

**UCLA EXTENSION PUBLIC POLICY PROGRAM
Annual Symposium Series on
THE TRANSPORTATION, LAND USE, ENVIRONMENT CONNECTION**

Linking Goods Movement to Economic Prosperity and Environmental Quality

**October 24-26, 2004
UCLA Conference Center
Lake Arrowhead, California**

SUMMARY OF PROCEEDINGS

***Summary prepared by Dave King and Andrew Mondschein
UCLA Institute of Transportation Studies***

Edited by: Catherine Showalter, Director, UCLA Extension Public Policy Program

UCLA Extension Public Policy Program
10995 Le Conte Avenue #613, Los Angeles, CA 90024
(310) 825-7885

This report may also be accessed at: uclaextension.edu/publicpolicy

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

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FOREWORD

This report is a summary of proceedings from a policy and research symposium on **Linking Goods Movement to Economic Prosperity and Environmental Quality** held October 2004 at UCLA's Conference Center at Lake Arrowhead.

UCLA Extension's Public Policy Program convened the symposium, which was the fourteenth in an annual series created to address the important connections between **Transportation, Land Use, and Environmental Quality**. Each year a special theme is selected for detailed examination of the interrelationships among these three areas. The clear links between goods movement, the economy, the environment, and questions of equity made this an important and timely topic.

Specific issues addressed were:

- ❖ The affect of changes in production, trade, consumption, and congestion on the movement of goods;
- ❖ The impacts of goods movement on health, land, and environmental quality;
- ❖ Current trends and policy concerns of international trade traffic;
- ❖ Modal perspectives of air cargo, maritime trade, rail freight and trucking;
- ❖ Public-private cooperation and coordination in managing the movement of goods;
- ❖ Land use conflicts with expanding ports and terminals;
- ❖ Moving goods in rural and rapidly urbanizing areas;
- ❖ Evolving freight logistics and local impacts of global trade;
- ❖ Alternative technologies and energy issues;
- ❖ Regulating emissions in the goods movement sector;
- ❖ Governance challenges to planning, regulating and managing goods movement;
- ❖ Who pays? Who benefits?

To ensure that the symposium was keyed to the needs of policymakers, practitioners, and researchers, the program was developed with the considerable help and underwriting from numerous co-sponsoring and cooperating agencies and organizations, which include governmental, business, environmental, and public interest groups.*

This year's symposium was dedicated to the memory of two outstanding contributors: Joanne Freilich, the prior Director of the UCLA Extension Public Policy Program, under whose leadership the program flourished; and Jim Ortner, Government Relations/Air Quality Manager for the Orange County Transportation Authority, who played an integral role as a valued member of the Steering Committee, helping to plan numerous Arrowhead symposia.

I gratefully acknowledge the collaborative partnership shared between UCLA Extension and the UCLA Institute of Transportation in convening this annual symposium series, including the invaluable contributions of my co-chair, Brian Taylor, Associate Professor of Urban Planning and Director of UCLA's Institute of Transportation Studies in the School of Public Policy & Social Research.

Very special thanks, also, to the two individuals who prepared this comprehensive proceedings report: David King and Andrew Mondschein, both graduate students in the Urban Planning Program at UCLA and affiliated with UCLA's Institute of Transportation Studies.

The hope of the symposium organizers is that the information and ideas that emerged from this event will contribute to ongoing policy dialogues, and will inspire applications to daily practices, political decisions, and research agendas.

LeRoy Graymer

* These organizations are all listed in Appendix D.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

TABLE OF CONTENTS

	Page
I. INTRODUCTION.....	2
II. SYMPOSIUM PROCEEDINGS	4
Session 1: Linking Goods Movement to Economic Prosperity and Environmental Quality	4
Session 2: Modal Perspectives on a Multi-Modal Issue: Issues and Policy Challenges	9
Session 3: Increasing Public-Private Cooperation and Coordination in Managing the Movement of Goods.....	11
Session 4: Land Use and Environmental Issues	16
Session 5: Global Trade, Local Impacts: Who Benefits? Who Pays?	19
Session 6: Air Quality and Energy Issues.....	24
Session 7: Who's in Charge? Overcoming Governance Challenges to Planning, Regulating, and Managing Goods Movement.....	27
Session 8: The Going Rate: Public Finance of Goods Movement.....	32
Session 9: New Solutions and New Directions.....	35
Conclusion	38
Appendix A: Symposium Program.....	40
Appendix B: Speaker Biographies.....	48
Appendix C: Participant Roster	60
Appendix D: Symposium Co-Sponsors	67

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

I. INTRODUCTION

The 14th Annual UCLA Lake Arrowhead Symposium on the Transportation-Land Use-Environment Connection focused on goods movement. Scholars, practitioners, and policymakers from around the world took part in presentations that framed issues surrounding goods movement, and also pointed to future directions of research and practice. Goods movement is becoming increasingly important as a focus of research and policymaking, affecting important issues like traffic congestion, air pollution and freight logistics. While reduced trade barriers and new technologies present opportunities to improve goods movement through measures such as inventory control, logistics management, intermodal operations, and even road pricing, many pressing issues remain. These include, among others, increasing emissions, burgeoning transshipment centers, labor conflicts, and environmental justice concerns. By bringing leaders from both the public and private sectors together with goods movement researchers and analysts, the symposium aimed to build common ground among diverse interests by synthesizing the latest from research and practice toward developing more effective public policy in the years to come.

Previous conferences have explored different aspects of the transportation, land use and environment connection, such as finance, congestion, or multimodalism. This conference is somewhat unique in its focus on freight. Often, transportation researchers and policymakers tend to focus their attention on passenger transportation and its effects. Yet it is clear that goods movement also has profound and increasing implications for transportation, land use, and the environment.

Goods movement is clearly an emerging public policy issue; as freight volumes increase yearly, the existing infrastructure of highways, seaports, airports, and rail lines is becoming overburdened. While the transportation challenges loom large, goods movement is also a land use issue. Residential locations are affected by the air and noise pollution that freight facilities bring, while commercial uses benefit from proximity to these facilities. Trucks use local roads, but at a cost to nearby individuals and communities. Rail facilities occupy large amounts of land for tracks and warehouses. Airports require ground transportation for goods as hubs for express parcel delivery services. Port facilities, such as the ports of Los Angeles and Long Beach, are major 24-hour employment centers, but also contribute significantly to traffic congestion and air pollution, often for goods merely “passing through” between distant origins and destinations.

The environmental aspects of goods movement are complex as well. The emissions of trucks, trains, ships, and planes are often not regulated in the same way as automobile emissions. The diesel engines common to freight release more particulate matter into the air compared to most autos. Those who live near freight facilities are regularly exposed to greater levels of pollution. These environmental characteristics suggest that issues of public health, as well as social inequity and discrimination in the location of freight facilities should be addressed.

Given that almost all goods are moved by and for private firms and interests, most strategies to deal with goods-movement-related problems are necessarily public-private partnerships. Getting goods to market is largely the domain of private companies using public facilities. Partnership opportunities exist in the design and management of facilities, financing infrastructure, and the

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

adoption of new technologies. Coordinating the logistics of goods movement is another place for cooperation between private companies and public entities.

This symposium addressed such topics from a wide array of perspectives. Gathering practitioners, public officials, and researchers to discuss these issues led to lively debate. The discussions made clear that interest in and concern with goods movement are increasing, even among those not directly involved in freight transportation. While much was learned during the 2 ½ days at Lake Arrowhead, much work clearly remains.

We have organized these proceedings by session. A brief introduction is provided for each session, followed by a synopsis of each of the speakers' talks. Our goal is to provide "notes" of the symposium for those that attended, as well as a synthesis and summary for those who did not. While it was not possible to record every point, comment, and question raised during the symposium, we have endeavored to summarize the most important themes, ideas, and suggestions in this document as a record of this important and informative event.

David King
Andrew Mondschein
UCLA Institute of Transportation Studies
February 2005

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

II. SYMPOSIUM PROCEEDINGS

SESSION 1: LINKING GOODS MOVEMENT TO ECONOMIC PROSPERITY AND ENVIRONMENTAL QUALITY

LeRoy Graymer (Moderator), Founding Director, UCLA Extension Public Policy Program

Brian D. Taylor, Associate Professor of Urban Planning, and Director, Institute of Transportation Studies, UCLA

Randolph Hall, Professor and Senior Associate Dean for Research, Epstein Department of Industrial & System Engineering, and Co-Director, CREATE Homeland Security Center, USC

Jon Haveman, Program Director, Economy, Public Policy Institute of California

Harry Caldwell, Senior Vice President, Regal Decision Systems

The opening session of the symposium provided a “big picture” overview examining the economic, political, and environmental policy contexts of goods movement. After a welcome and introduction from **LeRoy Graymer**, the four presentations explored the following questions: What economic forces have fuelled the dramatic rise in freight traffic in recent years? How are these trends expected to change in the years ahead? How are issues like traffic congestion, free trade, air quality, labor relations, and terrorism affecting goods movement policy and planning?

LeRoy Graymer first welcomed symposium participants. Mr. Graymer spoke of the origins of this symposium on the linkages between transportation, land use and the environment and its continuing success in bringing together researchers, professionals, and policymakers to discuss the important issues within the three areas. He described the yearly challenge of selecting a new topic for the next symposium. Out of many topic suggestions mooted for this year’s symposium, goods movement was chosen. The many impacts which this form of transportation has on both land use and environmental quality, as well as its growing importance as a share of regional transportation, make it a worthy focus for this symposium.

Symposium Overview

Following Mr. Graymer’s welcome, **Brian Taylor** thanked the many sponsors of the symposium and provided participants with some guidance on participation. Professor Taylor then provided a conceptual overview of the topic. He identified three large-scale themes for discussion throughout the symposium:

- Goods movement has tended to attract less attention from policymakers and researchers than other aspects of transportation. This may in part stem from the large private-sector involvement in goods movement.
- Freight traffic has been increasing tremendously in the recent past, indeed faster than other forms of traffic. As a result, the impacts of freight movement are becoming larger.
- The links between land use and goods movement have been particularly understudied. This session hopes to draw these two areas together. This linkage is rarely considered but will be at this symposium.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Professor Taylor continued with a short description of the nine symposium sessions, comprised of 19 presentations and 18 commentaries, planned for the symposium.

How Are Changes In Production, Trade, Consumption, and Congestion Affecting the Movement of Goods?

Randolph Hall presented a big-picture view of goods movement in the context of globalization with an emphasis on trends in California. Dr. Hall described how the gradual introduction of various technologies over the course of human history has facilitated the movement of goods over ever greater distances. The result is today's world of large cities with specialized production niches. Both knowledge and freight move quickly between regions worldwide. Trade is further encouraged by the imbalanced distribution of resources and wage differentials.

Transportation is one of several factors that enables global trade to occur. Technologies and policies that enable massive worldwide trade include: Containerization of ships, "super-sized" ships, efficiency of air travel, information technologies, cross-border financial markets, intellectual property regularization, trade agreements, and transportation security measures. Without global trade, the centers of innovation in the United States, such as Hollywood and Silicon Valley, could not exist. The degree of trade currently occurring is unlikely to be reduced. Individuals have become accustomed to the diversity of choices and the availability of resources at low cost provided by world trade.

Dr. Hall described how the supply chain has become increasingly internationalized. At one time, goods were basically made in one place from start to finish such as cars at Ford's River Rouge plant. Today, however, goods such as computers have a global production process. A computer may be designed in San Jose, the main chip fabricated in Phoenix, the computer assembled in China, and the final product shipped through Los Angeles on the way to the Midwest.

Los Angeles has become a major entry point for goods from the Pacific Rim into the United States. While some may want to reduce the role of Los Angeles in global trade due to localized impacts, shifting trade elsewhere is improbable. Alternate ports are unlikely to replace Los Angeles, both because major investments in infrastructure would be required and because Los Angeles itself is the destination for such a large percentage of arriving goods due to its large industrial and commercial base. Therefore, trade will likely continue to grow in the future with growth focused on the Los Angeles and Long Beach ports. Goods movement will therefore consume an increasing share of the region's transportation infrastructure.

Dr. Hall did suggest that while goods movement is increasing, far more road capacity is still consumed by passenger travel in the region. Also, goods movement often occurs outside the automobile peak, sometimes in a counter-commute direction. The impacts remain somewhat localized in the region, particularly around the ports and rail yards. Most pass-through goods traffic is likely to occur on rail, which limits conflicts with local traffic if not local land uses. In order to address the challenges of increasing trade and goods movement, solutions such as multimodal freight corridors and market-pricing of transportation should be considered. In addition, impacts such as noise, accidents, and pollution should be minimized.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

International Trade Traffic: Current Trends and Policy Concerns

Jon Haveman continued with a presentation on the policy issues resulting from the growth in trade and goods movement through California's gateways. His presentation was based on a report released by the Public Policy Institute of California in the previous spring. In general, Mr. Haveman asserts that while trade through California provides substantial revenue to public and private actors in the state, the impacts of this trade, often highly localized, have been largely neglected from a policy standpoint.

While California comprised 13% of the United States' gross domestic product, 21% of all US trade flows are processed through California. Most of California's trade occurs through seaports. The Los Angeles and Long Beach ports are the two largest in the nation and together comprised 27% of all US water trade. Los Angeles International Airport is also the second most important airport for international air trade by value, although this role may be decreasing in importance. Even with this large base, trade is expected to triple in the next fifteen to twenty years. For example, the Los Angeles and Long Beach ports currently process 12 million containers yearly. In 2025, that number is expected to be 36 million containers yearly.

Policy challenges in this situation include coping with the "explosive" growth in trade, co-existing with local communities, and providing a secure environment for goods movement. While trade is expected to grow, there are significant constraints to growth already confronting the region. Existing highway and rail capacity are already being pushed to the limit. However, these constraints could likely be solved through investment. Another obstacle to growth is community opposition to increasing trade and its consequences. This opposition results from the burdens borne by the communities surrounding the trade and goods movement infrastructure. These burdens include high levels of air pollution and traffic congestion, as well as aesthetic issues.

The ports are major regional polluters. The combined ports of Los Angeles and Long Beach in fact account for one quarter of Los Angeles area diesel emissions, exclusive of truck traffic to and from the ports. NOx and PM emissions from the ports are equivalent to one million cars. According to the South Coast Air Quality Management District (SCAQMD), local communities bear \$2.5 billion in externalized health costs as a result of port trade, with approximately 2,000-5,000 additional cases of cancer per million. Traffic congestion is also costly to local communities, with traffic speeds significantly reduced on local freeways, accidents common, and local streets also clogged by trucks. Furthermore, security has become increasingly important for the successful functioning of the port. While security is a national interest, the cost of providing security is borne locally.

While expanding existing infrastructure can accommodate growing trade, better management of existing infrastructure could result in better outcomes. Efficiency improvements, such as 24/7 operation of all aspects of the port could reduce the needed footprint to accommodate trade. However, whether expanding infrastructure or increasing efficiency better addresses community concerns is unknown. It also hasn't been clearly determined whether trade traffic "pays its own way" in terms of costs including pollution, congestion, and infrastructure maintenance. Local communities may be subsidizing trade flows. Furthermore, existing trade patterns may not make

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

sense from all perspectives. Is it in Los Angeles' best interests to accommodate large volumes of trade moving to Chicago and New York? Approximately fifty percent of trade through Los Angeles' ports is destined for locations outside of California. This pass-through trade doesn't provide full economic benefits but still creates the same costs. Diversion of trade flows to other ports should be investigated.

Mr. Haveman stated that while the ports are certainly important parts of the Los Angeles regional economy, there may be a point where the ports do more harm than good. Per unit external costs must be reduced if increasing trade is to be accommodated. The current level of community activism suggests that these costs have not yet been addressed. Policymakers must deal with these unresolved issues if California's trade gateways are to continue to be a boon to the state and local communities.

Free Trade, Organized Labor, Increased Security, Environmental Protection, and More: The Emerging Freight Policy Context

In his presentation, **Harry Caldwell** continued to explore policy issues confronting goods movement. He focused on the multitude of governments and agencies setting policy for freight movement, from the local to international scale, and the current lack of direction resulting from this fragmentation. In general, Mr. Caldwell is increasingly unsatisfied with federal leadership on freight policy.

Today, congested highway segments are typically located around urbanized areas. However, even long distance interurban corridors are becoming increasingly congested. A West Coast corridor of freight transportation exists from Seattle to San Diego. This corridor is the most fragile transportation corridor in US. It includes many bottlenecks and critical points, such as the Columbia River bridge between Washington and Oregon. Transportation is beginning to bog down along these corridors. As evidence, the share of national GDP being spent on logistics is increasing after a long period of decreases.

In addition to transportation corridor congestion, there has been an enormous increase in trade through gateways. The increased congestion has consequences for national security as well as the economy. For example, the Joint Chiefs of Staff strategic mobility requirements entail the mobilization of five fighting units in 30 days. However, a geography of choke points and congestion is growing over time making mobilization more difficult. Therefore, for both economic and security reasons, the nation needs international gateways that work as well as smart trade corridors that make better use of existing and potential assets.

Mr. Caldwell described several areas of innovation in freight movement which are helping to address the challenges described above. Integrated border crossings speed freight through typically jammed crossings. Efficient intermodal connections improve transfers between modes such as ship, rail, air, and truck. However, states oppose set-asides in federal funds for intermodal connections. Information technology (IT) can also be used to make more effective (efficient and secure) freight centers. Using IT, freight centers can be moved out of metropolitan areas, as well as provide increased security and trade facilitation.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Different transport modes each have particular issues to address. For highways, pavement quality has improved and bridges are being repaired. However, demand has increased twelve times faster than capacity. Railroads are “doing a great job” by investing in infrastructure, but they need more capital support. Water ports lack a systematic view of their role in trade, and many face environmental pressures and have poor customer perception. The North American Free Trade Agreement (NAFTA) has focused attention on the Canadian border. Congestion there has caused some re-sourcing of auto manufacturing from Canada into Michigan. In terms of information, there’s currently no connection between the Department of Transportation (DOT) and the Department of Homeland Security (DHS). Therefore, there’s little understanding of the tradeoffs between trade and security. The DHS is 22 agencies rolled into one. This aggregation has created conflicting internal mandates. Furthermore, the agency is directed through additional congressional mandates. Furthermore, the DOT doesn’t have a clear role in security, resulting in battles between the two agencies.

