG Board to launch the regional land use scenario planning project that eventually came to be known as Blueprint.

Blueprint — A new growth vision for the region

The first year of the 30-month Blueprint planning process was spent designing the project, developing strategic partnerships, raising both public and private funds, hiring staff, and significantly upgrading the data and modeling capabilities of the agency. Critical support for this effort came very early in the process from organizations like the Sacramento Metropolitan Chamber of Commerce, Valley Vision (a civic organization) and the local chapter of the Urban Land Institute. Others joined as the project progressed, including the local chapters of the Building Industry Association, American Institute of Architects, and the environmental organization that had sued SACOG over the 1999 MTP. A long-distance partnership with leaders of the Envision Utah project provided strategic and technical advice throughout the Blueprint process.

SACOG embarked on a number of enhancements to its data and modeling capabilities. Most notably parcel-level GIS data, including general plan and zoning designations, lot size, and ownership were developed for all 800,000 parcels throughout the six-county region. For the first time, SACOG used an integrated forecasting model, called MEPLAN. This land use-economic-travel model uses economic costs, development policies (general plans), travel time, and household demographics to allocate future growth. The regional travel model, SACMET, was upgraded in a number of ways, most importantly the addition of a post-processing capacity called "4Ds". The 4Ds (density, diversity, design, and destination) are land use characteristics that influence travel behavior and are added to travel models to better understand the effects of smart growth land use design options on travel. The analysis uses elasticities, or percent change, to modify vehicle trips, vehicle miles traveled (VMT), and mode choices based on changes in the land use characteristics. SACOG

also used an Internet-based software application developed by the California Energy Commission, I-PLACE^{3}S, which enabled SACOG to use interactive planning technology in dozens of community meetings as well as providing the kind of parcel-specific land use planning accuracy at a regional scale and real time response speed that was not previously feasible with the desktop GIS version of the software.

PLACE^{3}S was designed to achieve two primary objectives: 1) provide sophisticated, objective technical information to illustrate the complex interrelationships between land use, transportation and air quality issues; and 2) provide that information in an easily-understood and accessible format so that everyone—citizens, policy makers, stakeholders and professional staff —could use it to develop informed opinions. SACOG improved and expanded I-PLACE^{3}S to better serve the needs of regional and local decision making. The Blueprint process was designed to honor the simple precept that an involved and informed citizenry is an essential ingredient of a healthy democracy.

The first product of the effort was a Base Case scenario for growth through the year 2050 that assumed policy and market trend lines of the recent past would continue unchanged. The Base Case was developed by SACOG staff and consultants, with significant input from a first-in-the-region committee of the land use planning directors of SACOG's member cities and counties. A detailed projection for future growth in population, employment and housing in the region was developed by a consulting firm specializing in projections for the California economy. A demographic forecast was also prepared, including changes to the age, household size, ethnicity, and incomes of the region's future population.

These regional-scale growth projections were then allocated to various communities throughout the region. Some of the key assumptions that had to be made to prepare the Base Case included projected housing densities, mix of housing stock between single and multi-family structures, and where the growth would most likely occur. The MEPLAN software was particularly helpful in projecting where market forces were likely to encourage future growth after the capacity of existing general plans was exhausted. The PLACE^{3}S software was used to analyze existing general plan and zoning capacities, natural resource and other constraints, and to prepare a parcel specific 2050 planning scenario for analysis by the travel and air quality models.

The performance metrics for the region in 2050 if the Base Case scenario materialized were very bad. Congestion, time devoted to daily travel, supply of affordable housing, conversion of farmland and natural resource lands to urbanization, carbon dioxide and particulate matter all were significantly worse than current conditions. It is not an exaggeration to say the region was stunned. The lead editorial in the *Sacramento Bee* the next day was titled "SACOG shows region the road to ruin." There was a quick and nearly unanimous consensus that the Base Case future was not what the region wanted. But if not the current trends land use scenario, then what?

Alternatives to the Base Case future were needed. These scenarios were designed to test the technical and political viability and the applicability of seven growth management principles, commonly known as smart growth principles:

- Provide a variety of transportation choices
- Offer housing choices and opportunities

- Take advantage of compact development
- Use existing assets
- Mixed land uses and development types
- Preserve open space, farmland, natural beauty, through natural resources conservation
- Encourage distinctive, attractive communities with quality design

The principles were not assumed at the outset to be inherently good or bad, but ideas of sufficient seriousness to be worth examining. The Blueprint tested these principles at three geographic scales: neighborhood, county, and regional.

Before the workshops began, an additional important piece of technical research was conducted. SACOG asked its partners at the Sacramento Metro Chamber, Urban Land Institute, and Building Industry Association to fund and help design a market research study on consumer housing preferences. The study, conducted by a national real estate marketing firm, showed stronger interest than many expected in what at that time were considered "alternative" housing products in the Sacramento region (e.g., single family homes on small lots, attached housing products such as townhomes and condominiums, or housing built in a walkable, mixed-use format). These types of products were not being built in Sacramento when the survey was conducted. Statistical analysis of the survey results showed that two-thirds of the people over 55 in the sample preferred these alternative products. This is the same demographic group SACOG's demographic forecaster estimated would represent a full two-thirds of the growth in the region through 2050.