To provide a contrast to the situation in the United States, Mr. Caldwell described improvements to infrastructure going on in other parts of the world. In Europe, the perspective on goods movement is much more comprehensive than in the United States. They conceptualize goods movements in terms of corridors and physical constraints rather than political and modal divisions. They prioritize projects based on overall need. In South America, freight infrastructure has been developed through private investment. The result is a huge increase in soy exports to US. Mexico is also looking at improvements to its goods movement infrastructure.

Global trade patterns change very quickly. Central governments have a key role to play in supporting partnerships between private and public actors. However, state DOTs find it hard to work outside their jurisdictions. Does the US have a global vision? The nation needs to ascertain whether we are in fact moving toward a secure and efficient system. Many of the conflicts in transportation are interest based, but government is still organized on a place-based system. Devolution of Federal leadership has contributed to this fragmentation. Returning increasing proportions of transportation tax revenues to individual states further fragments the system. There is little interest in defining programs of greater national interest. Furthermore, the focus on self-financing may be reasonable economically but it may not address equity problems.

A possible solution to these difficulties is regional initiative. For example, on the West Coast, states have come together to define the elements of a West Coast Transportation and Pilot Security Program. Regional unity can better attract federal support. In addition, building public/private partnerships will provide further opportunities for addressing pressing issues. The West Coast is a good region to establish this type of regional initiative. Good statewide planning already exists along the coast, and states have a good understanding of the fragility of their infrastructure.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

SESSION 2: MODAL PERSPECTIVES ON A MULTI-MODAL ISSUE: ISSUES AND POLICY CHALLENGES

Richard Nordahl (Moderator), Chief for the Office of Goods Movement, California Department of Transportation

Keola Pang-Ching, Director, Cargo Sales and Marketing, Alaska Airlines

John Vickerman, Principal and Executive Vice President, TranSystems Corporation

Peter Swan, Assistant Professor of Supply Chain Management, Smeal College of Business, Pennsylvania State University

Kristen Monaco, Professor of Economics, California State University, Long Beach

The second session, moderated by **Richard Nordahl**, of the symposium grounded the overall discussion of goods movement with real world examples from various freight modes. The realities of how freight is moved were discussed by practitioners and researchers. Other topics of discussion included how changes in specific freight modes affect goods movement overall and how the nation may be affected by the challenges of the industry. Finally, the discussion looked at how and where the freight industry will go from here.

Air Cargo: Issues and Policy Challenges

The first speaker was **Keola Pang-Ching**, who talked about the need for a new model in the airline industry. He noted that 40% of the airline industry is heading towards bankruptcy, especially the legacy carriers tied to old models. Overall, the industry has been losing huge amounts of money over the past few years. Part of these losses can be blamed on the after-effects of the terrorist attacks, but part can be traced to the inefficiency of the industry.

Low cost carriers have been gaining passengers as a share of overall passengers, and will account for 40% of all travelers by 2006. But passengers are only part of the issue. Carriers also fly cargo and mail as part of their regular business, and these sectors have not been as affected by personal preferences for air travel. In order to survive, carriers must create a “point of differentiation” from their competitors. Some of this change can be seen in today’s airports, including cost reduction measures such as improved online functionality and e-tickets or self check-in for passengers and their baggage. While positive, these service side changes can only help so much.

Alaska Airlines, for example, has improved its aircraft management to increase the number of profitable flights. They use satellite guided systems to help maintain their on-time performance, and they have reconfigured their planes to provide additional cargo room. Alaska has carved out a niche market, as well, by providing lifeline type service to parts of Alaska that have no other alternatives for shipping or travel.

Mr. Pang-Ching concluded by discussing the challenge of understanding true costs. He noted that most carriers do not know what their actual costs are. Besides leading to irresponsible pricing, misunderstanding costs makes it impossible to know how or where to make cuts or other changes.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Maritime Trade: Issues and Policy Challenges

The second speaker was **John Vickerman**. He spoke of the importance of trade to the global economy, and the importance of an efficient transportation system to support goods movement. Efficiency must be considered multimodally. Intermodality is critical for the United States as there are problems developing in linking the ports with the highway and rail infrastructure. As international trade increases, these problems will only get worse. If not corrected, they will have a detrimental impact on the nation's economy.

Mr. Vickerman's study looked at 16 ports in North America to assess current and future freight capabilities. He foresees a "perfect storm" of cargo demands, capacity and infrastructure funding that will dramatically reduce productivity and harm the nation's economy. There are external pressures, such as fragmented regulatory agencies and governance, or the incompleteness of the system that put the overall system at risk. He also noted that international ports, such as in China, are increasing capacity at a much faster rate than in the United States. These concerns lead him to estimate that U.S. ports will be congested by 2010.

To avoid gridlock, ports must reduce costs, improve service and consistency, and improve transit time and the freight rate. Achieving these reforms will be difficult since today's customer wants more, but is willing to pay less for it. But there is no choice but to succeed, since world output is expected to increase by 33% by 2030 while port capacity will not keep up.

Speed may be the best opportunity to improve port productivity, but to do this the whole system must be reformed. Consider that if dwell time is cut in half at a port, capacity doubles. In order to cut the dwell time, cargo must be moved off the boats and out of the port much more quickly than is happening now. To accomplish this, coordination of land, air and sea goods movement must be improved.

Rail Freight: Issues and Policy Challenges

The third speaker, **Peter Swan**, described the challenges of rail freight. The rail industry has been in decline since WWII as intermodal competition has captured more passengers and smaller freight shipments. This has led to a steady process of disinvestment in rail infrastructure, especially passenger facilities, in an industry where competition is primarily based on service. Obviously, it has been a losing battle to win on service when investment is declining.

In the 1980s, rail networks were deregulated, leading to competition that forced rates down and industry consolidation. Deregulation also saw further disinvestment in rail facilities and the rise of short-lines. Cost replaced service as the main driver of success. Yet profitability improved under deregulation, and output increased by 50%. At the same time, employment declined, suggesting greater productivity per worker and stockholders were rewarded.

There are drawbacks to the rail industry's evolution during the past two decades, as well. Because rail is a public utility, there are some unique aspects to its expansion. Competition may have the odd effect of increasing costs, but a lack of competition may have the same effect. The market doesn't work for rail because the cargo cost per incremental carload is often below

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

average cost, and shippers have increased negotiating power. This leads to long term contracts that are economically unsound. To correct these problems, some combination of tax incentives and public money help the rail industry “muddle through.”

Trucking: Issues and Policy Challenges

The final speaker of this session was **Kristen Monaco**. She spoke about the issues and policy challenges of the trucking industry. Total trucking miles are increasing at a rate 4.5% greater than the increase in overall vehicle miles traveled. This continued increase is troubling for the industry because of so many other problems that are associated with it. Some issues are road capacity limitations, hours of service under regulatory scrutiny, driver shortages and labor disputes, as well as looming tolls and other new costs.

Perhaps the biggest problem is the driver shortage. Wages are under tremendous downward pressure, in part because of immigrant labor. Another factor in wages is the increasing amount of idle time drivers are spending in traffic and at ports. Driver wages are paid by the load, not by the hour, so time spent waiting is uncompensated time. Work regulations limit the number of hours drivers can be on shift, and these regulations currently do not discriminate between driving and idle time.

Driver wages have remained mostly flat over the past 20 years, increasing only 1%. This provides strange evidence of a shortage. If a shortage was acute, you would expect to see wages increase to attract more workers. Yet this is not the case. One reason is that drivers are more likely to be employees than owner-operators than in the 1970s. Another is the “captive” labor pool of immigrant workers. The industry has a very high turnover of all employees, and this helps explain wages remaining where they are. Turnover is an accepted part of the industry. Driving a truck is an entry level position that simply doesn’t pay well or present an entrée into other occupations, making it a more transitory job. Drivers make less the \$30,000 annually on average, while many of the other goods movement jobs they interact with make far more.

SESSION 3: INCREASING PUBLIC-PRIVATE COOPERATION AND COORDINATION IN MANAGING THE MOVEMENT OF GOODS

Jeff Brown (Moderator), Consultant, California Senate Office of Research

Panelists:

LaDonna DiCamillo, Director of Government Affairs, BNSF Railway

Gary Gallegos, Executive Director, San Diego Association of Governments

Ron Guss, President, Intermodal West

Keola Pang-Ching, Director of Cargo Sales & Marketing, Alaska Airlines

Richard Powers, Executive Director, Gateway Cities Council of Governments

Freight movement is associated with the private sector and is usually conducted by private firms on behalf of other private firms. However, freight moves on publicly-regulated and sometimes publicly-operated transportation networks. This mix often blurs the lines of authority and

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

responsibility. This session convened a panel of public and private sector leaders to explore ways to increase public-private cooperation and coordination in the movement of freight.

Jeff Brown introduced the session with an overview of the current situation and call to action to address challenges in public-private collaboration. Bold leadership and courage will be required to address the existing and future challenges of goods movement. The participants at this symposium must create the tools to overcome these 21st century challenges. Essentially, the goal is to invest better and smarter to enhance quality of life as we protect our economic vitality. Public-private partnerships should help achieve an efficient system and foster multimodal and multi-jurisdictional collaboration. Goals will be achieved only if partnerships are built on agreement about fundamental issues and are bound by risks, responsibilities and costs of the strategies. Failure to address these points will result in negative impacts on our future. Our reluctance and fear to turn from the status quo to a new system calls for a new architecture of collaboration. We need to harness potential, move away from parochial interests. If we don't do this, we will impede the success and quality of life in this country. Furthermore, we need to look outside our borders and within to learn how to form these partnerships. We need to be strategic and innovative.

LaDonna DiCamillo described how the railroad industry is addressing issues crossing public-private lines. Burlington Northern Santa Fe (BNSF) is partnering with public entities in the environmental arena. Rail transport itself is a solution for some of the environmental issues that confront goods movement. For example, trains are two times more fuel efficient and produce one-third the NOx of trucks. Furthermore, railroads have agreed to purchase top technology railcars for lower emissions and deploy them in Southern California from 2005-2010. The result will be a 70% decrease in railroad emissions in the region.

Railroads feel they're a part of the solution. However, there must be a way to measure the public benefit and private benefit in order to better distribute costs and responsibilities. This will be a big challenge, but railroads are willing to look at those benefits and costs. For example, increased safety benefits the community, as does congestion relief. The public must find a way to measure those benefits and pay for them.

The Alameda Corridor East (ACE) project, a major public-private collaboration on rail in the region, is moving forward. However, the overall plan is still being refined. While the improvements such as grade separations, capacity improvements, etc., have been identified, the distribution of public benefit and private benefit must be calculated in order to make the partnership work. Such public-private plans are also needed in the 710 Freeway corridor which is currently clogged with drayage.

Another major challenge surrounding public-private partnerships is determining who's in charge. Many studies recommend partnerships but when it comes to putting the public and private will together to produce solutions, the plans often don't quite "click." There should be one voice for the Southern California region, as well as for Northern California and other regions. That voice must be able to bring all parties together.

Gary Gallegos described the perspective of regional government on public-private partnerships from his vantage point as Executive Director of the San Diego Association of Governments

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

(SANDAG). Transportation and goods movement face huge challenges right now, but there's little vision or leadership at the federal level. Furthermore, in the past, California was one of the best infrastructure planning states in the world. However, over the past twenty to thirty years, the state has fallen behind.

Principally, the state needs transportation facilities that are flexible and can adapt because needs change over time. In San Diego, the concept of "managed lanes" is being developed. Capacity can no longer be enhanced in the traditional way through public funding. The public sector must partner with the private sector. Goods movement must be coordinated with passenger movement. Trucks move goods more effectively when not competing with commuters. Managed lanes within existing freeway rights-of-way allow transportation professionals to control use of freeways on a day to day, hour to hour basis.

SANDAG proposes a network of 200 miles with additional capacity built in a new way. Four managed lanes would be built along each corridor. Direct access ramps to the managed lanes would be provided for the transit system. These lanes and ramps wouldn't be needed outside of the commute period for passenger travel, so those lanes could be used for freight during other times. SANDAG has already started to build the first 20 miles of the system. The system is being paid for in part through "pricing" of the managed lanes. Other funding will come from local public coffers.

We need to challenge ourselves to not be so incremental in our approach to transportation improvements. We shouldn't only solve bottlenecks because that just pushes the problems down the road. In order to build support for projects they must be "WOW" projects: Wow, they got started; wow, they got done; wow, they work! In order to get projects done, focus must be placed on the major corridors. The public must see something real get done.

Ron Guss, President of Intermodal West, a trucking company, provided the perspective of the trucking industry on public-private partnerships. The 2,500 members of the California Trucking Association are trying to be "green." However, traffic congestion causes much of the pollution, more than free-flowing traffic. Therefore, solutions such as double decking or widening major freight freeways like 60 Freeway are attractive. The trucking industry may even be interested in paying for such improvements with tolls because goods must keep moving. The trucking industry is now willing to get involved in relationships with the public sector.

Mr. Guss also suggested specific changes to the existing regional goods movement system that would alleviate some of the truck traffic in the region. The trucking industry would in fact prefer not to operate in highly congested places. For example, air cargo should not go into LAX. This requires trucks to enter the heart of the region along the most congested freeways. In addition, delays are intolerable to and from the harbor area. Intermodal yards should be built on the edge of the region in places like Beaumont, Banning, and Victorville in order to avoid bringing cross-country truck traffic into the populated center of the region.

Keola Pang-Ching of Alaskan Airlines provided an air cargo perspective on public-private partnerships. In the lower 48 states, roads and water are shipping alternatives. In Alaska, however, air service is often the only way to move goods. Communication is key in partnering

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

with their customers. For many of the communities served by Alaska, air is the only service. The need for local storage facilities and constant scheduling problems due to weather has resulted in close coordination with local airports and governments involved.

Richard Powers, Executive Director of the Gateway Cities Council of Governments, spoke of the challenges specific to a critical goods movement corridor, the I-710 Freeway. Planning for improvements to this highly congested corridor has required tremendous public-private collaboration. The Gateway Cities are home to the I-710 Freeway and the Alameda Corridor, and therefore bear substantial pollution from cars, trains, and trucks. The local communities are starting to say “enough.” All 27 cities in the subregion say the I-710 freeway is a most pressing issue confronting the subregion.

Initially, the environmental consequences of transportation, particularly goods movement, were not a major issue for the community. However, pollution and awareness of its consequences have increased tremendously. A traditional major corridor study on the I-710 was rejected by the community. The traditional planning model won't work in urban areas anymore. A new public-private partnership must be established with communities, or new infrastructure won't be developed.

The community realized that the analysis being conducted for the I-710 was demand driven. The infrastructure was the emphasis. While public outreach occurred, it had a checklist mentality. The second time round, communities have been placed at the top of the pyramid of priorities. What do the communities want from the project? The community focus wasn't infrastructure. The community's priorities were: health, jobs and economic development, safety, noise, and environmental improvements.

Out of the new planning process, a level of trust not previously in existence has been produced. This focus on community is a new paradigm for backing into infrastructure design. The process is truly moving forward, but no one is ready to celebrate just yet. At the community level, there is consent on expansion of the freeway. A set of principles has been established that drives the project forward. Also, the political will to keep the process moving forward has been established. The message is that southeast Los Angeles County knows it carries a large burden in terms of regional and national transportation, but the communities are respectful of the role of ports and goods movement as an economic engine. Local communities don't want to hold the process up, but they want clean air in addition to jobs.

DISCUSSION

Discussion ranged widely. Gill Hicks pointed out that diversions of ships from the Los Angeles / Long Beach ports have already begun. Ships are heading to Oakland and trucks are caravanning freight back to the region. Mr. Gallegos added that ships have also been diverted to San Diego from the Los Angeles region. Ms. DiCamillo added that diversion of freight to Oakland have put a tremendous strain on rail lines in northern California. This has resulted in Amtrak on-time performance going from 80% to 20% out of Oakland. John Haveman noted that while diversions, when unplanned, can create negative consequences, planned diversions can be a positive

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

development. Ralph Appy and Ron Popham added that auto companies are looking at San Diego as an alternative to Los Angeles ports.

Ken Adler questioned why there has been such a huge increase in imports. The nation has exported its jobs and its pollution. However, pollution is global in its impact. Policymakers, researchers, and professionals should look at the demand side for imported goods rather than simply accommodating all goods. Mr. Gallegos suggested that the economy in San Diego is in fact fairly diversified, with industries from biotech to maquiladoras. The economy has bucked the trend. Unemployment levels are below statewide and national numbers. Not everything is imported.

Randolph Hall continued the discussion, stating that jobs are going overseas because of difference in wage rates. It has opened up the demand for products produced overseas. Mr. Hall doubted that this situation will change in the near future. John Vickerman pointed out that two big areas for consumption of imports are the Los Angeles and New York regions. However, other ports do have exports. There's an imbalance in areas where goods are consumed and where they are produced in the nation. Pete Swann suggested that wage rate differentials are not the only reason that trade has increased. Duty rates on imports have also gone down. The basic duty rate has decreased from 11% to 2%. Also, transportation costs themselves have gone down. If services are underpriced, more will be used than should be used. The result is more demand for transportation than necessary.

Kathryn Philips stated that when the state proposes policies for reducing the external costs of goods movement, the proposals are rejected by the goods movement industry. The industry doesn't want its costs increased in order to implement clean air programs. However, if internalizing some of the external costs of freight movement will increase communities' willingness to expand infrastructure, the industry must consider what it is willing to pay. Mr. Guss differed with Ms. Philips. Fees on transportation will ultimately be passed to consumers. The industry doesn't mind passing those fees. However, existing highway funds are being used by the state for other purposes. In the end, everyone pays for that diversion. Ms. DiCamillo added that fees on transportation should be mode neutral so that competition between modes isn't upset.