Neighborhood-scale workshops

A series of thirty neighborhood level workshops were held, at least one in each of 27 of SACOG's 28 member local governments. Multiple workshops were held in the two largest jurisdictions, Sacramento City and Sacramento County. To help reach out to communities across a large region, SACOG turned to Valley Vision, who was a full partner in executing the project. Valley Vision recruited and involved citizens and stakeholders in the workshops, and they formed advisory committees of key opinion leaders and stakeholders within each county to further recruit workshop participants. The goal, realized at most workshops, was to seat individuals from five to seven diverse interests at each small group table, including developers, local property and business owners, citizens, activists from the environmental, housing and other issue specific communities, and public agency representatives.

Each host local government selected two case study sites to be the subject of their workshop, one an example of infill development opportunities and the other an example of "greenfield" (larger tracts of vacant land) development opportunities. Six to eight citizens sat at each work shop table and, after watching an introductory video and PowerPoint presentation about the Blueprint, the region's changing demographics, smart growth principles and some details of the case study sites, they spent the balance of the evening designing a conceptual plan for one of the case study sites.

Project staff designed a series of interactive planning exercises for participants. In their small groups participants used context maps, pictures and data, along with a map of the study area, and a menu of land use options to make decisions that were record by placing stickers on parcels that represented

the land uses they wanted in their plan. Roving land use and transportation experts answered questions; a trained facilitator guided the discussion.

A laptop computer and operator, running the new web-based I-PLACE^{3}S software via cell phone connection, were available at each table to enter the plan as the citizens created it and, at various junctures, to tell them how it was performing on key metrics such as jobs-housing balance, housing diversity, vehicle miles traveled, air emissions per household, and mode choice (i.e., percent of trips by car, transit, walking, and biking). An economic reality test included in I-PLACE^{3}S conducted a planning level pro forma analysis on the proposed development ideas for every parcel. This return-on-investment function was used to test the profit performance and, thus, investment feasibility for private developers.

This citizen involvement process reflects a significant advancement from the days of asking citizens "what do you want?" and recording their opinions on flip charts. The entire workshop was designed both to empower the citizens by building their knowledge base and to reinforce the message that this was an information-based planning process, not one that had been pre-cooked in some manner or was dominated by a particular planning philosophy. The technical results of these neighborhood workshops are summarized at **www.sacregionblueprint.org**. Every table's plan is saved on the website and can be viewed at any time.

Two important findings became clear to many SACOG board members. First, the innovative outreach method attracted large numbers of people to the workshops; many were new participants in local land use issues. Second, there was a striking degree of agreement on the types of plans people supported, among the very diverse people at each table, among the tables at each workshop, and among the communities where the workshops were hosted. The smart growth principles of pedestrian and transit design, and housing products that provided far more diversity than common in the current marketplace (in part, to provide greater affordability, but also to meet the needs of the aging population), were supported throughout the region — in low-income neighborhoods in urban Sacramento as well as affluent suburban jurisdictions.

It is worth noting that, of the other regional scenario planning exercises in the country at that time, none had conducted extensive neighborhood-scale planning this early in the process. SACOG was, in fact, pointedly advised by veterans of some of these other planning processes not to do neighborhood-scale planning early in the process because it would generate too much controversy and the project would never be able to proceed to alternative regional scenarios. However, SACOG's approach to Blueprint from the outset was grounded in trying to find land use solutions that would work, would be politically supportable, and could be implemented at-scale quickly. The experience with too many planning projects at all scales is that enthusiasm and therefore, performance falls off after the plan is adopted and moves to implementation. SACOG wanted to minimize the chances for what one representative from the U.S. Department of Energy (one of the funders for the development of the PLACE^{3}S planning method) termed "stranded inspiration."

By the time the neighborhood workshop series was complete, it was clear that the Blueprint project had acquired legs. Many participants commented about how great the experience was. The development community, some of whom were initially skeptical of where the project was headed,

gained confidence through seeing first-hand that a wide diversity of citizens supported growth on infill and greenfield sites alike in their communities.

County-scale workshops

SACOG convened committees of senior land use planners within each of the counties and built three alternative county-level planning scenarios for growth through 2050 to compare to the Base Case scenario. The planners started with the citizen input from the neighborhood workshops. They examined the results of the present-day housing market preference survey and the long-range demographic forecast to develop realistic targets for what portion of future housing construction should be planned for about eight different low-, medium- and high-density housing products. Current general plans and zoning codes were assessed to determine to what extent built densities were at or below allowed densities. The planner committees discussed ways it may be possible to change local policies and codes over the next five decades. Each county prepared three scenarios, all designed to use smart growth principles, but in different ways and to different degrees. The overall growth rate within the county also typically varied between the three scenarios. This method of building the county scenarios was designed to blend visionary planning with real-world local policies and market conditions, again, towards the goal of ultimately finding a preferred scenario that would perform well, and could and would actually be implemented.

The county-level round of workshops was conducted with a minimum of one workshop in each county and several in Sacramento County. Modified but familiar maps, charts and stickers seen earlier in the neighborhood workshops were used. But this time the participants had to first choose the county-wide scenario they liked best, either the Base Case or one of the three alternatives. The scenarios were labeled A, B, C and D (an idea borrowed from Envision Utah) to avoid biasing people's opinions about their merits. Valley Vision again recruited and grouped five to seven diverse perspectives at each table. The citizen planners examined large posters with maps and performance metrics, comparing and contrasting the four scenarios, agreed on the single scenario they liked the most, and then used the stickers and felt markers to modify it to make it even more to their liking.

Again, laptop computers and operators were at each table to enter the changes and give immediate feedback on how their changes would alter the performance of the scenario for travel behavior, air quality impacts, jobs-housing balance, total growth, and other impacts measured by I-PLACE^{3}S. This time, the computers were connected to Internet via high-speed connection, not cell phones as at the neighborhood workshops, which helped to transfer the much larger data sets resulting from more parcels at the county scale.

The county workshop series was also well attended and built greater momentum and credibility for the project. People interested more in the environmental protection side of the issue seemed pleased that there was so much support for scenarios based on smart growth principles. People interested more in the housing supply and development side of the issue seemed pleased that the discussion was focused on managing growth well, rather than the often-typical fast-versus-slow or no-growth arguments. Following the county workshops, SACOG staff met with the committee of planners within each county to review the public input and decide which ideas that had been tested were supported by none or few, which ideas were supported by most or all, and which ideas had divided

opinion. Through this process, a draft of three scenarios for each county fed into the creation of three regional scenarios.

Regional-scale workshops

An unexpected challenge arose out of this process: there was a great deal of consensus for the preferred growth pattern within the counties. Was there still a need to build alternative regional scenarios? SACOG staff strongly believed there was, if for no other reason than that the county scenarios had been analyzed in the workshops only for their impact on county-wide performance metrics. The project had yet to create a scenario to measure regional performance against the regional Base Case that everyone disliked so much. There were also, however, sufficient variations within the remaining county scenarios to make creating and analyzing the regional scenarios interesting on its own merits. The three regional scenarios that ultimately were created were similar or identical for about 80 percent of the growth through 2050. In one scenario, the final 20 percent of growth was located in small towns (and one new town) around the periphery of the region; in another scenario, the final 20 percent was located in inner-ring suburban locations adjacent to existing urbanization; and in the final scenario, the final 20 percent growth was placed into inner infill and revitalization areas.

The four regional scenarios (Base Case plus three new ones) were also labeled A, B, C and D and taken to a large day-long regional forum attended by 1,500 people in downtown Sacramento. Facilitators for each table were recruited, drawing from local elected officials, senior local government staff, and staff from related state agencies, transit, and air districts. The training the facilitators were required to take, and their direct participation in the event, was an important element in building their understanding and support for what became the final preferred scenario.

Again, Valley Vision recruited and placed the participants at small group tables. After hearing introductory video and PowerPoint presentations, each table spent the balance of the day selecting the regional 2050 scenario they like best and then modifying it with stickers representing different land use types to better meet their preferences. This workshop was so large that SACOG did not have enough laptop computers for each of the 150 tables, so "live" computer analysis was conducted at only a few representative tables.

After the small-group work, participants used individual keypad clickers to record both their personal preferences and the consensus preference of their small group. No tables voted for the Base Case scenario and very few for the scenario that placed the final 20 percent growth in the cities the farthest away from the urban core of the region. The consensus votes of the tables favored the scenario that placed the final 20 percent in the inner suburban areas, while the individual votes favored the scenario that placed the final 20 percent of the growth in inner infill areas — an interesting divergence that turned out to be not particularly difficult to resolve. After analyzing each of the table's maps, SACOG staff prepared a draft preferred scenario that was a balance of the two most popular scenarios from the regional workshop.

Throughout the entire workshop process, SACOG board members, along with key public and private sector opinion leaders from throughout the region, were briefed and provided opportunities to give input and guidance on the project. Regular updates were targeted to the *Sacramento Bee's*

editorial board, and to the region's Congressional delegation. Board members were specifically engaged at least monthly, both at committee meetings and at full board meetings. The input from the elected officials hit a crescendo, however, with the last big event of the Blueprint, a first-ever regional summit of all city and county elected officials. In preparation for the summit, a random-sample public opinion poll was taken to measure citizens' attitudes about growth and the principles that underpinned the draft preferred scenario (now modified and re-labeled "Blueprint Principles"). A national polling firm, Wirthlin Worldwide, conducted the survey and its president, the primary pollster for Governor and President Ronald Reagan, came to the summit to present the results personally. Among his key messages and advice to assembled local elected leadership of the region were the key points that citizens were: 1) very nervous about growth, fearing that it would degrade a quality of life that at that time they believed was very high; 2) supportive of using the Blueprint growth principles to manage growth; 3) supportive of regional cooperation for managing growth, but skeptical whether their local officials would do it; and 4) dramatically more positive in their attitudes about the positive aspects of growth if they believed their local communities would use the Blueprint principles to help them make planning decisions.