Mr. Guss pointed out that "boutique fuels" used by in-state California trucks raise costs for local truckers over truckers coming over the state line. Ms. Philips questioned in return, if there is no fuel fee, where do the funds for infrastructure improvements come from? Mr. Gallegos added that the last rise in fees on the transportation industry was when Governor Deukmajian raised the gas tax in late 1980s. Kurt Quincy questioned why environmental costs should be placed on the goods movement industry specifically. Instead, everyone should pay to improve the environment through a more universal tax or fee. Mr. Brown added that the transportation industry has often ended up paying for non-transportation public expenses. If a fee is to be set up, how can it be guaranteed to not shift to other uses? Jim McGrath added that any fee must be relevant to cost being addressed. In the case of pollution costs, containers aren't the problem, diesel fuel is. Therefore, diesel fuel should be taxed. Mike Scheible also remarked that if the state were to eliminate clean diesel, it would increase the risk from cancer as PM pollutants would go up 20%. This is not a "boutique" issue. The clean fuel program is not a bad idea.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Ms. DiCamillo noted that the Alameda Corridor is a perfect example of the private sector paying for infrastructure improvements. Costs must be addressed at the private, state, local, and federal levels. Everyone must be willing to make their contribution. However, there must be “firewalls” to ensure that the money goes where it’s supposed to. Mr. Pang-Ching added that for airports, the fees paid on tickets go towards new airport investment. Mr. Gallegos noted that unlike for rail and air travel, the user fee for roads is broke. It’s not indexed to inflation and therefore doesn’t keep up with increasing costs. This tax needs to be rethought or it will just fall further and further behind. Mr. Brown agreed that the Alameda Corridor is the “poster child” for public-private success. The public and private sector must come up with some kind of user fee for roads.

Mr. Adler mentioned the Congestion Mitigation and Air Quality (CMAQ) program in federal funding. These funds may be spent on locally useful projects, but they’re not really generating much in air quality benefits. The cost effectiveness of putting filters on diesel trucks would be 10 times better spent than on managed lanes. Mr. Gallegos noted that regional governments like CMAQ funds, but they’re not enough.

SESSION 4: LAND USE AND ENVIRONMENTAL ISSUES

Donald Shoup (Moderator), Professor of Urban Planning, School of Public Policy and Social Research, UCLA

Ralph Appy, Director of Environmental Management, Port of Los Angeles

Elizabeth Deakin, Director, UCTC, and Professor, University of California, Berkeley

Norm King, Executive Director, San Bernardino Associated Governments

Professor **Donald Shoup** introduced this session looking at the effects of goods movement on communities in three locations. He noted that at a previous conference, the Port Director of Long Beach had stated that the 710 freeway had become the “colon of the nation.” Since then, the flow of goods along the 710 has increased dramatically. Even though the colon provides an important function, it is self-evident why people would not want it in their backyards. This session explores the impact of freight, good and bad, on communities.

Resolving Local Land Use Conflicts with Expanding Ports and Terminals

Ralph Appy began this session describing land use conflicts with expanding ports and terminals. His experience with the port of Los Angeles was used to demonstrate many of the problems facing port facilities today, including getting along with residential neighbors. The Port of Los Angeles is a 24 hour operation, and its activity generates traffic, noise and air pollution. The Port is also limited in its expansion capabilities, since there is no more land available on which to build. To accommodate additional capacity growth, the port will need to build more land in the harbor. Unfortunately, this is also at odds with community desires.

Dr. Appy refers to the land use conflicts that accompany the port as the “100-year war.” They are the result of incompatible uses adjacent to each other, direct and indirect environmental effects, such as diesel emissions and air pollution, traffic congestion, noise and light pollution and unsightly container storage. Other problems include community equity and socioeconomics, environmental justice and community anger. One of the major issues of residents in the areas

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

surrounding the port is their desire for a better looking port that is not a constant reminder of the negative aspects associated with it.

The Port of Los Angeles has created a Port Community Advisory Committee (PCAC) to work through many of the issues between the port and the community. There are twelve areas the PCAC focuses on, from aesthetics to tsunami preparedness to Chinese shipping. One other area the PCAC works on is the environmental documentation process. This process features increased outreach with the community, bilingual public meeting, socioeconomic advisement and environmental justice awareness. This public involvement effort creates an innovative partnership between the port and the community. As a result of these partnerships, issues related to the operation of the ports are being reconsidered. Transportation improvements are being proposed in new transportation master plans that will address congestion, rail crossing dangers and effects on local traffic. The first modal study of Los Angeles port traffic is also being completed.

The committee is also exploring air quality issues. The community is concerned about the health effects of diesel emissions from trucks and ships. Other toxins related to port operation may also be found. While air quality is a major concern, it is not the only health related issue. The noise and lights of commerce are harmful to sleep and the overall health of the community. One of the solutions the port and the mayor agreed on was a limit on air emissions. Using 2001 as a base year, the port is expected to keep constant its emissions as a first step towards reducing them and improving overall air quality. Some of the ways to maintain the same levels of emissions include retrofitting machinery used in port operations with cleaner engines, especially the diesel ones.

An ancillary concern is that there may be property owners who want to force the port to buy their property. They force this issue by turning their property derelict, which reflects poorly on the overall community. Another problem in some areas is the rail facilities, such as in Wilmington. Residents complain more about trains than they do about other issues.

To address many of these concerns, the ports are designing a new Port Master Plan. The new plan is community oriented and helps the community and ports become more compatible neighbors. Some of the new additions include waterfront parks, relocation of certain terminals and new buffers around the ports.

Moving Goods in Rural and Rapidly Urbanizing Areas: The Case of California's Central Valley

Elizabeth Deakin spoke next about freight issues in California's Central Valley. The Central Valley is a major source of food for the country. Some sources have the total production of the valley accounting for nearly half of the fruits and vegetables consumed in the U.S. Transporting all this food to market is a major challenge, and it is complicated by the number of governing institutions that have some jurisdiction. The governments involved include 19 County Governments, 87 City Governments, 7 State Senate seats, 14 Assembly and 8 Congressional districts, plus 3 Caltrans districts, 7 rural transportation planning agencies, 8 metropolitan planning agencies and 12 transit agencies. It is clear that a comprehensive goods movement plan would be difficult to achieve.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Some of the planning issues in the Central Valley include rapid growth in population, poverty, the need for public services and changes in agricultural production. For example, many small towns tripled in size between 1970 and 2000, and simply have not been able to keep up with the demands of rapid population growth, even though much of it can be attributed to natural increases. Transportation has its own set of challenges, as the infrastructure is no longer adequate for the demand. Rural needs are clashing with rapidly developing urban areas, and environmental impacts are increasing and overwhelmingly negative.

Other transportation issues include the growth in warehousing along major routes. These facilities are massive structures and often feature high tech production, but they bring few jobs (in large part because of the technology) and many trucks. They are converting an inordinate amount of land into warehousing devoted to trucks. This puts tremendous strain on the freeways that support the valley. A pertinent question to ask is who should pay for fixing the problems? Currently, goods movement is negatively affecting the communities in the valley, but they rely on trucking to get their products to market.

Other uncertainties about transportation in the valley include how port competition will affect traffic patterns, and how changes in production will affect the demand for freight transport to and from the valley. It is unclear how these situations will play out, but they certainly deserve attention.

Coping with Evolving Freight Logistics and the Rise of Inland Warehouse and Transfer Facilities

Norm King continued the session with a discussion of the trouble facing the Inland Empire because of goods movement coming through Southern California. Mr. King continued the “pessimistic mood” that reflects the scant attention paid to freight movement by policy officials. While goods movement is important for the economy, it has negative effects that must be recognized.

The Inland Empire has produced more jobs since 1980 than any other area in Southern California. Logistics has been one of the few areas to provide well-paying job growth. This underscores the importance of goods movement for the area, and the Inland Empire is hoping to capitalize on opportunities for future job growth in the industry. But this cannot happen without dealing with the consequences of freight facilities and movement. The major problems that must be addressed, as others have mentioned, include air pollution, freeway capacity, highway maintenance, road safety and intermodal coordination.

Mr. King argued that the price of transporting goods is artificially low. He used the example of a television set being sold for the same price across the country. That scenario indicates that transport costs are being subsidized rather than charged to the consumer. More specifically, the low transport costs are a subsidy from California to consumers everywhere else. His solutions to these problems are user fees, such as container fees or road charges. He does not feel that gas taxes are politically viable, and the gas tax hides the fact that transportation is a commodity that should be priced accordingly.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

San Bernardino County is in a unique situation in that it depends on logistics and goods movement as part of its employment base, but of all the freight transported through the county, only 7% has San Bernardino as its final destination. This means that 93% of it is continuing on, and that freight is traveling on systems that are uncoordinated. Somehow, road and rail goods movement need to be arranged in a way that work together, not separately.

SESSION 5: GLOBAL TRADE, LOCAL IMPACTS: WHO BENEFITS? WHO PAYS?

Martin Wachs (Moderator), Roy W. Carlson Distinguished Professor in Civil and Environmental Engineering, Professor of City and Regional Planning, and Director, Institute of Transportation Studies, UC Berkeley

Lisa Schweitzer (Speaker), Assistant Professor, Virginia Tech University

Panelists:

Robert Garcia, Executive Director, Center for Law in the Public Interest

Andrea Hricko, Associate Professor, University of Southern California

Angelo Logan, Director, East Yard Communities for Environmental Justice

Jim McGrath, Environmental Director, Port of Oakland

The transfer of freight from one place to another also exerts costs on environments and communities. The presentation and panel discussion in this session examined the question of who wins and who loses as freight volumes continue to grow from a variety of perspectives – analytical, economic, legal, regulatory, and political – with an eye toward building increased fairness and consensus. The critical issue that emerged during the presentation was the importance of treating goods movement effects not just as pollution but as a health issue. By seriously considering the health effects of goods movement, policies can be forged which address the concerns of communities as well as of those in the industry.

Martin Wachs began the session with a historical perspective on the role of transportation in quality of life issues. In the past, improvements in transportation allowed people to escape the burdens of the industrial revolution, including pollution. Now, the transportation system is creating its own negative effects and people are unable to avoid those effects. Environmental justice and equity issues are becoming dominating concerns of the transportation field. How can we achieve a balance between the global role of goods movement and quality of life in local areas?

A Research-Based Framework for Understanding Distributional Issues in Goods Movement

Lisa Schweitzer presented a context for the discussion of the local impacts of global trade. Freight is tied to local populations through land use. Industries are clustered spatially in a region, tied by zoning, infrastructure, and agglomeration economies. Environmental justice literature shows that impoverished neighborhoods often exist near industrial sites and freight routes. Therefore, minority communities and industrial areas are often neighbors. How do they get along?

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

From the community perspective, communities are entering into the goods movement / transportation debate with many relevant issues directing their concern. Strong evidence has shown that disease is high in their neighborhoods. Lung health, maternal health, crash rates, and cancer rates are all worse. These differences are not just at the group level, but appear as neighborhood effects. Real disparities exist between the quality of the built environment and public space between poor and rich communities in an urban area. While these issues are related to freight, they are bound up in many other structural issues as well.

For goods movement specifically, freight transport creates local pollutant hotspots for particulates and other pollutants. Furthermore, freight and factories are extremely noisy. The size of industrial and transportation facilities also reduces pedestrian and bicycle accessibility. In addition, worrisome events such as spills occur during transport. Rail, trucks, and hazardous materials cluster near each other, and population concentrations of Latinos are often very close to the transport spill locations.

From the perspective of freight handlers, issues are framed differently. Severe capacity restraints now or in the near term future are threatening the economic viability of their businesses. Because they are surrounded by residential communities, they have difficulty expanding. Proximity to communities also creates operation risks. Operators have difficulty finding risk-minimizing paths and locations. Conflicts are increasing with nearby communities which result in loss of goodwill between the two groups. Are we going to recreate the problems of the interstate era with fights and zero-sum winners and losers? There are fundamental differences between the community and freight interests on many issues. The community wants to decrease traffic, freight to increase traffic. The community wants dispersed factory location, freight wants concentrated factory location. The community wants small facilities, freight wants large facilities. The community wants neighborhood connectivity; freight wants regional, national, and international connectivity.

Maps of transportation facilities and poor communities show the current conflict. However, existing infrastructure can be reconfigured and freight traffic can be rerouted. Greenways and buffers between uses can also be recovered. However, trends are leaning toward continued expansion of facilities. Will facilities move out to the fringe of the region (again) to create a buffer between itself and population? Will facilities be centralized or dispersed? Land use and affordable housing is in everybody's interests. Moving forward must occur with inclusivity. It will be impossible to make progress on these issues without principled deliberation and participation among all public and private interests.

Jim McGrath of the Port of Oakland described a project at the port which mitigated potential negative effects on the community and included the community in designing the program. The Port of Oakland has recently completed a marine terminal expansion with community support. The effort included a large park for the community. Of the \$700 million total project cost, environmental mitigations comprised \$60 million. Mr. McGrath suggests that public health is what really matters to communities.

Trade occurs at an international scale. China and India are doing well currently. GDP is increasing faster than population growth, and wealth is increasing in these countries. This growth

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

in the developing world is in our national interest. In the United States, shipped goods are increasing in value relative to total GDP – 13% in 1970, 30% in 1996. Customs revenue is about \$6 billion per year.

While the benefits of trade are manifold, diesel emissions are the key cost of the system. They are regional in nature, both in generation and dispersal. Ships generate about 3% of PM 2.5 in Southern California. In Oakland, they generate about 0.5% of the Bay Area's PM 2.5 emissions. Truck traffic related to ports also generates particulate matter through diesel. While the costs of diesel pollution are high, technology can be used to address the problem. Clean diesel can be implemented on new power plants. Retrofit is more expensive, so increasing fleet turnover in trucks and ships is essential.

In order to facilitate this transition to clean diesel, funding for turnover and retrofits should be provided in the form of incentives to those in the industry who clean up the most. Logistics at ports should also be made more efficient to reduce idling and increased emissions. Demonstration projects can also promote new technologies. To pay for these projects, user fees should be tied to diesel fuel, the main source of health-degrading pollutants. This type of fee would certainly pass a legal “reasonableness” test. However, it may not be politically feasible to focus fees on diesel.

Traffic congestion is a new “battleground” for addressing the local impacts of global trade. Not only does congestion increase air pollution, but it limits the growth in trade. Infrastructure investment must occur to alleviate congestion, but it won't happen unless quality of life issues are addressed. Communities and industry are both stakeholders in this discussion, and both must be engaged to help craft solutions.

Angelo Logan, Director of the East Yard Communities for Environmental Justice, described the specific impacts of goods movement on a local community on the east side of Los Angeles. The community hosts two intermodal facilities with their idling trains and two congested freeways. These impacts on the community include noise, invasive lighting, toxic spills, trucks idling in the neighborhood, accidents, and diesel exhaust. In this community, many homes are built right up against the rail yards. The lots had been largely disused in the past, but recently they have filled to capacity with intermodal operations. The facilities and their impacts are felt 24 hours a day.

The community began organizing because of idling locomotives. Many trains keep running constantly while parked in or near the yards. The constant diesel emissions have deposited a layer of black soot everywhere in the community. Diesel exhaust has been determined to be a health-damaging contaminant. Truck and railroad workers have increased cancer risks. Similarly, the surrounding community faces a high cancer risk.

Compounding the effects of pollution are economic consequences of the yards. Originally, the community worked in manufacturing. However, manufacturing is leaving the area and being replaced with goods movement facilities. These facilities have fewer employees and lower wages. There is a 25% reduction in wages between the old manufacturing and new logistics jobs. Why are we bringing in poor jobs for low education workers rather than educating workers for

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

better paying jobs? Furthermore, the sicker a child is growing up, the poorer her education will be. Poor education further reduces the ability to find good work.

The community insists that growth in transport facilities must include a prioritization of local health. In addition, the yards must also aid the local educational system. These investments will result in a sustainable economy in the neighborhoods rather than damaging, unplanned growth. If expansion of goods movement in the corridor is to continue, health and education must be addressed.

Andrea Hricko, a professor at the University of Southern California, continued to emphasize the critical importance of health in understanding the impacts of goods movement. Most research and planning in the area of goods movement doesn't address the issue of health. In their respective planning documents on goods movement, the Southern California Association of Governments (SCAG), Caltrans, and the US Chamber of Commerce all do not mention health. "Air quality" is in fact a euphemism for pollution; "quality of life" is a euphemism for disease; "improve" is a euphemism for "expand."

The health effects from traffic-related pollutants include: reduced lung function (leading to illness and premature death), more school absence, increased asthma incidence, and increased stroke incidence. Mapping cancer trends in Los Angeles, pockets of mouth and throat cancer line up east of the I-710 Freeway. Other effects found in the area include premature births and higher infant mortality and cardiovascular effects. These problems are generally thought to be the result of fine and ultrafine particles produced by combustion, particularly diesel combustion. These issues span transport modes and are not limited to trucks. Ships still burn bunker fuel, and their emissions are virtually unregulated. Locomotive exhaust is also poorly regulated.

Robert Garcia, Executive Director of the Center for Law in the Public Interest, described how the impacts of goods movement on local communities are in fact a legal issue. Looking for patterns, communities of color and low income suffer disproportionately from environmental impacts and are disproportionately denied environment benefits like parks. Therefore, when transportation facilities are built or expanded, they must balance benefits and costs of the project across communities. Mr. Garcia is working closely with many local agencies on their projects in this regard.

In the case of the Los Angeles County Metropolitan Transportation Authority (MTA), the subsidy for rail is higher than for transit, even though minorities disproportionately use bus rather than rail. The central lesson learned was that a vision is needed to ensure that benefits and impacts are spread justly. The Olmstead Vision for Los Angeles from the 1930s is still good, in balancing transportation facilities and parks.