The elected officials used electronic keypads to identify what aspects of the draft preferred Blueprint alternative they liked and disliked. The draft alternative was very popular with the participants, and the few areas of concern gave SACOG staff fairly clear direction about the types of final refinements needed before taking the plan to the SACOG Board for final action.

By the time the workshops and two regional forums had been conducted in April 2004, more than 5,000 individuals had used the modeling software and given input into the future vision of land use in the Sacramento region.

The Blueprint Decision

In December 2004, the SACOG Board unanimously adopted the Blueprint growth strategy. By this point in the process SACOG had received many regional, state and national awards for the project, including: The Governor's Award for Environmental and Economic Leadership, The Federal Highway Administration/Federal Transit Administration Transportation Planning Excellence Award, the U.S. Environmental Protection Agency National Award for Smart Growth Achievement and the Association of Metropolitan Planning Organizations National Award for Outstanding Achievement. A remarkable broad-based group of supporters, individuals and organizations, came to the SACOG Board meeting to applaud the Board's work; including the Building Industry Association and the environmental organization that had sued SACOG. In fact, the environmental group gave SACOG its Environmental Leadership Award for 2004.

The SACOG Board's Blueprint adoption action included a conceptual map for growth through 2050, a set of Blueprint growth principles, and an implementation strategy. The implementation strategy included actions such as pursuing state legislative reform to amend the California Environmental Quality Act (CEQA) to better promote Blueprint-style growth, development of a rural lands and open space strategy for the region, technical assistance to local governments to help them amend their general plans and zoning codes to reflect the Blueprint, pursuit of financial incentives to assist, in particular, with infill development, and integration of Blueprint into the next MTP.

2008 MTP — The first integrated land use, transportation and air quality plan

Immediately after Blueprint was adopted, SACOG went to work on the 2008 MTP. There were three main, related, technical and regulatory issues to address:

1. How could SACOG best employ the adopted Blueprint as its long term land use plan for determining transportation needs in the MTP?
2. How would the MTP accommodate the new requirements in SAFETEA-LU, the new federal transportation authorization bill?
3. How would the MTP address the new air quality plan (State Implementation Plan or SIP) being prepared by air districts to meet the new, tougher 8-hour ozone standards the federal government had promulgated to replace the 1-hour ozone standard?

SACOG wanted this MTP to be significantly influenced by the Blueprint; that is why the Board had launched the Blueprint in the first place. Federal MTP requirements do not allow an MPO to use a "visionary" land use allocation. In a series of meetings with high-level staff at both the Federal Highway Administration and the U.S. Environmental Protection Agency, it was clear that there would be no latitude to claim air quality benefits unless SACOG could demonstrate they would probably occur. This meant SACOG must demonstrate that projected land uses derived from the Blueprint were realistic and likely to be built. The partnership with the Sacramento Metropolitan Air Quality Management District, an active public agency partnership in the Blueprint process, was essential to working out these issues. Also, SACOG's commitment to extensive data collection, analysis, and state-of-the-art modeling tools was a critical component of persuading the federal oversight agencies that whatever travel and air emissions benefits SACOG claimed in the MTP from the Blueprint would be real and not illusory.

Compliance with new SAFETEA-LU requirements was a little trickier. Most of the new requirements for public participation, safety and security, congestion management and other specific issues were straightforward. More difficult was the requirement that air emission impacts of any MTP adopted after June 30, 2007 must conform to the new 8-hour ozone standard. But it was clear very early that the State of California and its air districts would not have sufficient information from U.S. EPA soon enough to know how to conform to the 8-hour standard by the time SACOG would adopt the MTP. As a result, SACOG "conformed" its new MTP to a bridge State Implementation Plan (SIP), known as the Rate of Progress SIP, and after the 8-hour ozone SIP is completed in late 2008, a new MTP conformity process will be conducted

In addition to meeting these three regulatory requirements, SACOG wanted to produce the new MTP using a stakeholder and citizen involvement process that met, or exceeded, the bar established by the Blueprint. A working committee to create an outreach strategy was established with SACOG's partner Regional Transportation Planning Agencies (RTPAs), the major transit operators, and the Sacramento Metropolitan Air Quality Management District, which had the lead role in developing the new SIP for the region. After the 2002 MTP, public works directors requested greater involvement in developing the next plan. A regional committee of local government public works directors was actively involved throughout the project.

The Analytical Tools

In preparation for both the public workshops and the technical work of the MTP update, SACOG committed to another round of enhancements to its data and models. Workshop capabilities were improved by embedding a somewhat simplified version of SACMET, the 2002 MTP regional travel model, into the I-PLACE^{3}S software so that it could be used interactively to produce travel and land use information in minutes. This upgrade included the "4Ds" land use sensitivities to better capture smart growth details. SACOG's overall analytical capacity was improved by shifting from the SACMET 4-step model to a new, activity-based regional travel model, SACSIM. Activity-based models are the next generation capability in regional travel modeling. These models analyze travel patterns in a fundamentally different manner than traditional 4-step models. The 4-step model segments travel into individual trips by purpose (e.g., home-based work, home-based shop, non-home based). Activity-based models link trips into "tours" that begin and end at home, or work, depending on the list of activities associated with the tour. With this new approach the number and sequence of trips, the modes chosen, the time of day, and the total amount of travel time are internally consistent (less double counting of travel), which is not possible with 4-step models. Also, SACOG built the SACSIM model to function at the parcel level to enhance the ability to capture the benefits of fine-grained smart growth planning options. Other activity-based models may still aggregate data into zones, sometimes several hundred acres each, causing data to be averaged within the zone, reducing resolution and accuracy. I-PLACE^{3}S, with its parcel level land use planning capacity, is a perfect complement to SACSIM for detailed regional analysis outside of real time workshop uses.

The net effect of the parcel specific I-PLACE^{3}S and SACSIM modeling capabilities is like shining a bright light into a room that had been under lit; fine-grain relationships between specific land use choices and travel behavior are suddenly measurable. The prior models simply did not provide for sufficient detail to perform that level of analysis. SACOG's ability to understand the impacts and trade-offs between land use, transportation and air quality choices improved dramatically because of these modeling tools.

The Process

SACOG and its partners designed a two-part workshops series to support the MTP update. A series of 17 community workshops started the process. Valley Vision was reengaged as a partner and used Blueprint recruitment and workshop participant and table perspective diversity techniques. Nearly 1,800 citizen planners came out to workshops throughout the region between February and June 2006.

A transportation version of the Blueprint workshop program was designed, complete with menus, stickers, maps and posters. This time, instead of planning for a specific numbers of new people, jobs and houses coming to the region by 2050, participants were asked to design for mobility in 2035 and they were given a budget to spend. Federal law requires that MTPs only include transportation projects that can be delivered by revenues that are reasonably certain to be available. So, the budget was important to keep the workshops focused on what was realistic, and not an exercise to produce a dream list of ideas.

SACOG staff worked with senior local government planning staff to develop a preliminary land use map to show growth through 2035, the planning horizon year for the MTP. The 2050 Blueprint preferred scenario map was the starting place for developing the 2035 map, with changes made both to reflect the shorter timeframe as well as SACOG's best information on where local governments and the market were performing in ways consistent, or not, with the Blueprint. The preliminary land use allocation for 2035 was significantly refined over the course of the MTP planning process, as more empirical experience became available with Blueprint implementation and SACOG staff had more time to work, in detail, with local government planning staff.

SACOG staff worked with its partners and local agency staff to design three alternative transportation scenarios for each county. Participants listened to a short video and a PowerPoint presentation explaining how the underlying smarter growth land use pattern for this MTP would create more need for investments in alternative modes to the automobile, and for shorter distance automobile trips. Ways to quantify differences in mobility performance among the scenarios were also explained.

Participants in each small group agreed on the scenario they liked best and then used stickers representing a variety of transit, pedestrian, bicycle, and road investments to modify the scenario to better match their preferences. Laptop computers again were used to show participants how their choices changed the performance of the scenario, for better or worse. This may have been the first time in the history of U.S. transportation planning that live feedback on regional travel performance was provided in a public workshop addressing an area this large.

The results of the county workshops were compiled, analyzed with the travel models at SACOG, and used to prepare three regional-scale transportation scenarios. To assist in the development of these scenarios, extensive modeling of alternatives was done in certain key corridors to ensure that all of the possible high-performance options were considered. This was a vastly greater level of transportation modeling to support these early stages of the planning process than SACOG was able to conduct in past MTP cycles. The commitment to base planning decisions on credible, objective information rather than planning philosophy or past plans, whether regional or local in scope, was again demonstrated by the quality, quantity and timing of this travel modeling.

SACOG deviated from the Blueprint approach to the large regional workshop for the MTP. Instead of inviting everyone to a single downtown location, eight simultaneous workshops were held throughout the region, linked by satellite video. The goal was to make it clear, by allowing more people to attend one of eight dispersed workshops that this truly was a regional plan being developed and their input mattered. The event was co-hosted by KCRA 3, the local NBC affiliate with the highest viewership in the Sacramento region. One of the station's news anchors served as emcee throughout the evening. Presentations at the largest site, Memorial Auditorium in downtown Sacramento, were broadcast to all eight sites, along with pre-packaged educational videos. The balance of the citizens' work was done locally at each of the eight workshop locations.