In the MTA case, furtherance of community needs relied almost entirely on civil rights laws. Now, such cases combine civil rights analysis with straightforward environmental analysis as already described in the session. While going to court can work, there's still a need for coalition building. It's not enough to rely on community-based organizations or on business. Media involvement is also critical. Still, when common ground can't be found, "we go to court, and win."

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

DISCUSSION

Discussion centered on several issues, including the quality of jobs in the region, buffers around industrial facilities, region-wide freight impacts, and the potential for community relocation. John Husing noted that the loss of industrial or manufacturing jobs in the United States has compounded these problems, making it more difficult for low-skilled workers to move out of impacted neighborhoods. However, Mr. Husing took exception with the notion that logistics jobs do not pay as well as manufacturing jobs. Mr. Logan replied that most communities feel that leadership shouldn't just accept the decline of manufacturing. Mr. Garcia added that he is trying to "uncloak" the idea that warehousing can provide substantial numbers of good paying jobs.

Ralph Appy described a conundrum in the concept of "buffers" around industrial and logistics facilities. Often communities want soccer fields or other active recreational land uses placed right up against industrial facilities. Mr. Garcia replied that nothing is easy. People oppose parks for all kinds of reasons. Ms. Hricko noted that while the issue of open space is growing more important, it is still very dangerous in terms of health to put parks near freight facilities. However, Ms. Schewitzer suggested that parks and buffers are not necessarily as mutually exclusive as it may seem. For example, if emissions can be reduced in a meaningful way, parks could be sited near industrial uses. However, it's not going to happen soon. But one can't think about all these issues in the absence of one another. Mr. McGrath added that the location of the park at the Port of Oakland does not present a major health issue. The realities of geography make the location of that park different. There is a proximity issue between ports and health, but pollutants are also spread across the region. Mr. McGrath asserted that pollution can be addressed. It's past time to work on reducing emissions from diesel sources. The machines must be made clean.

Barbara Ivanov was critical of the general "fascination" with the effects of the Los Angeles ports. While ports are important, they are perhaps only 10% of the entire freight system. In Washington State, about 80% of truck trips do not access ports. Mr. Logan agreed that all communities face impacts from goods movement. However, disproportionate impacts occur for communities along major goods movement corridors. When 20% of all state truck traffic travels by a single place, it's a big issue. Pete Hathaway added that the challenge for planners is that all transportation facilities being used ever more intensively. Distributional trucks are a huge part of the problem. Dan Smith suggested that the goods movement issue be broken into its parts. Two-thirds of trucks on I-710 are supplying the region directly. This is an endemic regional problem caused by an enormous region with inordinate amounts of consumption.

Tim Carmichael suggested that in some cases, it may make sense to relocate people. Mr. Logan replied that his community has discussed the issue of moving. However, the people value themselves as a community. Displacement would be a real hardship. Also, who would finance that and how does it happen? People don't want to be in a polluted environment, but if you move the people, it doesn't really solve the core problem. Mr. Garcia added that moving people is often carried unjustly. Brian Taylor noted that the region has conflicting land uses. One approach is trying to mitigate the uses. Others have moved the economic use, such as with the Denver Airport. However, when we've taken that approach in US, it's been very incremental rather than entire communities at once. In other countries, relocation of entire communities is more

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

common. In the process, governments make the community's surroundings nicer and well compensate the residents.

SESSION 6: AIR QUALITY AND ENERGY ISSUES

Elizabeth Deakin (Moderator), Director, UC Transportation Center, and Professor, UC Berkeley

David Souten, Managing Principal, ENVIRON International Corporation

Christie-Joy Brodrick, Research Scientist, Institute of Transportation Studies, UC Davis;

Assistant Professor, James Madison University

Kenneth Adler, Senior Policy Analyst, U.S. Environmental Protection Agency

Michael Scheible, Deputy Executive Officer, California Air Resources Board

Tim Carmichael, President, Coalition for Clean Air

Michal Moore, Chief Economist, National Renewable Energy Laboratory

Elizabeth Deakin introduced this session by discussing the importance of bettering our understanding of the ramifications that goods movement has on air quality. Emissions are a result of the engines and machinery used in freight movement, and these machines tend to be held to a lesser standard than automobiles.

Trucks, Trains, Ships, and Planes: An Update on Goods Movement-Related Emissions

David Souten talked directly about the emissions associated with goods movement. He did not limit his scope to trucks, but also included trains, ships and planes – all major polluters. He began by pointing out that truck and train shipping accounts for over 60% of the overall freight market. This mode share can be explained by the value to speed relationship, where trucking moves cargo for \$700 per ton at 50-60 miles per hour, while rail offers \$200 per ton but at an average speed of 20 miles per hour. By comparison, water freight costs \$370 per ton at about 10 knots and pipelines offer \$200 per ton but are limited to gases and liquid goods.

Another way to look at the cost efficiencies of freight is to compare the fuel costs per unit. Here, trucks offer about 40 ton-miles to the gallon while rail and ships offer about 400 ton-miles to the gallon. This paints a different picture than the basic costs explained above. Clearly, trucks are likely to have higher emissions per ton than rail or water shipping.

Engines have been a target of emissions regulations, but the process of replacing old engines with cleaner new engines has been slow. Diesel engines will be subject to strict standards beginning in 2007, and this is expected to cut NO_x emissions substantially for all freight modes. For trucks, NO_x (g/gallon) will fall to almost zero, while rail will fall to about 100 g/gallon from 200, and barges will fall to under 150 g/gallon from 200. This represents a solid step forward in cleaning up air quality damage from goods movement.

Particulate matter will also decline substantially from 2007 engine standards. Trucks will again reduce their PM emissions to almost zero, while rail emissions will be cut in half. Barges will see the smallest decline in emissions, but overall there will be a strong downward trend in emissions caused by freight movement. Since trucks carry the most goods, represent the biggest mode share and operate closest to heavily populated areas, the dramatic reduction in their emissions will

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

have the greatest impact on overall air quality. An interesting question to leave with is should rail and marine engines be held to the same standards that truck engines are? Is it cost effective or necessary to push for large reductions in their emissions since they are a much smaller part of the system of goods movement than trucks?

Alternative Propulsion Technologies: What's on the Horizon?

The second speaker was **Christie-Joy Brodrick**, who expanded the discussion of emissions by explaining the importance of diesel engines in freight. Nearly all freight is moved using diesel power, regardless of mode. Because of the polluting nature of these engines, Dr. Brodrick argues that alternative fuel power sources should be explored. A few alternatives exist currently, such as natural gas, biodiesel and hybrid technology.

Emissions reductions are not the only reason to pursue non-diesel solutions. Fuel prices are high, and likely to stay there. The added costs of uncertain fuel prices encourage the shipping industry to look into other options, as well. Currently, UPS and FedEx are experimenting with hybrid technology in some of their local delivery trucks, and the early results are promising.

Another concern with diesel engines in goods movement is excessive idling time. Engines are often running idle for hours while cargo is loaded or unloaded, or the vehicles are waiting for a shipment. Focusing on reducing idling emissions could also provide fertile ground for overall reductions of noxious pollution.

Before alternative engine technologies will be implemented widely, various issues must first be addressed. Companies need to know who will pay the conversion costs, and they also need to know if new engines will change their long term maintenance costs. Drivers and mechanics may balk at changes which may lead to labor concerns. And finally, are the new technologies enough to get the freight industries to move away from diesel?

Regulating Emissions in the Goods Movement Sector: Reports from Washington and Sacramento

The third speaker, **Ken Adler**, explained the Heavy-Duty 2007 (HD2007) engine and vehicle program. This is the program that David Souten discussed earlier to reduce engine pollution dramatically. HD2007 applies new standards to diesel engines that reduce NO_x and PM emissions up to 90%, leaving diesel emissions at similar levels to gasoline engines. These standards will force the continued decline in diesel pollution even though use of diesel engines for shipping will continue to rise.

The costs of this program are borne by the shipping companies. The cleaner engines each cost about \$1,500 more than current engines, and fuel costs will increase by about \$0.05 per gallon. The total costs annually are estimated to be \$4.3 billion. However, HD2007 will also prevent:

- 8,300 premature deaths,
- 750,000 respiratory illnesses,
- 1.5 million lost work days,

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

- 2.6 million tons of NO_x,
- 110,000 tons of PM, and
- 17,000 tons of toxic pollutants.

The monetized benefits of the program are \$70.3 billion annually, which more than offsets the costs. Unfortunately, one concern with the engine replacement project is the long life of diesel engines. These engines can last for 30 years or more, which means it will take some time to realize the full benefits.

Mr. Adler also described the SmartWay Transport Partnership, a partnership between the US Environmental Protection Agency (EPA) and the ground freight industry. The goal of the program is to improve the environmental performance of freight operations through voluntary agreements. Incentives are used to spur interest in the three major components of SmartWay. The first component is Corporate Partnerships. Major companies have joined the program, including major shippers such as FedEx and UPS. The program is first targeting large companies, then will begin to recruit smaller ones. The second component is the creation of Idle-Free Corridors. They have begun 42 idle reduction projects across the country thus far. The third component, still being developed, is to bring rail and other intermodal facilities into the program. The advantage for the carriers to join is the use of the SmartWay logo in promotional materials. The logo signifies that the company is committed to superior environmental performance in its freight activities.

The fourth speaker was **Michael Scheible**. Mr. Scheible explained California's efforts to address air quality and goods movement. The California Air Resources Board has direct authority to address:

- Mobile source emissions,
- Fuel specifications,
- Consumer products,
- Airborne toxins, and
- Global climate change.

The state board also works with local boards to control stationary sources of air pollution.

The state is concerned about air quality and goods movement because of the negative health effects associated with toxic air. The public health concerns include:

- Reduced lung capacity,
- Respiratory ailments,
- Airway inflammation, and
- Asthma.

The costs associated with these problems are increased hospital and emergency room usage and work and school days missed due to illness. As trade increases, goods movement will have a larger and negative effect on the overall health of the public, and the economy. He concluded

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

that while California is ahead of the nation in working towards improving air quality, it cannot do so alone. The state needs the cooperation of local, regional, national and international partners to construct an effective and comprehensive program that has meaningful results.

DISCUSSION

Jim McGrath asked the following question: What should the EPA do to emission controls? Ken Adler provided the answer. The EPA should do three things: (1) Locomotives should be made as clean as trucks; (2) Engine rebuild standards should be revised to make them compatible with new engines; and (3) Auto idling reduction devices should be mandated. These three actions would pay off in less than three years. Gary Gallegos asked how long the NOx will be a problem with the phase in of new engines extended over such a considerable period of time. While diesel engines do last a long time, they are used far more when new than old, which suggests that results will be seen much quicker than it may seem at first.

Elizabeth Deakin asked about using technology as a tool that helps us adjust to growth. With regard to trucks and larger engines, will they have the same decline in emissions we are seeing with smaller engines? No one knows for sure if large engine technology will have the same results that small engine changes have had. It is also unclear what the role of maintenance is for achieving the desired results. The new engines are very complex, and not many mechanics know how to work on them. If they are not maintained properly they may pollute as much as the engines they are designed to replace. This issue points to the need for comprehensive strategies for dealing with these problems, including job training to be able to use the new technologies.

SESSION 7: WHO'S IN CHARGE? OVERCOMING GOVERNANCE CHALLENGES TO PLANNING, REGULATING, AND MANAGING GOODS MOVEMENT

Joan Sollenberger (Moderator), Division Chief, Transportation Planning, California Department of Transportation

Panelists:

Richard Nordahl, Chief, Office of Goods Movement, California Department of Transportation

Mark Pisano, Executive Director, Southern California Association of Governments

Alan Lowenthal, Assembly Member, California Assembly

Ronald Loveridge, Mayor, City of Riverside; Board Member, South Coast Air Quality Management District

The following session explored the appropriate public role in planning and financing goods movement-related facilities, including the level of coordination and/or competition between states, regions, districts, and authorities. **Joan Sollenberger** began the discussion by suggesting that the wealth of ideas generated during the symposium shows that challenges to goods movement can be addressed. She added that performance measurements are tools that should be employed with all new projects. Caltrans is prepared to coordinate and assist regional and local agencies with efforts to develop new, performance-oriented projects to address critical needs throughout the state.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Richard Nordahl began by asking how symposium participants can make a positive change in the way goods are moved through the state. We have finally recognized that we are confronted with a set of critical goods movement issues. The time for action is not tomorrow or the next day, but today. This realization can be seen in newspapers, public debate, and the public arena. There are stories in the newspaper about queues at ports. The number of trucks coming through the Central Valley has increased 7% in one year.

In fact, strategies are being developed and actions being taken that will hopefully improve the system. The administration is committed to improving the quality of the transportation system. At the state level, we are developing goals and desired outcomes for future projects. The primary goal of goods movement is that, in consideration of state law, California will foster the development of a balanced, seamless, multimodal transportation system that is safe, efficient, reliable, and effective: a balanced system. The system must not only achieve goods movement objectives but also provide benefits to community and our business environment. This goal must be accomplished through performance-oriented outcomes. These outcomes include improved access, reliability, and safety and fostering a growing economy more effective and efficient because of the improved goods movement system.

Accomplishing this goal will only be possible by addressing four issues: funding, flexibility, innovation, and partnerships. In terms of funding, there is a growing recognition that a linkage must be made between those who benefit from international trade and payment for those benefits. There is a need to make sure that as goods are being moved, the impacts of that movement should be paid for by the appropriate parties. We need to consider what additional flexibility is required in order to address system functionality. Highways, rails, seaports, and border crossings must all work efficiently and effectively. The state is extremely limited in the actions it can take, even if there's an overwhelming public benefit. Innovation can be realized in operations, evaluation processes, technologies, planning, and implementation of ITS. The state supports efforts to develop a statewide ITS architecture. Enhancing our ability to measure system performance and how investments are modifying performance is critical. Finally, none of this happens without partnerships in planning, maintenance, and development of systems. Funding needs to start in the tying of connections that we already have, in terms of what we do relative to Pacific Coast states and the goods coming through. A West Coast Corridor Coalition of partnerships between state and private industry is key.

Mark Pisano began by noting the current difficulty in determining who's responsible for goods movement in the state. The subject at hand isn't really "goods movement," it's "logistics." Logistics will play the role in the 21st century that manufacturing played in the 20th century. We are just beginning in our understanding of logistics and it is part of the prosperity strategy within the Southern California Association of Governments' (SCAG) overall regional vision. We need to build an economy for everyone in the region, not just 30-40% of the region. People working in logistics earn more than in many other industries, including health care, education, manufacturing, and construction.

Through logistics, Europe is uniting countries that fought wars with each other 50 years ago. They are using logistics systems in order to compete with the USA. Asia is doing this as well. Both have seaport and airport complexes second to none. They understand the true meaning of

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

just-in-time delivery. They are accomplishing these advances in spite of the fact that many of these are high wage, high cost countries. They are using their national will to accomplish their goals. What can the United States do with its highly decentralized system? The best innovations are coming out of the regions. However, the SCAG region is too small by itself. It needs partners such as San Diego, Bakersfield, Tijuana, and Calexico.

There are two principles which should guide the establishment of a new goods movement system. First, the system is really a wealth creation system, not a transportation system. It has the capacity to put a lot of investment on the table. Mr. Pisano doesn't doubt that if we have the right collection and distribution systems, they will enhance the economy and job growth. Furthermore, the only way we will realize these projects is through innovative public-private partnerships; the public sector must facilitate private sector investment. Second, logistics is comprised of "systems": environment, transportation, business, and labor systems. Treat these multiple systems simultaneously. Logistics addresses the basic economic fiber of this country. This is the only strategy he knows of that will build our middle class.

Assemblyman Alan Lowenthal described his perspective on the goods movement issue and the legislative agenda for addressing its impacts. He began with a personal "case study" of how a legislator has learned a few things during his elected life. Mr. Lowenthal was a community psychologist teaching at California State University Long Beach when he decided to run for Long Beach City Council in 1992. One major issue among his constituents was concern about the black soot on their windows. Mr. Lowenthal learned that the black soot came from tons of uncovered petroleum coke sitting outside at the ports. While regulations had been established against the practice, the piles never got covered. During this period, he also started to learn about the I-710 and its challenges. For example, the tail end of the freeway was actually built by the City and Port of Long Beach, and the state wouldn't take responsibility for it. When Mr. Lowenthal became an assemblyman, he did get the state to take over that portion of the I-710 and he made progress on getting the coke piles covered.

Once in the Assembly, Mr. Lowenthal also began to work on the problems of idling trucks. Diesel trucks idle for hours outside the ports. When he learned of the health consequences of diesel particulate emissions, he became quite disturbed. He introduced a bill to establish better business practices at the port which would reduce idling. Terminal operators hated the bill, but truckers and labor liked it. Eventually everyone came together on the bill and he earned the respect of the terminal operators.

Turning to the congestion on the I-710 freeway, Mr. Lowenthal realized that the situation was out of control. He introduced a bill that would extend gate hours in order to reduce peak congestion along the freeway. The bill would have allowed the state to collect premiums if people used trucks during the day. Mr. Lowenthal told the terminal leaders that if they could solve the problem without legislation then the bill would go away. The operators duly figured out how to extend the gate hours.

Now we need legislation to deal with pollution, but a bill that the governor won't veto, as he did previous legislation. California is going through a paradigm shift. We have had development before and have figured out how to mitigate it. Now, we see that environmental issues must be at

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

the forefront during planning if development is to be sustainable. If not, we're lost as a society. We can solve these problems and thrive. Mr. Lowenthal promised to fight for such legislation if elected to the Senate.