Again, a diverse range of workshop participants sat in small groups, chose which of three regional scenarios they liked the most, and used menus and stickers to refine the map to better match their preferences. As with the county workshops, a budget was imposed. Laptop computers were not used interactively at these workshops, although at the end of the workshop all participants used

electronic keypads to record their opinions on key issues. Although there were temporary technical issues with both the satellite and keypad technology at this event, it was a significant success, attended by nearly 1,500 people at the eight locations, and extensive citizen input was provided to guide development of the draft MTP.

The final big public involvement event was an hour-long live television show sponsored by the station, replacing the regular 6:30 newscast on January 31, 2007. Forty studio guests, selected by the station, were seated in an in-the-round, town-hall style studio and responded to questions posed to them by two news anchors. An online poll collected viewer feedback on several questions posed during the show. More than 56,000 viewers tuned in to watch this regional dialogue, and 1,300 gave immediate feedback responses through the interactive poll.

Significant public attitude research also was conducted. A regional telephone poll was completed to test attitudes on different transportation investment options. The poll was supplemented with four geographically representative focus groups of the general public and an online poll. A separate set of eight focus groups was conducted to focus in on environmental justice issues. In total, more than 1,500 individuals gave input through focus groups and scientific surveys. SACOG learned that all areas and groups of residents want a balance of highway/freeway improvements and public transportation expansion, and where there are differences of emphasis.

The Decision

On March 20, 2008, the SACOG Board unanimously adopted the 2008 MTP — the first MTP to explicitly propose a range of policies and associated strategies specifically designed to integrate with a Blueprint-influenced land use pattern. The SACOG Board's action also included the certification of the associated environmental document that includes meaningful mitigation measures to integrate the MTP's transportation plan with land use, air quality, and climate change concerns.

The region's early and serious commitment to integrated land use and transportation planning is evident in the diversity of alternatives to driving alone presented in the MTP that serve the shorter trips made possible through more compact and mixed land uses produced by the Blueprint. By 2035, the projected vehicle miles of travel per household are expected to decline approximately eight percent, while the increased travel within communities is expected to increase — 80 percent in walk/bike trips and 300 percent in transit trips. The transportation investments in the MTP 2035, combined with Blueprint land uses, result in greenhouse gas emissions reductions, lowering CO_2 by 1 million metric tons annually by 2020.

SACOG also developed a Goods Movement Action Plan as part of this MTP process. Important truck corridors were identified, and recommendations included to improve rail freight as well as to revitalize the region's inland port, the Port of West Sacramento. Commercial truck vehicle miles traveled decreased in the plan by 2 percent, even while employment is 5 percent higher compared to the last regional forecast. The largest benefit is a 36 percent reduction in the amount of travel commercial vehicles have in heavy congestion. This improvement in congested travel is due to a transportation system where more local travel does not need to use the major interstates, but can accomplish their travel on arterials, leaving more capacity for longer-distance travel, which is heavily dominated by trucks.

The budget of the 2008 MTP is quite different from previous plans. Leading the change is a 56 percent increase in bicycle and pedestrian investments and a 35 percent increase in smart growth programs. These new investments are made possible by reducing the demand for investment in options that serve only single occupant vehicles and allocating a larger share of flexible revenues to alternatives that meet the future set of mobility demands. Other critical non road-capacity priorities include a 21 percent increase in transit funding and a 17 percent increase in road operations and maintenance funding to better optimize the existing system. These increases offer meaningful progress to support Blueprint implementation and shorter trips, but are limited by constrained dedicated operating revenue sources.

Transit Funding and Land Use Integration Critical to Plan Performance

Through this process, SACOG has learned a great deal about the very close connections between increased transit ridership and land use patterns, air quality and overall transportation system performance. The table below provides the short story of the improvements we will realize by 2035 through the MTP we adopted in 2008 compared to the MTP we adopted in 2002. The MTP we adopted in 2008 significantly increased investments in transit and focuses much more growth into transit corridors. Transit service hours and boardings will grow dramatically. Transit trips grow at an average annual rate of 4 percent — more than double the population growth rate. The growth rate for commute transit trips is even higher, nearly 8 percent.

Overall transit productivity (boardings per service hour) will increase substantially. This will improve the fare-box recovery rate for transit operators and widen the margin of fossil fuel energy savings realized by transit versus automobile travel. The big win: greenhouse gas emissions and vehicle miles traveled per capita decline instead of increasing or staying constant, breaking a decades-long trend that regions throughout the country have experienced. With the transportation sector accounting for such a large share of greenhouse gas emissions, we cannot avert catastrophic climate change without forcing an absolute decline in vehicle miles traveled.