Ronald Loveridge presented his comments on governance and goods movement from the perspective of a local official. Mr. Loveridge has served as Riverside's mayor since 1994 and is also on the South Coast Air Quality Management District Board of Directors. He contributed several important points that must be considered if goods movement challenges are addressed in the coming years:

- A consensus has emerged that community and environmental issues are critical in goods movement. The health effects of transportation must be acknowledged.
- The ports must be thought of as Southern California's ports rather than just Los Angeles's and Long Beach's ports. The opportunities and failures at the ports need to be taken collectively by the region.
- Everyone in the region is affected by air quality, ozone, and particulates. Riverside has particularly bad levels. Pollutants are not just localized in hot spots, but spread across the basin.
- The 21st century will be a century of regions. Southern California cannot wait for the federal or state government. We have plans that need to be implemented. Doing this won't be easy, so we need to come together as a region and collectively support a plan.
- We live in an age of incrementalism, and that's the reality of the political process. However, Southern California can transform itself through extraordinary infrastructure investments. The region did this with water, ports, and freeways. It can do it again with goods movement.

DISCUSSION

Marty Wachs raised the question as to whether California can realize the vision that everyone's talked about during the session without fundamental changes in our system of governance. Do we need regional governments with funding? Do we need new institutions? Mr. Pisano suggested that scale of governance isn't critical. The issues aren't specifically county issues or SCAG issues. Logistics is an economic issue. Revenue can be tapped for projects, as the Alameda Corridor shows. Productivity enhancements can make investment work, and even trucking companies agree. Government must take performance seriously. Yes, regional governments don't have all the authority necessary from the state to get the job done. They need to have authority to conduct negotiations. However, these issues will pass us by if we try for major institutional changes. Mr. Loveridge added that restructuring government could be fruitful, but it's difficult to take authority away from existing governments. There needs to be better regional "governance," but not necessarily "government." The Joint Powers Authority model used on some projects seems very promising. Bev Perry also suggested that from a governmental perspective, we tend to be very parochial. The policymaker's goal is to protect his or her area. We need to move out of that and talk about regions because most of the issues we deal with are regional. We need to start from within by discussing these issues with our colleagues.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

Gary Merring stated that a common understanding must be established among all of the communities and parties involved that the region is a “global trading region.” If people buy into the vision, then the projects will be implemented to support that vision. Mr. Pisano added that SCAG has been working with colleagues in other large metropolitan areas and around the world. There are eight major regions evolving in the United States. Eighty percent of all job growth and fifty percent of population growth will be in these eight regions. We’re just beginning on this regional cycle. With respect to this region, our planning and strategies are just as advanced as other places across the globe. However, we’re behind the rest of world in using revenue-backed financing structures. Secondly, they’re willing to enter into conditional compacts to knit themselves together when the need arises.

Kirk Lindsey noted that participants in the symposium have heard refreshing news that there is a process being established in Southern California to address goods movement challenges. However, the state still seems to be studying the issues rather than addressing them. Mr. Nordahl replied that the state is aware and is actively planning. Yes, the state has been impacted by recent events. However, leadership is developing a consensus regarding the steps needed at a statewide level. The state is addressing financial issues, flexibility, innovation, and partnerships. Movement must also occur on a regional level and at the multi-state level. Ms. Sollenberger added that the governor is involved in the California Transportation Plan. He understands the issues and will address them. Mr. Pisano suggested that the state is looking to devolve some of its responsibility and establish performance standards for regions. The state has to finish the job that it started if devolution is to work. However, there are many disincentives in Sacramento standing in the way of devolution.

Tim Carmichael concurred with the general concept of regionalism. The issues discussed so far must be considered on a regional scale. However, he expressed frustration with SCAG and its “in-between” role. SCAG is charged with a lot of responsibility but breaks down because it’s given little authority. Mr. Pisano replied that this is a legitimate and direct challenge for SCAG. Completed projects, such as the establishment of Alameda Corridor and Metrolink, show that success can be achieved. However, regionally we have not yet finished the establishment of institutions and implementation mechanisms. We don’t have the authority from the state yet to use revenue-backed financing or build on the state highway system. We have plans that can’t yet be implemented. In part, we don’t have authority, but also, in part, we don’t have all of the agreements worked out. However, Mr. Pisano is convinced the problem will be solved because too many people’s lives are hanging in the balance. Mr. Loveridge added a Joint Powers Authority to harness funding makes a lot of sense. However, he’s not sure if the appropriate leader has been found. Perhaps goods movement can be a kind of rallying initiative. Mr. Pisano reiterated that if the problems being discussed are not solved, then growth forecasts won’t be met and the ability to pay bonds will be compromised. That’s a real financial incentive to solve these problems. He believes there are institutions and capacities out there to make it happen.

Brian Taylor directed a question to Assemblyman Lowenthal. In years past, the state legislature has been deeply involved in transportation finance. However, with the advent of term limits and propositions, how can the legislature get involved in a long term way? Mr. Lowenthal replied that, in fact, he doesn’t know how successful legislature will be in this environment. In an era of term limits, the legislature has been seemingly unable to deal with long range issues. Therefore,

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

determining where decision making should occur is difficult. He added that he likes the idea of a regional zone for implementing plans. However, the legislature will remain as a protecting authority to make sure citizen values are built into all efforts. The state legislature can provide overarching values.

SESSION 8: THE GOING RATE: PUBLIC FINANCE OF GOODS MOVEMENT

Brian Taylor (Moderator), UCLA

Robert Poole, Director of Transportation Studies, Reason Foundation

Werner Rothengatter, Professor, University of Karlsruhe, Germany

Michael Huerta, Senior Vice President/Managing Director, ACS State and Local Solutions

At the beginning of this session, **Brian Taylor** noted that the presentations thus far have pointed to a broken system of goods movement, where there are not enough financial resources available at a regional level to deal with the impact of freight. The transportation impact of goods movement is felt at a regional level, but regions have little authority for raising money to mitigate the problems or to regulate through prices. The state and federal governments control the gas tax, and they are unwilling to consider increasing them to pay for transport improvements. The presentations in this session touch on the creative changes that should be considered in order to cope with the exogenous demand of goods movement and the structures that must be created in order to facilitate these changes.

Closing the Gap: New Directions in Highway Finance to Pay for Growing Lists of Unfunded Goods Movement Projects

Robert Poole was the first speaker of the session. In his talk, he suggested that tollways used for goods movement should be seriously considered to improve future infrastructure. Mr. Poole argued that trucks will remain the mainstay of goods movement, and rather than fighting this, we should work with it. Trucks are best equipped to deal with decentralized warehouses and industry, just-in-time logistics, and short- to medium-distance shipping that is uncompetitive for rail. In addition, truck VMT has increased faster than auto VMT over the past 20 years, and this trend is expected to continue.

Despite the advantages for trucking in goods movement, there are serious problems looming over the industry. Highway capacity is inadequate and congestion is getting worse, which are limiting productivity gains for trucking. Safety is also an ongoing concern, both for drivers and for the environment as diesel emissions are problematic for clean air. These problems need to be addressed to ensure the health of trucking.

Congested Interstate Highways are draining productivity from trucking. Congestion is compounded by new lane construction being far outpaced by the growth in VMT, and many urban freeways are severely affected by clogged traffic. Making trucking far more productive needs to be a priority. A 10% savings in truck shipping could mean as much as \$61 billion to the industry annually. This benefit can be achieved in multiple ways, including further deployment of longer combination vehicles (LCVs), which carry twice as much freight as conventional

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

trucks. Unfortunately, they also carry greater risks on the road when crashes between trucks and cars occur. Currently, there are 5,000 deaths per year resulting from car/truck crashes.

One of the problems with LCVs is they are not legal in most states. This prevents the substantial productivity gains available through triple or turnpike double trucks, which offer the greatest increase in carrying capacity. In order to take advantage of this truck technology, truckways should be considered. The lanes can be designed to withstand the axle weights of the LCVs. The tollways can be built in existing rights of way along freeways, and be available to all trucks, not just LCVs. These roads would be self-funding from tolls, which would be charged electronically. The extra capacity of LCVs would more than compensate for toll charges.

Mr. Poole estimated that toll charges per mile would vary between \$0.56 for a conventional semi-trailer to \$1.89 for a truckway double long. However, the double long would have extra earning capacity of \$2,200 per day over mixed freeway trucking. Even with tolls, the truckers would come out ahead.

The key features of an urban truckway would include extra wide lanes (14') each way, and barrier separated lanes for mixed traffic that would also have separated access ramps. These lanes would have variable electronic tolling and be located in existing freeway corridors. To accomplish this type of system, policy changes are needed. They include the provision of rights of way in Interstate corridors, liberalized size and weight limits on roads, removal of the ban on tolling federal highways, state-enabling legislation for tolling and regional joint powers authorities.

To conclude, Mr. Poole argued that dedicated truck tollways are a win-win proposition. They increase goods movement and trucking productivity, help reduce shipping costs, increase highway safety by separating traffic and reduce highway emissions through free flowing traffic and truck capacity.

New Developments in the Use of Advanced Technologies to Price the Movement of Goods in Europe and Elsewhere

The second presentation was by **Werner Rothengatter**. He discussed advanced technologies being used in Europe to price the movement of goods. Six European countries have introduced tolling on roads in order to finance their motorways. In these systems, all users must pay the tolls either through tollgates or access tickets. Using tolls is a major shift from road finance through taxes to finance through users fees. To augment these fees, some countries have recently begun to charge goods vehicles per kilometer, as allowed by an EU directive. Austria, Germany and Switzerland are the three countries leading the way on this approach to road finance.

The European Union directive that allowed for charging was put in place in June 1999. Since then, many EU countries, plus Switzerland, have begun using electronic charges on their roadway system. Per kilometer charges, though, require new technologies such as GPS and GSM. Germany is using the most ambitious system, employing both of these technologies. One of the major issues confronting the EU, however, is that there are many different systems using

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

many different technologies being developed and deployed. Coordinating these systems, many of which are not compatible with the others, will be a challenge.

Though difficult to implement, the technology being used has allowed for the development of complex tolling programs. Germany has been able to implement dynamic tolling that can account for vehicle type, road type, time of day, congestion levels and environmental sensitivity. Austria has many of the same problems of managing a complex system. One of the problems they have been forced to deal with is regulating traffic diverted from main roads, due to tolls, to secondary roads. This points to the notion that all roads may need to be priced dynamically.

Dr. Rothengatter concluded with further discussion of interoperability. Since all systems as used now are independent of each other, he believes that the European Commission will need to make decisions about further technical development that can bring all the systems together on one standard. This is not expected soon as most systems are still in the development stage.

Whose Impacts? Whose Revenues? New Approaches to Financing Freight Infrastructure to Move the Economy, Protect the Environment, and Ensure Equity

The third speaker for this session was **Michael Huerta**. Mr. Huerta's talk argued that freight deserves a dedicated funding source to maintain its facilities. Goods movement affects everybody, and efficiently moving goods is a paramount concern. However, the responsibility for freight transport is fragmented. This fragmentation negatively affects decisions made with regard to freight transport. Mr. Huerta believes that policy towards goods movement should involve greater regional and state input, with a continued overlay of federal policy.

One of the problems seen for the future is that domestic freight volumes are expected to increase by 67% from 1998 to 2020 and international volumes by 85% during the same period. Since freeway capacity is already a limiting factor and congestion is terrible now, new solutions are necessary. But it is important for the freight industry to understand that they are not simply affected by the problem, they are part of the problem.

Goods movement has negative impacts on the communities that bear the infrastructure by bringing air and noise pollution, while at the same time the benefits of freight shipments are dispersed. This creates a disconnect between the costs of freight movement and the beneficiaries of freight movements. Yet since ISTEA, major public funding decisions have been the responsibility of state and local governments, which open up opportunities to reconcile the costs and benefits.

One of the major flaws in how freight infrastructure is financed is that public funds are mostly distributed along modal lines, but freight is intermodal. This means that certain parts of the freight system are given relatively little attention even though they are just as important as all other segments of the supply line. The intermodality of goods movement also makes it hard for government at any level to see freight as their problem. Local governments are likely to see only the segments that occur in their jurisdiction as a local problem, ignoring the effort put into getting goods to their door.

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

To correct these discrepancies, a new approach to financing should be undertaken. A better mix of public and private funding sources, including user fees, along with clearly defined priorities for goods movement will help bring all the needed players in line. This will allow the development of better and more efficient freight systems that reflect national, state and local priorities while accounting for the needs of the private industries responsible for moving the goods around the country and world.

DISCUSSION

A question was directed to Robert Poole about how to keep LCVs on the roads that would be built for their use. They would have a terrible affect on regular roads. Mr. Poole responded that while there is no way to guarantee that they will be kept off regular roads, it is unlikely they will suddenly fill up these roads in part because of the difficulty in driving them on regular roads. That said, on a national level, this risk is acceptable compared to the benefits.

Peter Swan noted that one bid assumption for the truckways is that everything will be constructed in the existing right of way. How will this happen? Mr. Poole answered that he was using estimates from the Southern California Association of Governments (SCAG) to develop his Southern California example.

Ken Adler asked if there could be a guarantee of emission reductions. Mr. Poole responded that there is no way to make that kind of guarantee. The emissions reduced will be as a per freight unit.

Dr. Rothengatter was asked if there is anyone in the United States working on the technology issues that Germany is addressing. He replied that no one is currently doing this work. While there are many different standards for toll collection, manufacturers themselves are working towards consolidation of technology because people are not interested in cluttering up their cars with multiple transponders.

SESSION 9: NEW SOLUTIONS AND NEW DIRECTIONS

LeRoy Graymer (Moderator), UCLA Extension Public Policy Program

Panelists:

Gill Hicks, President, Gill V. Hicks and Associates

Roger Snoble, Chief Executive Officer, Los Angeles Metropolitan Transportation Authority

Mary Nichols, Director, Institute of the Environment, UCLA; former Secretary of Natural Resources, State of California

Gill Hicks began the session by stating that a “perfect storm” of influences are converging on the Southern California freight industry. These factors are:

- Cargo growth,
- Population growth,
- Air and noise pollution,

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

- Traffic congestion,
- Community concerns (How much is enough?),
- Safety and security,
- Capacity constraints,
- Funding limitations, and
- Equipment/labor shortages.

These represent a lot of issues, and somehow they all need to be dealt with. Los Angeles area ports are the busiest in the country, and the overall economy depends on their productivity and their safety. Improvements to the 710 Freeway and the Alameda Corridor are not adequate to accommodate the expected growth in traffic, nor do they address the growing safety concerns of the ports.

Mr. Hicks explained that one part of the solution was the formation of the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) – a regional subunit of the MTS National Advisory Council created by U.S. Secretary of Transportation (AB2043). This council has the mission of fostering the development of a Marine Transportation System in California that is safe, secure, efficient, environmentally sound, and capable of expanding to meet the demands of the global economy. This is an ambitious mission. The tools available for the Council’s use are funding sources. They lobby for increased funding for infrastructure and security at both the state and federal levels, based on the following beliefs:

- State and federal programs should provide greater flexibility in use of funds for goods movement.
- New revenue sources at the national level should be considered; e.g., tax-credit bonds.
- To succeed, there is a need to stress the national significance of the Marine Transportation System and Global Gateways Program.

Roger Snoble described himself as an economic geographer. He argues that as we consider goods movement we must address other social concerns that compete for governmental attention. How can we get these important social needs into the equation? Right now the state does not include transportation in the state’s social needs equation. The state has been diverting money away from transport over the past few years. Researchers and practitioners must do a better job of convincing the state that transportation is an important problem. Beyond the elected officials in Sacramento, transportation planners need to do a better job of educating people. People think there are too many trucks on the street, but they do not think about the value that the trucks bring. Part of educating people can be accomplished in the goals we set for ourselves. We should start on local levels with goals that can be achieved. This can create a broad coalition with the vision that transportation affects everybody. It is important to realize that we don’t need another level of government; we need government to work better. We are divided not by common interests but by dividing lines of counties, states and cities.

DISCUSSION

Lisa Schweitzer asked about pricing. She feels that no one is talking about it now, but academics have been arguing for it for quite some time. The panel consensus is that we will have to price

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

new roads with some mechanisms, but no one is willing to talk about what those mechanisms might be.

Another question asked of the panel was if anyone is in a position to do any of the things discussed over the past two days. The answer was maybe. Agencies and commissions are unsure how their ability to affect change will be altered by user fees, regulations or other new issues that arise while coping with freight movements. Currently, state law is problematic for transportation planning because only regional plans are legal. Using fee or toll revenues to put together a plan and a commission at the state level would be a viable option. Though this effort could be done administratively without new legislation, it would need the removal of current laws.

Jim McGrath brought up two issues regarding coalition building. First, poor air quality can be solved through technology, and second, congestion reduction is not an air quality program. People are saying we can use congestion reduction to solve the air quality problem, but these are separate issues. Short term solutions should focus on technology that results in clean air.

Brian Taylor concluded the session by asking if there is a benefit or a cost if pricing shifted some shipping away from LA. How would pricing affect the overall flow of commodities and the Southern California economy? Los Angeles may not enjoy being a way station for the goods of the nation, but do we know what the hidden costs and benefits are of the freight industry?

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

CONCLUSION

This 14th UCLA Lake Arrowhead Symposium on the Transportation – Land Use – Environment Connection delivered a detailed picture of the state of the goods movement industry in the United States, with an emphasis on Southern California – a picture that often is not entirely rosy. Goods movement is a thorny issue for transportation officials for many reasons, including its public health consequences, economic benefits, security issues, fragmented decision making processes, complex public-private partnerships and contentious labor issues. There are many more concerns that could not be fit into this three day meeting, yet it appears that the importance of goods movement is becoming ever clearer – along with the understanding that there will be no easy solutions.

While the focus on this symposium series is on issues facing California, the U.S., and the world, the very nature of goods movement in the west gave this meeting a strong Southern California flavor. Much of the nation's freight enters the country through Southern California ports, and travels on the region's roads and rails. However, much of what the country eats travels from the Central Valley to markets in every state. The value of the goods being shipped through and from California is easily understood, but we know much less about the costs and benefits of the goods movement process itself.

The costs of freight shipments on communities and environments were documented by many speakers. Air pollution is a major problem, costing many millions in lost productivity and shortened lives. Congested freeways are made worse by trucks passing through with products destined elsewhere. While some believe that this travel adds little to the local economy, as the benefits of consumption occur hundreds or thousands of miles away, others argue that employment generated at sea- and airports bring substantial local benefits. Ports concentrate emissions, add noise and light pollution to the surrounding communities, and traffic to already congested facilities.

Despite the problems cited by many speakers, a number of encouraging solutions were proffered as well. New engine designs can produce substantially cleaner machines to move goods. Creative pricing of transportation networks can contain congestion and prices paid in line with costs imposed. New technologies can improve the productivity of the ports, and ease the burden of the growth in cargo expected over the next few decades.

Many of the private sector representatives in attendance acknowledged that numerous problems they encounter in their business need fixing, and suggested a willingness to partner with public agencies to usher in solutions that work for all parties. As frustrating as the problems associated with goods movement are, only a few in attendance argued for actual reductions in goods movement as a way to address the problems identified.

The most widely embraced solutions involved partners working to maximize the efficient use of existing facilities. Private companies seek cost savings and price certainty in goods movement, but they also want to support public health. After all, noted some in attendance, their employees and customers live near goods movement facilities too. Representatives from public agencies expressed a desire to balance the needs of the public with the economic health of the industries

Symposium Summary: Linking Goods Movement to Economic Prosperity and Environmental Quality

dependent on quickly and cheaply moving products in, out, and around the country. Everyone, it seemed, agreed that the best solutions will involve working together.

Lastly, this conference made clear that there is a tremendous opportunity for further research into logistics, freight, engine technology, and public health as they relate to goods movement. Much as partnerships are forming to create solutions to shipping issues, researchers need to reach beyond their disciplinary boundaries to develop a more comprehensive understanding of how goods movement affects our economies, cities, and peoples' lives. Thus, the three days of presentations were a glimpse of both what we don't know about goods movement and its implications, as well as a state-of-the-art synthesis of what we do know.

APPENDIX A:

SYMPOSIUM PROGRAM

LINKING GOODS MOVEMENT TO ECONOMIC PROSPERITY AND ENVIRONMENTAL QUALITY
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<i>October 24-26, 2004</i> <i>UCLA Conference Center at Lake Arrowhead</i> 850 Willow Creek Road Lake Arrowhead, California
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SUNDAY AFTERNOON, OCTOBER 24, 2004

1:30 pm **SYMPOSIUM OVERVIEW**

Brian D. Taylor, Associate Professor of Urban Planning and Director,
Institute of Transportation Studies, UCLA

How Are Changes in Production, Trade, Consumption and Congestion Affecting the Movement of Goods?

Randolph Hall, Professor and Senior Associate Dean for
Research, Epstein Department of Industrial and System
Engineering; Co-Director, CREATE Homeland Security Center,
USC

International Trade Traffic: Current Trends and Policy Concerns

Jon Haveman, Program Director, Economy, Public Policy
Institute of California

Free Trade, Organized Labor, Increased Security, Environmental Protection, and More: The Emerging Freight Policy Context

Harry Caldwell, Senior Vice President, Regal Decision Systems

3:00 pm **BREAK**

3:15 pm

MODAL PERSPECTIVES ON A MULTI-MODAL ISSUE: ISSUES AND POLICY CHALLENGES

While freight (even on a single trip) necessarily moves by a wide variety of modes, goods movement firms and interests are often organized along modal lines. This session lays the groundwork for later, more synthetic, sessions but identifying significant policy issues and challenges in each of four modal areas: air cargo, maritime trade, rail freight, and trucking.

Moderator: Richard Nordahl, Chief for the Office of Goods Movement, California Department of Transportation

Air Cargo: Issues and Policy Challenges

Keola Pang-Ching, Director of cargo Sales & Marketing, Alaska Airlines

Maritime Trade: Issues and Policy Challenges

John Vickerman, Principal and Executive Vice President, TranSystems Corporation

Rail Freight: Issues and Policy Challenges

Peter F. Swan, Assistant Professor of Supply Chain Management, Smeal College of Business, Pennsylvania State University

Trucking: Issues and Policy Challenges

Kristen Monaco, Professor of Economics, California State University, Long Beach

4:45 pm

COMMEMORATION OF THE PASSING OF JOANNE FREILICH AND JIM ORTNER

5:00 pm

ROOM CHECK-IN AND OPENING RECEPTION

6:30 pm

DINNER

SUNDAY EVENING, OCTOBER 24, 2004

8:00 pm **INCREASING PUBLIC-PRIVATE COOPERATION AND
COORDINATION IN MANAGING THE MOVEMENT OF GOODS**

No aspect of the transportation system is more closely associated with the private sector than goods movement. Private firms move most goods on behalf of other private firms. Yet freight moves on publicly-regulated and, often, publicly-operated transportation networks. This mix of public and private can blur lines of authority and responsibility. Accordingly, this session convenes a panel of public and private sector leaders to explore with the audience ways to increase public-private cooperation and coordination in the movement of freight.

Moderator: Jeff Brown, Consultant, California Senate Office of Research

Panelists:

LaDonna DiCamillo, Director of Government Affairs, BNSF Railway

Gary Gallegos, Executive Director, San Diego Association of Governments

Ron Guss, President, Intermodal West

Keola Pang-Ching, Director of Cargo Sales & Marketing, Alaska Airlines

Richard Powers, Executive Director, Gateway Cities Council of Governments

PLENARY DISCUSSION

9:30 pm **INFORMAL RECEPTION AND CONTINUED DISCUSSION**

MONDAY MORNING, OCTOBER 25, 2004

7:30 am **BREAKFAST**

8:45 am **LAND USE AND ENVIRONMENTAL ISSUES**

The dramatic rise in goods movement in recent decades has affected environments beyond emissions and air quality. In particular, the growth of freight traffic and port and transfer facilities generates potential land conflicts with passenger movement. This session examines these conflicts in three venues: expanding port facilities, freight movement in rural and rapidly urbanizing areas and the rise of inland warehousing and transfer

facilities.

Moderator: Donald Shoup, Professor of Urban Planning, School of Public Policy and Social Research, UCLA

Resolving Local Land Use Conflicts with Expanding Ports and Terminals

Ralph Appy, Director of Environmental Management, Port of Los Angeles

Moving Goods in Rural and Rapidly Urbanizing Areas: The Case of California's Central Valley

Elizabeth Deakin, Director, UC Transportation Center, and Professor, UC Berkeley

Coping with Evolving Freight Logistics and the Rise of Inland Warehouse and Transfer Facilities

Norm King, Executive Director, San Bernardino Associated Governments

10:15 am BREAK

10:30 am **GLOBAL TRADE, LOCAL IMPACTS: WHO BENEFITS? WHO PAYS?**

Goods movement is a direct measure of economic activity and vitality. But the transfer of freight from one place to another also exerts costs on environments and communities. The presentation and panel discussion in this session examine the question of who wins and who loses as freight volumes continue to grow from a variety of perspectives- analytical, economic, legal, regulatory, and political – with an eye toward building increased fairness and consensus.

Moderator: Martin Wachs, Roy W. Carlson Distinguished Professor in Civil and Environmental Engineering, professor of City and Regional Planning, and Director, Institute of Transportation Studies, UC Berkeley

A Research-Based Framework for Understanding Distributional Issues in Goods Movement

Lisa Schweitzer, Assistant Professor, Virginia Tech University

PANEL DISCUSSION

Speakers:

Robert Garcia, Executive Director, Center for Law in the Public Interest

Andrea Hricko, Associate Professor & Director, Community Education, USC

Angelo Logan, Director, East Yard Communities for Environmental Justice

Jim McGrath, Environmental Director, Port of Oakland

PLENARY DISCUSSION

12:00 pm LUNCH

MONDAY AFTERNOON, OCTOBER 25, 2004

1:30 pm **AIR QUALITY AND ENERGY ISSUES**

The rapid growth of goods movement and increasing concerns with the health effects of diesel emissions have combined to move freight traffic to the forefront of energy and air quality policy debates. This session presents the latest information on goods movement related emissions, explores recent developments of newer, cleaner engines, and examines current state and federal efforts to reduce freight-related emissions.

Moderator: Elizabeth Deakin, Director, UC Transportation Center, and Professor, UC Berkeley

Trucks, Trains, Ships and Planes: An Update on Goods Movement-Related Emissions

David Souten, Managing Principal, ENVIRON International Corporation

Alternative Propulsion Technologies: What's on the Horizon?

CJ Brodrick, Research Scientist, Institute of Transportation Studies, UC Davis; Assistant Professor, James Madison University

Regulating Emissions in the Goods Movement Sector: Reports from Washington and Sacramento

Kenneth Adler, Senior Policy analyst, U.S. Environmental Protection Agency

Michael Scheible, Deputy Executive Officer, California Air Resources Board

PANEL DISCUSSION

Speakers:

Tim Carmichael, President, Coalition for Clean Air

Michal Moore, Chief Economist, National Renewable Energy Laboratory

PLENARY DISCUSSION

3:00 pm FREE TIME

5:30 pm RECEPTION

6:30 pm DINNER

MONDAY EVENING, OCTOBER 25, 2004

8:00 pm **WHO'S IN CHARGE? OVERCOMING GOVERNANCE CHALLENGES TO PLANNING, REGULATING, AND MANAGING GOODS MOVEMENT**

The goods movement system is influenced by an extraordinarily wide array of actors and institutions; private customers and shippers, international trade bodies, federal and state environment and transportation agencies, and regional and local governments and authorities. The appropriate public role in planning and financing goods movement-related facilities is an ongoing debate, as are the levels of coordination and/or competition between regions, districts, and authorities. This session tackles the question of who is in charge in a lively moderated discussion among audience and four distinguished panel members.

Moderator: Joan Sollenberger, Division Chief, Transportation Planning, California Department of Transportation

Panelists:

Richard Nordahl, Chief for the Office of Goods Movement, California Department of Transportation

Mark Pisano, Executive Director, Southern California Association of Governments

Alan Lowenthal, Assembly Member, California Assembly

Ronald Loveridge, Mayor, City of Riverside; Board Member, South Coast Air Quality Management District

PLENARY DISCUSSION

9:30 pm INFORMAL RECEPTION AND CONTINUED DISCUSSION

TUESDAY MORNING, OCTOBER 26, 2004

7:45 am BREAKFAST

8:45 am **THE GOING RATE: PUBLIC FINANCE OF GOODS MOVEMENT**

Policymakers and modal interests have long debated the appropriate public role in financing the movement of goods. The rapid rise of freight traffic and recent plans for major freight-focused transportation infrastructure investments raise important questions regarding the distribution of both impacts and revenues from goods movement. Accordingly, the three presentations in this session examine recent developments in pricing goods movement in Europe, efforts to fund goods movement projects here in the U.S., and the use of creative finance tools to fund the mitigation of capacity enhancements.

Moderator: Brian Taylor, UCLA

Whose Impacts? Whose Revenues? New Approaches to Financing Freight Infrastructure to Move the Economy, Protect the Environment, and Ensure Equity

Michael Huerta, Senior Vice President/Managing Director, ACS State and Local Solutions

New Developments in the Use of Advanced Technologies to Price the Movement of Goods in Europe and Elsewhere

Werner Rothengatter, Professor, University of Karlsruhe, Germany

Closing the Gap: New Directions in Highway Finance to Pay for Growing Lists of Unfunded Goods Movement Projects

Robert Poole, Director of Transportation Studies, Reason Foundation

10:15 am BREAK

10:30 am **NEW SOLUTIONS AND NEW DIRECTIONS**

Finally, three leaders from different sectors and venues will conclude the program with their ideas, strategies, and challenges to the participants on how to move ahead with the public and private approaches needed to make significant progress on the dual goals of enhancing economic prosperity and improving the quality of life.

*Moderator: **LeRoy Graymer**, UCLA Extension Public Policy Program*

Panelists:

Gill Hicks, President, Gill V. Hicks and Associates

Roger Snoble, Chief Executive Officer, Los Angeles Metropolitan Transportation Authority

PLENARY DISCUSSION

12:00 pm CONCLUDING LUNCH AND ADJOURNMENT

APPENDIX B:

SPEAKER BIOGRAPHIES

Kenneth Adler has been employed by the U.S. EPA for 19 years, and is currently a senior policy analyst in the Office of Transportation and Air Quality. He recently completed a detail to the Senate Environment and Public Works Committee working on reauthorization of TEA-21. Previously, he managed OTAQ's Transportation Policy and Evaluation Group. This group analyzes, develops, and encourages the adoption of demand management strategies to reduce greenhouse gas emissions, criteria air pollutants, and other pollutants related to the transportation sector. Ken has also served as a Special Assistant to Administrator Reilly under the previous Bush Administration, served as the Agency's staff lead on ISTEA reauthorization, and was the Team Leader for EPA 1995 Farm Bill Team. Before that, Ken worked for 11 years on agriculture and environment issues. Ken has published a number of papers and reports on the air quality benefits of the CMAQ program, water quality impacts of nonpoint source pollution, and cost-benefit analysis for water quality regulations.

Ralph Appy is the Director of Environmental Management at the Port of Los Angeles. Dr. Appy is the manager of the Port's environmental programs including the recent Port-wide environmental studies requested by the Mayor and Board of Harbor Commissioners including air quality, transportation, water quality and lighting and aesthetics and participates on these issues with the community through the Port Community Advisory Committee. He was a Research Fellow at the University Guelph in Ontario Canada. Dr. Appy has taught at the college level, served as an environmental consultant and for the past two years was President of the Board of Directors for the Southern California Academy of Sciences, represents the Port on the Harbors, Navigation and Environment Committee of the American Association of Port Authorities, and is Board Secretary of the Harbor Association of Industry and Commerce. He is personally involved in local community activities including Board of Directors of the San Pedro American Youth Soccer Organization and San Pedro Youth Coalition, Bogdanovich Park Advisory Board, Cabrillo Aquarium Scientific and Salt Marsh Advisory Panels and John Olguin Environmental Awards Committee.

Christie-Joy (C.J.) Brodrick holds joint appointments as a research engineer at the Institute of Transportation Studies, University of California-Davis (ITS-Davis) and as an Assistant Professor at James Madison University (JMU) in Harrisonburg, Virginia. Dr. Brodrick manages ITS-Davis' Auxiliary Power Research Program. In addition, she directs the Fuels Diversification Program in JMU's Integrated Science and Technology Department. Dr. Brodrick specializes in market and performance analyses of emerging heavy-duty vehicle technologies. At UC Davis and in her previous consulting work, Dr. Brodrick has performed technical and policy studies of diesel aftertreatment systems, alternative technology trucks and buses, and fuel cell auxiliary power units. Dr. Brodrick has twice received the Society of Automotive Engineers Excellence in Oral Presentation Award. In early 2004, her unique interdisciplinary, undergraduate program at JMU was honored with the Innovation Award from the Interstate Renewable Energy Council. While a graduate student, she earned a variety of honors, including the selective Dwight D. Eisenhower Fellowship from the US Department of Transportation and best female transportation graduate student in the US from the Women's Transportation Seminar. In addition she received fellowships from the National Science Foundation and the Air and Waste Management Association.

Jeff Brown has provided members of the Senate and legislative staff with draft legislation on transportation finance and infrastructure, regional economic and sustainable development, and capital access/formation for small and mid-sized businesses. In addition, Jeff has provided staff work for hearings, task forces and reports for boards and commissions. Since joining the Senate Office of Research (SOR) in 1996, Jeff has served as the Senate's designee to the Governor's Commission on Building for the 21st Century, the state's Small Business Development Board and the National Conference of State Legislatures' task force on state economic development and the new economy. Jeff was a principal consultant to the 2000 Transportation Conference Committee and contributed to major transportation funding legislation. He was also principal consultant to the Select Committee on the Alameda Corridor and is working with the Schwarzenegger administration on a statewide goods-movement strategy. Prior to joining SOR, Jeff spent 25 years as an international export/import businessperson. This entrepreneurial experience lends itself to helping state government become more agile, responsive and networked with California's transportation, infrastructure and economic and small business needs.

Harry B. Caldwell is the Senior Vice-President of Regal Decision Systems, an operations research company specializing in complex transportation and security systems. He directed Highway Needs and Investment at the Federal Highway Administration from 1988-2000, and Freight Policy from 2000-2003. He managed the biennial Condition & Performance Report to Congress; conducted the NAFTA assessment of North American transport systems; authored the US borders program in TEA-21; and wrote the freight provisions in the Administration's SAFTEA bill. Mr. Caldwell represented FHWA on the Marine Transportation System and co-chaired two NAFTA Freight Scans to Europe and Latin America. He was the US representative to the World Bank to develop the Highway Development and Management System (HDM-4); chaired development of international transportation system performance measures for OECD; and initiated development of comprehensive border simulation software for North American ports of entry. He speaks frequently throughout North America on issues of trade transport, economic development, and institutional reform. A professional geographer, Mr. Caldwell was the first non-engineering professional ever recruited by the Federal Highway Administration.

Tim Carmichael is president and chief executive officer of the Coalition for Clean Air, an environmental non-profit organization dedicated to reducing air pollution and protecting public health in California. Tim serves as the Coalition's organizational leader and principal spokesperson. Prior to becoming president, Tim was the policy director, representing the Coalition at conferences, symposiums and in negotiations with the South Coast Air Quality Management District, the California Air Resources Board, and the U.S. Environmental Protection Agency. Tim has worked for the Coalition since 1995. Tim has a wide range of environmental and transportation policy experience. From 1992-1995, he worked for an environmental consulting firm, educating the public on a variety of environmental issues including recycling, water pollution, advanced transportation systems and air pollution reduction strategies. Tim has also worked on public and school education programs that included: educating the media on urban run-off pollution; the link between air quality and our transportation systems; and the air quality and economic benefits of Zero-Emission Vehicles. From 1989-1992, Tim worked in the aerospace industry.