Increased transit ridership also provides major benefits to automobile drivers. The amount of time people have spent sitting in their cars in congested traffic has risen significantly over the past several years. Our 2008 MTP essentially breaks that trend as well, reducing the time people spend in congestion in 2035 from a 114 percent increase to just a 16 percent increase. There are many reasons for this, but targeted transit investments are one of the most important. Our state-of-the-art modeling indicates that we realize approximately a 10 percent reduction in congestion for every 1 percent of total trips that we are able to shift from cars to transit. This is because much of the increase in transit ridership we are forecasting is for commute trips, which are longer and occur during the peak, most congested, hours. When roadways are at capacity, shifting even relatively small percentages of total trips out of cars and onto transit produces large benefits to all users of the system. It also reduces greenhouse gas emissions because stop-and-go, slow-moving traffic creates more greenhouse gas emissions than moderate-speed, smoothly flowing traffic.

Comparison of Plan Performance: 2002 MTP and 2008 MTP

Percent Change from 2005 in:	**2025** (2002 MTP)	**2035** (2008 MTP)
Transit Service Hours	+111%	+283%
Transit Boardings	+98%	+184%
Transit Productivity	+6%	+35%
Greenhouse Gas Emissions/Capita	0%	-8%
Weekday Vehicle Miles Traveled/Capita	+1%	-6%
Congested Vehicle Miles Traveled/Capita	+114%	+16%

In California, we are in the midst of implementing the nation's most comprehensive law linking regional transportation, land use, housing and climate change planning. Senate Bill 375 was sponsored by California Senate President Pro Tempore Darrell Steinberg (Sacramento), and patterned after the SACOG Blueprint. SB 375 requires regional planning agencies like SACOG to meet greenhouse gas emissions targets for 2020 and 2035 that will be set by the California Air Resources Board. As part of our preparations for meeting the provisions of SB 375, SACOG has prepared a TOD (transit-oriented development) scenario for 2020 that makes further improvements on both the smart-growth land use pattern and the transit investments compared to our adopted 2008 MTP. Specifically, the scenario focused about 15 percent more of the growth into transit corridors, and it expedites the construction of the 2035 transit system to 2020.

The data in the table below clearly suggest that even greater performance improvements are possible if land use patterns and funding for transit improves. In the 2020 TOD Scenario greenhouse gas emissions per capita decline more by 2020 than they do by 2035 in our current MTP. It is clear that substantial, quantifiable reductions in per capita greenhouse gas emissions can be achieved through a combination of land use and investments in transit. Congested vehicle miles traveled per capita is also better, only a 2 percent increase from current conditions.

Comparison of Performance: 2008 MTP and 2009 TOD Scenario

Percent Change from 2005 in:	**2020** (2008 MTP)	**2020** (TOD Scenario)
Transit Service Hours	+39%	+184%
Transit Boardings	+64%	+247%
Transit Productivity	+11%	+38%
Greenhouse Gas Emissions/Capita	-4%	-9%
Weekday Vehicle Miles Traveled/Capita	-2%	-6%
Congested Vehicle Miles Traveled/Capita	+21%	+2%

Transit investments must occur early if they are to effectively stimulate the shift in land use patterns to build substantial amounts of transit-oriented development (i.e., higher-density, mixed-use,

walkable development near high-quality transit service). Expecting developers to build these new products on the expectation that sometime in the future the funds will be forthcoming to put in the transit lines is not realistic. We have to find a way to do both at the same time. Transit and land use development have a strong synergistic relationship that is lost if they are not done together.

Building transit earlier rather than later is not an unreasonable expectation. There is abundant evidence that citizens support this. Last fall, in the middle of the worst economy of our generation, voters in places as diverse as West Sacramento, Los Angeles, and Marin County approved substantial tax measures dedicated exclusively to increased transit service. The large increases in transit ridership and improved fare-box recovery rates that we have experienced locally over the past year are national trends. A combination of demographic, economic and social trends, along with changes in our built environment, create a unique opportunity for transit to finally be a center piece of not only our nation's transportation strategy, but also our aspirational energy and climate change strategy.

In addition to increasing the total amount of transit investment in its 2008 MTP, SACOG also diversified the transit system. Transit is not a one-size-fits-all investment. In order to serve rural communities, a growing urban core, and older suburban areas alike, the Sacramento region is planning for a wide spectrum of services that suit particular needs. These include: light rail, to connect communities with high population and employment densities; streetcars, to connect regional job centers and also make it easy and simple to get around in pedestrian-oriented urban and town centers; regional rail and express buses, to accommodate long-distance commuters; dial-a-ride or neighborhood shuttles, for rural and suburban communities; as well as fixed-route service, bus rapid transit, paratransit, and subscription buses.

Targeted road capacity investments are important

Important increases in road capacity are part of the 2008 MTP. Strategic road expansions include several carpool/bus lanes, largely in the inner areas of the region, and complete street grids that better serve local transit, bike, pedestrian and auto travel. Through matching MTP investments with supportive Blueprint land uses and focusing on critical bottlenecks, congested vehicles miles of travel per household increase a modest 12 percent versus 60 percent projected in the last plan.