Elizabeth Deakin is Director of the University of California Transportation Research Center and Associate Professor of City and Regional Planning at UC Berkeley, where she also is an affiliated faculty member of the Energy and Resources Group and the Master of Urban Design group. Deakin's research focuses on transportation and land use policy and the environmental impacts of transportation. She has published over 100 articles, book chapters, and reports over the past fifteen years, on topics ranging from environmental justice to transportation pricing to

development exactions and impact fees. She currently is developing benchmarks for transit investment policy for Bay Area transit operators and is leading a project developing a system plan for express bus services for the San Francisco Bay Area. She recently served as chair of the National Academy of Sciences' Advisory Board on Surface Transportation-Environmental Research, mandated by Congress. She has worked with Dan Solomon and Peter Calthorpe on new urbanist designs for infill development, transit station areas, and new towns, and has been a member of the Duany-Plater design charrette team for projects in California and Florida. She was on the selection committee for the Isla Vista (Santa Barbara Co.) design competition and has served on several UC Berkeley development plan review committees. She was a member of the team that developed the UC Santa Cruz campus plan update in the 1990s.

LaDonna DiCamillo is the Government Affairs Director for The Burlington Northern and Santa Fe Railway (BNSF) in Los Angeles. Ms. DiCamillo works with California communities to address rail-related issues at both local and legislative levels in an effort to facilitate trade growth and improve freight mobility while sustaining livability in the communities through which BNSF operates. Ms. DiCamillo began her railroad career in 1989 in the Research and Development Department of the Atchison, Topeka & Santa Fe Railway (a predecessor to BNSF) where she conducted laboratory testing related to environmental and failure analysis projects. In 1991, she was promoted and moved to California where she worked for BNSF's Environmental Department for ten years. As Manager Environmental Operations, Ms. DiCamillo implemented and managed numerous environmental compliance programs at BNSF facilities. In 1999, she joined BNSF's Government Affairs Group. Ms. DiCamillo is a member of the Los Angeles Area Chamber Board of Directors, the Los Angeles Economic Development Corporation Board of Directors, and is a former editor and published writer for the University of La Verne, Journal of Juvenile Law. She is an active member of the State Bar of California.

Gary Gallegos is the Executive Director of SANDAG (San Diego Association of Governments). SANDAG is the regional Council of Governments and the Metropolitan Planning Organization for the San Diego region. As the Executive Director, he also serves as the Chief Executive Officer of the San Diego County Regional Transportation Commission, the Regional Growth Management Review Board, and the Congestion Management Agency. He is CEO of SourcePoint, the non-profit public benefit corporation chartered by SANDAG. Previously he held the position of District Director for Caltrans District 11. In this capacity he represented the State of California on bi-national transportation issues and served on various Committees. He is recognized as a leader in the areas of transportation and bi-national cooperation.

Robert Garcia is Executive Director of the Center for Law in the Public Interest, a national non-profit organization in Los Angeles, California, and Director of The City Project there. Mr. Garcia is an attorney with extensive experience in public policy and legal advocacy, mediation, and litigation involving complex social justice, human health, environmental and criminal justice matters. He has influenced the investment of over \$20 billion in underserved communities, working at the intersection of social justice, sustainable regional planning, and smart growth. Mr. Garcia is a nationally recognized leader in the urban park movement bringing the simple joys of playing in the park to children in park starved communities. He leads the Family Forests campaign to diversify access to and support for national forests. Mr. Garcia served on the Executive Committee of the Yes on Prop 40 Campaign to help pass California's \$2.6 billion park, water and air bond in 2002. Mr. Garcia serves as Chairman of the Citizens' School Bond Oversight Committee overseeing the investment of \$15 billion to build public schools as centers of their communities. He is a Senior Fellow at the UCLA School of Public Policy and Social Research. Mr. Garcia was a key member of the legal team in the historic environmental justice class action *Labor/Community Strategy Center v. Los Angeles County Metropolitan*

Transportation Authority, in which MTA agreed to invest over \$2 billion to improve the bus system and lower bus fares, the largest civil rights settlement ever. He previously served as an Assistant United States Attorney for the Southern District of New York under Rudolph W. Giuliani. He has taught at Stanford and UCLA law schools. His chapter on the urban park movement is forthcoming in Dr. Robert Bullard's book on environmental justice to be published by the Sierra Club. His chapter on just transportation is appears on *Running on Empty* edited by Dr. Karen Lucas. He has received a number of awards, including the Robert Garcia Environmental Justice Award from the Planning and Conservation League named in his honor for improving the environment in California, and the President's Award from the California Attorneys for Criminal Justice.

LeRoy Graymer is Founding Director Emeritus of the Public Policy Program at UCLA Extension, which he established in 1979. The program addresses public policy issues of state, national and international importance through numerous conferences, seminars, workshops, and facilitation activities. Graymer was formerly Associate Dean of the Graduate School of Public Policy at the University of California, Berkeley, and Vice President and Professor of Political Science at California State University, Dominguez Hills. Recent work includes a special research project for the Hewlett Foundation on California governance reform options and the State Transportation Plan for the California Department of Transportation.

Ron Guss is currently the President of Intermodal West, Inc. which he founded in 1993. Mr. Guss has 39 continuous years in the trucking business in Southern California, from behind the wheel to behind the desk. LTL, Truckload, to Intermodal holding various management positions, from dockhand, dispatcher, terminal manager sales, to Head Coach. He has owned terminals in Northern California, Phoenix, Houston, and Dallas. He has witnessed unbelievable growth in population, freeways, and sprawl from 1966 to the present. Mr. Guss is a member of the Board of Directors - California Trucking Association, Incoming Chair Environmental Policy Committee – CTA, and Chairman - Los Angeles/Orange Unit – CTA. He is also a member of the Intermodal Conference - American Trucking Association, CTA Representative to RAIT/ Truckway Task Force, SCAG Goods Movement Task Force, L.A. Mayor's Goods Movement Task Force, MTA Technical Advisory Committee, Los Angeles Transportation Club, Harbor Transportation Club, and Inland Empire Transportation Club.

Randolph Hall is the Senior Associate Dean for Research, Principal Investigator/co-Director for the Center for Risk and Economic Analysis of Terrorism Events (CREATE) , and Professor in the Daniel J. Epstein Department of Industrial and Systems Engineering at the University of Southern California. As Senior Associate Dean for Research he is responsible for research administration, research development and technology transfer. He serves as liaison to funding organizations, communicates information on research opportunities to faculty, facilitates formation of research centers and advises junior faculty on proposal writing. He also coordinates interdisciplinary research activities, serves as a liaison to the Office of Technology Licensing, and oversees the Aviation Safety and Security Program, the Western Region Application Center and the USC Engineering Technology Transfer Center. His previous experience includes serving on the faculty at UC Berkeley and as a senior research engineer at General Motors Research Laboratories. Since 1994, he has served on the faculty of the Daniel J. Epstein Department of Industrial and Systems Engineering. He is the author of *Queuing Methods for Services and Manufacturing* and the editor for the *Handbook of Transportation Science*. Dr. Hall's current research centers on risk assessment and emergency response for homeland security, patient flows and delay reduction in health care, and transportation systems. He is currently funded by the U.S. Departments of Homeland Security and Transportation, as well as the Los Angeles County Health Department.

He is on the board for the American Society of Engineering Education's Engineering Research Council.

Jon D. Haveman is a research fellow and director of the Economy program at the Public Policy Institute of California. He is a specialist in the effects of international barriers to trade, international competition policy, and transportation and security issues as they pertain to servicing internationally traded goods. He is the author of numerous published articles in the area of international trade and of a report entitled: *California's Global Gateways: Trends and Issues*. His articles include *The Benefits of Market Opening*, *The Determinants of Long Term Growth*, and *The Effects of U.S. Trade Laws on Poverty in America*. He was previously on the faculty in the Economics Department at Purdue University, has served as the Senior International Economist at the President's Council of Economic Advisers, and has been a visiting fellow at the United States Bureau of the Census. He has also worked as a research economist at the Bureau of Economics at the United States Federal Trade Commission.

Gill V. Hicks formed his own consulting firm in 2000, Gill V. Hicks and Associates, Inc. The firm specializes in transportation planning, project management, and inter-governmental relations. Clients have included the Port of Long Beach, the Port of Los Angeles, the Port of Hueneme, Southern California Association of Governments, Alameda Corridor Transportation Authority, OnTrac Joint Powers Authority, Catellus Corporation, Express Reefer Transport and the Metroplex Corporation. Mr. Hicks was the General Manager of the Alameda Corridor project from 1990 to 2000. For eleven years he was a transportation planner for the Southern California Association of Governments. Earlier in his career he worked for the Community Redevelopment Agency of the City of Los Angeles and the U.S. Department of Transportation. He is Chairman of the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) and President of the Harbor Association of Industry and Commerce. He is also an instructor for the Global Logistics Specialist program at Cal State Long Beach.

Andrea Hricko is an Associate Professor at the University of Southern California and Director of Community Outreach and Education at the Southern California Environmental Health Sciences Center. She received her Bachelor's degree from Connecticut College and her Master's in Public Health from the University of North Carolina School of Public Health. Her research interests include developing methods to disseminate Center research findings and inform the public about environmental health issues and fostering collaboration between scientists and the community to ensure that the Center's research is relevant and that needs defined by the community are addressed. She is also interested in translating Center research into information that can be used by the public health community and in the public policy arena and in evaluating the Center's community outreach and education methods to determine if they have met their objectives.

Michael Huerta is senior vice president and managing director of the ACS State and Local Solutions Transportation Systems and Services line of business. In this role, he oversees all TSS projects, including electronic toll collection systems, commercial vehicle systems, and motor vehicle registration as well as fuel tax processing services. He is based in the ACS State and Local Solutions Washington, D.C. headquarters. In 2002, Michael returned to ACS from the Salt Lake Organizing Committee for the Olympic Winter Games of 2002 where he was the managing director responsible for the highly successful Travel Demand Management (TDM) program used during the Games. From 1993 to 1998, Michael served in two senior positions at the U.S. Department of Transportation (DOT). He was chief of staff to Secretary Rodney E. Slater, serving as the chief strategist and policy advisor to the Secretary, as well as day-to-day manager of the Office of the Secretary. Before being named chief of staff, Michael served as the associate deputy secretary of transportation and director of the Office of Intermodalism for the U.S. DOT.

He led the U.S. Department of Transportation's intermodal transportation initiatives and facilitated financing for several high-profile projects, including a financing package for the \$1.9 billion Alameda Corridor port access project in Southern California. Before his federal government service, Michael served as the executive director of the Port of San Francisco. He also was commissioner for the City of New York Department of Ports, International Trade and Commerce. Prior to his local government experience, Michael served as a management consultant at Coopers & Lybrand. He is active in the International Bridge, Tunnel and Turnpike Association, the American Association of State Highway and Transportation Officials and the American Association of Port Authorities.

Norman R. King serves as Executive Director of San Bernardino Associated Governments (SANBAG)/San Bernardino County Transportation Commission and the three additional SANBAG related authorities. Norm came to SANBAG in August, 1996. He was a City Manager for 20 years serving the Cities of Claremont, Palm Springs and Moreno Valley. At one time he served on the staff of the U.S. Conference of Mayors and the National League of Cities in Washington, D.C. Norm has been the President of the International City/County Management Association (ICMA) and the City Manager's Department of the League of California Cities. He is past Moderator of the California Self-Help Counties Coalition and is a Fellow of the National Academy of Public Administration. He teaches part-time at Claremont McKenna College. He is Chairman of the Board of Directors of the ICMA Retirement Corporation, a financial service firm providing deferred compensation programs to 800,000 local and state public employees throughout the country. He also is a member of the Advisory Council of the Public Policy Institute of California (PPIC). Mr. King's articles on the management and economics of local government have appeared in several professional journals and books. He is considered a leading proponent of "demand management" and "market-based" public policies.

Angelo S. Logan is co-founder and Director of East Yard Communities for Environmental Justice and the Coalition for Environmental Health and Justice. Born and raised in the City of Commerce, Angelo Logan currently serves on South Coast Air Quality Management District's Local Government & Small Business- Advisory Committee, I-710 Major Corridor Study – Community Advisory Committee Tier 1 & Tier 2 and Southern California Environmental Health Science Center COEP - External Advisory Committee. Angelo Logan is an AQMD 2002 Clean Air Award Recipient.

Ronald Loveridge has served as Riverside's mayor since 1994. Prior to his tenure as Mayor, he was elected to the Riverside City Council where he served from 1979 to 1994. Mayor Loveridge has served on the board of the South Coast Air Quality Management District, and is a regional councilmember of the Southern California Association of Governments. The recipient of many community awards, Mayor Loveridge has been honored by organizations such as the American Planning Association, the California Preservation Foundation, the United Way and Youth Service Center. He is President of the League of California Cities, where he has been actively involved in leadership positions since the early 1990s. He is recognized as a devoted community leader and generous public servant. From 1964-1994 he was a professor of political science at UC Riverside.

Alan Lowenthal was elected to the California State Assembly in November of 1998 and re-elected in both the November 2000 and November 2002 elections to represent the 54th District, which includes the communities of Avalon, Long Beach, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, Rolling Hills Estates, San Pedro and Signal Hill. Assembly member Lowenthal is strongly committed to ensuring that the interests of the 54th Assembly District are represented in Sacramento, including education, public safety, maritime transportation system issues, economic development and environmental protection. Assembly member Lowenthal serves as Chair of the Housing and Community Development Committee. With the 54th District

home to the busiest ports in North America, Lowenthal chairs the Select Committee on California Ports. He also serves as a member of the committees on Higher Education, Natural Resources, Environmental Safety and Toxic Materials; Water, Parks and Wildlife; and Aging and Long Term Care.

Jim McGrath has been environmental manager at the Port of Oakland since February 1990. Before that, he spent 14 years at the California Coastal Commission and 6 years with the Environmental Protection Agency. He currently serves on the Boards of the San Francisco Boardsailors Association and the Bay Trail. The Environmental Planning Department at the Port of Oakland is responsible for environmental analysis and permitting for activities at the seaport and airport in Oakland. In the past fourteen years, the Port has successfully undertaken two harbor deepening projects, and developed a number of new marine terminals, including the recently completed Vision 2000 program that redeveloped the Oakland Fleet Industrial Center into two new “mega-terminals”, a joint intermodal terminal, and a new park. The Port is currently under construction with a deepening project for the Seaport, and an expansion project for Oakland Airport’s passenger terminal.

Kristen Monaco is Professor of Economics at California State University Long Beach. She is also a Research Associate of the Sloan Trucking Industry Program at Georgia Institute of Technology. Her research focuses on the trucking industry, with particular emphasis on trucking labor markets and trucking safety. She has published papers on these topics in *Industrial and Labor Relations Review*, the *Journal of Transportation and Statistics*, and the *Journal of the Transportation Research Forum*.

Michal Moore is Chief Economist at the National Renewable Energy Laboratory in Golden, Colorado, and Senior Fellow at the Institute of Energy, Environment and Economy at the University of Calgary, Alberta. He is a former regulator in the energy industry in California. Dr. Moore has built his career on a diverse mix of public and private service based on economic analysis and research. A former elected County Supervisor in Monterey County, California (1977 - 1985) he has also served in appointed positions within State and County government, teaching positions in public policy and economics, and consultant and management positions in the private sector. His most recent assignment is to create a strategic analytic and planning team for the Department of Energy based at the National Renewable Energy Laboratory in Golden, Colorado. In this capacity he serves the National Lab and the Department of Energy in analyzing market regulatory design and forecasting the nature of future energy demand in the United States. Dr. Moore occupied the Economist seat on the California Energy Commission, for two terms of office, the second of which expired in 2002. He chaired the Commission's Electricity and Natural Gas Committee, which oversees issues of market structure, energy pricing and forecasting. During his term he was an active participant in the restructuring of the energy industry in California. He provided policy oversight to a staff of 30 economists and planners, and was responsible for design and implementation of the State's Renewable Energy Program. He oversaw data collection, analysis and forecasting activities at the Commission, which employs a total of 500 employees. Dr. Moore has taught courses in economics and resource economics at the University of Cambridge, the University of California, California State University San Luis Obispo, Humboldt State University and the Monterey Institute of International Studies. Courses offered include micro and macro theory, applied micro-economics and statistics, resource economics, and urban fiscal planning analysis. He continues research on public-policy issues through his affiliation with the University of Cambridge and at the National Renewable Energy Laboratory.

Richard Nordahl is currently the Chief of the Office of Goods Movement, at the California Department of Transportation. His office, as part of the Division of Transportation Planning, is

responsible for statewide goods movement planning, including the analysis of goods movement by truck and rail, and movement through California's airports, seaports, and border crossings. His office was responsible for the development under legislative request of the Global Gateways Development Program, completed in January 2002. Mr. Nordahl has worked in the goods movement field over 10 years. His other major assignments have included being the Department's Acting Chief of Planning in San Diego, staff to Governor Gray Davis' Commission on Building for the 21st Century, and project manager/assistant project manager for the 1993 California Transportation Plan.

Keola Pang-Ching is Director of Cargo Sales & Marketing at Alaska Airlines and Horizon Air. A native of Hilo, Hawaii, Keola started his airline career 26 years ago in 1978 working for Hawaiian Airlines. In 1980, he moved to Anchorage, Alaska and worked for Western Airlines as a Customer Service Agent in their in-flight kitchen. He then worked for Wien Air Alaska in various areas from Fleet Service Agent to Assistant Manager of Ramp Service, Assistant Manager of Cargo, and Facilities Manager, before joining Alaska Airlines in 1984. His career with Alaska Airlines started in Anchorage as a Ground Operations Supervisor on the Ramp and Air Cargo. In 1990, he left Anchorage to become Customer Service Manager in Tucson, Az. and also in San Jose, Ca. In May 1997, Keola assumed responsibility of Alaska's Cargo Systems, Services and Marketing in his new position as Director of Cargo. In September, 2003 the Cargo Department underwent a reorganization and Keola is currently, Director of Cargo Sales/Marketing for Alaska Airlines and Horizon Air.