Major land use changes happening

The key elements of the land use pattern in our 2008 MTP include major market shifts away from large-lot single family construction to small-lot single family and attached products (rowhouses, townhomes, apartments), increased amounts of growth through redevelopment and infill opportunities, especially within walking distance of existing and planned transit, and a new style of suburban growth that emphasizes mixed use and walkable neighborhoods. A number of national studies document that market demand is now high for urban and walkable suburban neighborhoods. We certainly have witnessed this in our region, with small-lot and attached housing products growing from 20 percent to 70 percent market share in just the first 4 years of implementing our Blueprint plan. Citizens want to live, work, shop, and play in the kinds of places that transit and smart land-use planning can create. Expanding the choices available for consumers for a wider range of housing types and transportation options will allow them to live the lives they want and produce

measurable and astounding reductions in our carbon footprint. It is our job to change our policies and investment priorities to make those choices possible, and in doing so we also protect our rural future and help reduce climate change impacts.

2008 MTP Implementation

SACOG is actively involved in a number of initiatives to implement the 2035 MTP including the **Rural-Urban Connections Strategy** a complementary effort to the Blueprint that developing policy recommendations and technical tools to meet local and regional objectives for enhancing agriculture, rural economies, rural transportation and resource conservation.

SACOG's **Complete Streets Technical Assistance Program** will help communities in the region build more complete streets.

But the largest effort will be the activities necessary to meet the new state law for integrated regional planning, SB 375.

California State Law on Integrated Regional Planning: SB 375

While SACOG was preparing the MTP it adopted in March, 2008 a state law was being drafted to integrate climate, land use, housing and transportation planning in California. The bill, SB 375, was in many ways patterned after the planning process used at SACOG and the other major Metropolitan Planning Organizations in California, all of whom had also conducted sophisticated regional scenario planning exercises over the last decade. The legislation was signed by Governor Schwarzenegger on September 30, 2008. The legislation requires the California Air Resources Board to assign targets for reducing greenhouse gas emissions in 2020 and 2035 to each of the state's 18 MPOs. The bill makes major changes to the California Environmental quality Act (CEQA) to encourage the construction of smart growth housing and mixed use projects, the Regional Housing Needs Assessment (RHNA) statute to make the location of housing consistent with the land use components of Regional Transportation Plans and to require local governments to rezone land consistent with those plans, and to integrate the state's goals for reducing greenhouse gas emissions under AB 32 with Regional Transportation Plans (RTPs, or MTPs in the Sacramento region). The bill, two years in the making, was supported by a unique coalition of the California Building Industry Association, several environmental groups, California League of Cities, County Supervisors Association of California and housing advocacy groups. The three main components of the bill are summarized below.

Sustainable Communities Strategies (SCS) & Regional Transportation Plans (RTP)
By July 1, 2010, the California Air Resources Board (ARB), after considering the recommendations from a broadly based Regional Targets Advisory Committee, must provide targets to Metropolitan Planning Organizations (SACOG in this region) for greenhouse gas emissions for cars and light duty truck trips from the regional land use and transportation system. The MPOs will prepare a Sustainable Communities Strategy (SCS) as a component of their Regional Transportation Plans (RTPs) that meets the target if feasible. If the SCS does not meet the target, the MPO must adopt an Alternative Planning Strategy (APS) that does. However, the MPO is not required to implement the

APS because it may include amounts of transportation funding and changes to land use patterns that go beyond what federal law allows. Several safeguards in the bill are included to preserve local government land use authority, and just like today, in order to receive state or federal funding transportation projects must be included in SACOG's adopted MTP.

California Environmental Quality Act (CEQA) Reform

The methods of CEQA analysis that is required for residential and residential-oriented mixed use projects that are consistent with an SCS or APS that meets the greenhouse gas target are changed.

1. Such projects do not have to analyze their growth inducing impacts or their impacts on climate change or on the regional transportation network.
2. A limited set of projects that meet a very stringent series of environmental and other criteria would be exempt from any CEQA analysis.
3. A substantially more limited CEQA review than normal would be available to projects with a density of 20 dwelling units per acre that are within a half-mile of current or planned high quality transit service for any impacts that are sufficiently analyzed in the RTP environmental impact report and provide adequate mitigation.
4. Local governments can establish their own mitigation standards for local traffic impacts.

Affordable Housing Planning (Regional House Needs Assessment)

Each MPO's process for updating its Regional Housing Needs Assessment (RHNA) will occur every eight years instead of every five years to sync it with updates to RTPs, which occur under federal law in four year increments. The California Department of Housing and Community Development process for setting the regional housing allocations for the MPOs will be amended to encourage providing sufficient housing to match the projected employment growth in a region, and the way the MPOs allocate the housing to each of the cities and counties must be consistent with the SCS.

Summary

The story of these four past major planning actions by SACOG, and its preparation for a fifth, traces a steady evolution to a new style of regional planning. The keys to success were commitments to: the highest quality data and modeling tools — necessary to ground policy making in information; meaningful citizen engagement; and focusing on the connections and interactions between the land use, transportation and air quality planning issues.