Mark Pisano has served as Executive Director of the Southern California Association of Governments (SCAG) since November 1976. SCAG is the nation's largest regional planning agency with a membership that consists of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and cities within these counties. The purpose of this voluntary association of local governments is to provide an open forum where region-wide problems can be explored and comprehensive plans dealing with air and water quality, transportation, regional growth and development, housing, and other areas critical to the region can be developed. Prior to joining SCAG in November 1976, Mr. Pisano was director of the Environmental Protection Agency's Water Quality Planning Division. For several years, Mr. Pisano was responsible for developing policy on implementation of the nation's water quality management process, including basin and facility planning and wastewater management programs. He previously served as an economist with the Environmental Protection Agency. From 1965 to 1966, Mr. Pisano was vice president and general manager of Frank Pisano and Associates, an engineering firm in San Jose, California. He is also the author of several papers on economics and water resources. Mr. Pisano is also a member of various organizations, including: Resources for the Future; National Civic League; California School of Professional Psychology/Alliant International University and LINC Housing.

Robert Poole is Director of Transportation Studies at the Reason Foundation in Los Angeles. His 1988 policy paper proposing supplemental privately financed, congestion-relief toll lanes inspired California's landmark private tollway law (AB 680), which served as the prototype for more than 15 similar laws in other states. In 1993 he directed a study that coined the term HOT Lanes. Poole has been an advisor to the Federal Highway Administration, the Federal Transit Administration, the White House Office of Policy Development, and the California and Florida Departments of Transportation. He served 18 months on the Caltrans Privatization Advisory Steering Committee, in 1989-90, and was a member of California's Commission on Transportation Investment in 1995-96. He has also served on transportation advisory bodies to the California Air Resources Board and the Southern California Association of Governments, including SCAG's REACH task force on highway pricing measures. He is a member of the board of the Public-Private Ventures

division of ARTBA. In 2000-2001 he was a member of the Bush-Cheney transition team on transportation. He writes a monthly column on transportation policy issues for *Public Works Financing*.

Richard R. Powers has spent 40 years in local government in California, 25 of those years have been spent in the Gateway Cities sub-region, as a City Manager, Redevelopment/ Economic Development Director and now as Executive Director of the Gateway Cities Council of Governments, of Southeast Los Angeles County, an urbanized portion of Los Angeles County with a population of 2 million. As Executive Director of the Gateway Cities Council of Governments, Mr. Powers brought together 27 cities including the City of Long Beach, the Port of Long Beach and the County of Los Angeles into a Joint Powers Authority (JPA) to address major urban initiatives of the sub-region, including Transportation, Air Quality and Housing. As a part of his duties as Executive Director, Mr. Powers was instrumental in the creation of the Interstate 710 Oversight Policy Committee which includes the Southern California Association of Governments, Caltrans, the Los Angeles County Metropolitan Transportation Authority, the Port of Long Beach, the Port of Los Angeles and 14 Gateway cities. Additionally, Mr. Powers along with Executive Directors of two other sub-regions created the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, the first urban conservancy in California. This agency has a membership of 60 cities and two counties.

Werner Rothengatter focuses on applying theoretical and practical approaches of civil engineering and economics to the field of transportation. He is active in particular in the areas of forecasting and assessment models, in system dynamics, cost accounting including external costs and pricing. In transport policy his special fields of expertise are environmental impacts and competition in transport networks. He had professorships at the Universities of Kiel and Ulm for Economic Theory and changed in 1985 to the German Institute for Economic Research (DIW) in Berlin. At this largest German institute for economic research, he was head of the transportation unit. In 1990, he became head of the Institute for Economic Policy Research (IWW), which includes units for money and banking, international economic policy, system dynamics and innovation as well as transport and communication. Professor Rothengatter has been Dean of the Faculty of Economics at the University of Karlsruhe since 2002. He is a member of the Scientific Advisory Council of the German Ministry of Transport, a member of the Advisory Board of the Deutsche Bahn AG, a member of the Advisory Council for Spatial Development of the German Ministry of Transport, a member of the board of the German Society of Transport Research and a member of the steering group of the German Society of Road and Traffic Research. He has worked as an advisor for the World Bank, the Italian Ministry of Transport, the Danish Transport Council, and several State Ministries. He also was appointed as member of several expert groups to advise high level groups of the European Commission and the German federal and state ministries. His IWW institute with its unit for transport and communication is closely involved in the transport research programmes of the European Commission, as well as in single projects as in excellence networks with a large number of international partners.

Michael H. Scheible, Deputy Executive Officer, California Air Resources Board (ARB) has served in his present position since April 1992, and began his career with the ARB in 1973. The ARB is California's state-level agency charged with regulating sources of air pollution and improving air quality to levels that meet health protective standards. The ARB has an annual budget slightly in excess of \$100 million and employs almost 1000 staff, the majority of who are scientists and engineers. As the Deputy Executive Officer, Mr. Scheible has management responsibility for roughly one-third of the ARB's diverse program activities. He currently oversees control measure development for criteria and toxic pollutants, as well as the Board's Research Division which sponsors extramural research programs, sets and reviews air quality

standards, and prepares economic assessments. Additional responsibilities include development of California's reformulated gasoline and diesel programs, formulation of regulations to reduce emissions from consumer products, and development of measures to reduce toxic air contaminants. He also oversees ARB's Administrative Services and Computer Support Operations, which provide data processing, technical analysis, personnel, budgeting and business services support. Mr. Scheible previously serves as the ARB's Assistant Executive Officer, managed the Board's Office of Strategic Planning, coordinated the design of the Board's planning, transportation and toxic air contaminant programs, assisted in the development of state and federally-required plans to attain air quality standards, and developed regulations related to paints and industrial sources. As a Peace Corps volunteer in 1972 and 1973, he served as an Air Pollution Engineer in Rio de Janeiro, Brazil.

Lisa Schweitzer is an Assistant Professor of Urban Affairs and Planning at Virginia Tech. Her studies include the effects of transportation systems on low-income and minority residents, with a particular focus on how transportation can improve or detract from urban mobility and the built environment in cities. Dr. Schweitzer has published extensively on transportation and environmental justice, including how transportation, land use and physical design affect access and environments in low-income and minority communities. She has engaged in collaborative, community-based research with environmental and social justice organizations in the US and internationally. Her work has appeared in such publications as *Transactions in GIS*, the *Journal of the American Planning Association*, and *Built Environment*. Her work on sprawl and environmental justice has been funded by Caltrans, the Federal Highway Administration, and the California Toxic Substances Research Program. She holds research affiliations with the Center for Sustainable Mobility, the Race and Social Policy Center, and the Institute of Community Health.

Donald Shoup is a professor of Urban Planning in UCLA's School of Public Policy and Social Research, where he teaches courses in public finance and urban economics. Much of his research has focused on parking as a key link between transportation and land use, and he has published an extensive body of research on this topic. His research on employer-paid parking led to passage of California's parking cash out law: it requires employers to offer their employees the option to receive the cash value of any parking subsidy, in lieu of the parking itself. He is currently working on a book, *The High Cost of Free Parking*.

Roger Snoble is the Chief Executive Officer of the Metropolitan Transportation Authority of Los Angeles County (MTA), a position he has held since October 1, 2001. He is in charge of the daily operation of the third largest public transportation agency in the United States. MTA is a multimodal transportation agency that is responsible for bus and rail operations, transportation planning and programming and construction in Los Angeles County. Snoble's career in public transportation spans 39 years. Prior to joining MTA, he served as president/executive director of Dallas Area Rapid Transit (DART) for seven years. Before DART, Snoble served as president and general manager of the San Diego Transit Corporation where he worked 20 years, rising in the ranks from planning and scheduling manager to the top executive post. Snoble began his transportation career in 1965 as a planner for the TriCounty Regional Planning Commission in Akron, Ohio. He also worked as a planner for Akron Metro Transit District from 1971 to 1973. Snoble has won numerous awards throughout his transportation career. The American Public Transit Association (APTA) named Snoble "Transit Manager of the Year" in 1998. Under Snoble's leadership, DART was cited by APTA as the "Transit Agency of the Year" in 1997. In Los Angeles, Snoble heads an agency that has a \$2.6 billion budget and 9,000 employees. It operates approximately 200 bus routes serving a 1,433 square mile service area as well as a subway and light rail lines that crisscross Los Angeles County. In addition, MTA is responsible

for constructing new busways and other transportation infrastructure as well as funding a vast array of transportation improvement projects ranging from street widening and bikeways to synchronizing traffic lights to freeway carpool lanes. MTA also is the lead transportation planning agency for Los Angeles County.

Joan Sollenberger is the Statewide Manager and Division Chief for Transportation Planning at the California Department of Transportation, or “Caltrans.” Joan is a trained planner who has over 23 years of public sector service, most of which has been at Caltrans. For the past 8 years, Joan has lead Caltrans’ overall development and implementation of policies, plans and programs for statewide transportation planning and related budget encompassing over 800 person years of effort statewide to “improve mobility across California.” In addition to core responsibilities for system, regional, state policy, intergovernmental planning and pre-project scoping documents, Joan has developed and implemented special programs and policies to enhance community livability through better coordination of transportation and land use (including jobs and housing), promoting economy, environment and equity, and raising awareness of the benefits enhanced public participation and collaborative efforts. Joan has led efforts from environmental justice and Native American Government-to-Government relations, to developing the California Transportation Plan and the Global Gateways Development Program for Goods Movement.

David Souten is Managing Principal at ENVIRON International Corporation. He has worked for Chevron, U.S. EPA, U.S. Navy, and ICF-Kaiser Engineers prior to leading a substantial growth in ENVIRON's Air Sciences Services through the opening of an Air Sciences Office in Novato, California 10 years ago. Mr. Souten, and other very skilled engineers and scientists of the Novato office of ENVIRON, specialize in complex photochemical, meteorological, and emissions modeling; the integration of transportation planning with air quality management; technical insight into emissions controls methods and costs, for both stationary and mobile sources; risk assessment of both mobile and stationary sources, especially of diesel PM; advanced emissions monitoring and estimating methods; and comprehensive technical support in State Implementation Planning (SIP) for all criteria and toxic pollutants.

Peter F. Swan has been involved with transportation his whole life. He has worked in the railroad industry for ten years. His experience encompasses operations management, marketing and information systems. Since leaving the railroad industry, Dr. Swan has focused research on issues of productivity, operations, and transportation markets. Dr. Swan chairs the Transportation Research Board, Freight Transportation Economics and Regulation Committee. His current work includes looking at how deregulation has affected the market for rail freight traffic. He currently serves as an Assistant Professor of Supply Chain Management at the Smeal College of Business, which is a part of The Pennsylvania State University.

Brian D. Taylor is an Associate Professor of Urban Planning and Director of the Institute of Transportation Studies at UCLA. His research centers on both transportation finance and travel demographics. He has examined the politics of transportation finance, including the influence of finance on the development of metropolitan freeway systems and the effect of public transit subsidy programs on both system performance and social equity. His research on the demographics of travel behavior has emphasized access-deprived populations, including women, racial-ethnic minorities, the disabled, and the poor. His work in this area has also explored the relationships between transportation and urban form, with a focus on commuting and employment access for low-wage workers. Professor Taylor teaches courses in transportation policy and planning and research design. Prior to coming to UCLA in 1994, he was an Assistant Professor in the Department of City and Regional Planning at the University of North Carolina at

Chapel Hill, and before that a Transportation Analyst with the Metropolitan Transportation Commission.

John Vickerman is a founding Principal and member of the Board of Directors of TranSystems Corporation, a transportation consulting firm specializing in the planning and design of port, intermodal and freight logistics facilities. TranSystems' Maritime and Intermodal practice has become internationally known for providing innovative solutions to the many operational, planning and design issues confronting the marine and intermodal transportation industry. Much of John's work focuses on assisting ports and shipping companies to recognize and prepare for future market and technological changes. As a specialist in intermodal and maritime terminal design, John has led TranSystems' work on major port projects throughout the United States and the world for more than 24 years. Sixty-five of the 90 U.S. deep-water general cargo ports have benefited from TranSystems' strategic master planning. His international work includes work for the Ports of Rotterdam and Hong Kong, and the intermodal freight analysis for Eurotunnel, the Chunnel between England and France. Mr. Vickerman completed two terms as Chairperson for the Intermodal Freight Terminal Design and Operations Committee under the purview of the Transportation Research Board (TRB)/National Research Council (NRC). He has served on many national Policy Committees for the TRB. He has served twice as a jury member of the USDOT National Awards for the National Endowment for the Arts. John has more than 30 years experience in the maritime and intermodal planning and freight logistics field. He currently serves as an advisory board member to the United States Merchant Marine Academy, Global Maritime & Transportation School.

Martin Wachs is Director of the Institute of Transportation Studies at the University of California, Berkeley, where he is also Professor of Civil & Environmental Engineering and Professor of City & Regional Planning. He earlier spent 25 years at UCLA, where he served three terms as Chairman of the Department of Urban Planning. Professor Wachs is the author of 160 articles and four books on subjects related to relationships between transportation, land use, and air quality, transportation needs of the elderly, techniques for the evaluation of transportation systems, and the use of performance measurement in transportation planning. His research also addresses issues of equity in transportation policy, problems of crime in public transit systems, and the response of transportation systems to natural disasters including earthquakes. His most recent work focuses on transportation finance in relation to planning and policy. Professor Wachs has served on the Executive Committee of the Transportation Research Board for nine years and was the TRB Chairman during the year 2000.

APPENDIX C:

PARTICIPANT ROSTER

Ken Adler

Senior Policy Analyst
U.S. Environmental Protection Agency
Washington, DC

Ralph Appy

Director of Environmental Management
Port of Los Angeles
San Pedro, CA

Diane Bailey

Scientist
Natural Resources Defense Council
San Francisco, CA

Bob Balgenorth

Chair
California Transportation Commission
Sacramento, CA

Dan Beal

Managing Director, Public Policy and Programs
Automobile Club of Southern California
Costa Mesa, CA

Tony Boren

Council of Fresno County Governments
Fresno, CA

Christie-Joy Brodrick

Research Scientist, Institute of Trans. Studies, UC Davis
Assistant Professor, James Madison University
Harrisonburg, VA

Shahrzad Amiri

Director, San Gabriel Valley Area Team
LA County Metropolitan Transportation Authority
Los Angeles, CA

Michael Armstrong

Lead Regional Planner
Southern California Association of Governments
Los Angeles, CA

The Honorable Harry Baldwin

Mayor, City of San Gabriel
Regional Councilmember, SCAG
San Gabriel, CA

Kenneth Baxter

Deputy District Director
CA Department of Transportation, District 10
Stockton, CA

Rick Bishop

Executive Director
Western Riverside Council of Governments
Riverside, CA

Suzan Boyer

Program Manager
Southern California Edison
Rosemead, CA

Jeff Brown

Consultant
CA Senate Office of Research
Sacramento, CA

Mark Brucker
Transportation Planner
U.S. Environmental Protection Agency
Berkeley, CA

Robert Calix
Transportation Planning Manager
LA County Metropolitan Transportation Authority
Los Angeles, CA

The Honorable Todd Campbell
Councilmember, City of Burbank
Policy Director, Coalition for Clean Air
Los Angeles, CA

Courtney Chesla
Director of Communications to Councilwoman Janice
Hahn
City of Los Angeles, District 15
Los Angeles, CA

John Davies
Transportation Analyst
U.S. Environmental Protection Agency
Washington, DC

Elizabeth Deakin
Director, UC Transportation Center
Professor, UC Berkeley
Berkeley, CA

The Honorable Richard Dixon
Councilmember
City of Lake Forest
Lake Forest, CA

Anthony Downs
Public Policy Institute of California
San Francisco, CA

Steven Erie
Professor, Planning & Urban Studies
University of California, San Diego
La Jolla, CA

Harry Caldwell
Senior Vice President
Regal Decisions Systems, Inc.
Linthicum, MD

Dave Calkins
Consultant
Sierra Nevada Air Quality Group
Orinda, CA

Tim Carmichael
President
Coalition for Clean Air
Los Angeles, CA

Dick Cromie
Program Manager
Southern California Edison
Rosemead, CA

Michael De la Torre
Governmental Affairs Manager
Southern California Gas Company
Los Angeles, CA

LaDonna DiCamillo
Director of Governmental Affairs
Burlington Northern and Santa Fe Railway
Los Angeles, CA

J.D. Douglas
Senior Project Manager
Parsons Brinckerhoff
Orange, CA

The Honorable Judy Dunlap
Councilmember
City of Inglewood
Inglewood, CA

Douglas Failing
District Director
CA Department of Transportation
Los Angeles, CA

Norman Fassler-Katz
Senior Consultant
Assembly Select Committee on CA Ports
Sacramento, CA

Daniel Flanagan Jr.
Southern California Logistics Rail Authority
The Flanagan Consulting Group Inc.
Carlsbad, CA

Robert Garcia
Executive Director
Center for Law in the Public Interest
Santa Monica, CA

Ellen Garvey
Environmental Consultant, Ellen Garvey Consulting
Former Executive Officer, BAAQMD
San Carlos, CA

Carol Gomez
Planning & Rules Manager
South Coast Air Quality Management District
Diamond Bar, CA

The Honorable Christy Guerin
Councilmember
City of Encinitas
Encinitas, CA

Candace Haggard
Manager, Regional Environmental Programs
County of Orange
Orange, CA

Steve Hammock
President
Watkins Manufacturing Corporation
Vista, CA

Stephen Finnegan
Principal Transportation Policy Specialist
Automobile Club of Southern California
Costa Mesa, CA

Gary Gallegos
Executive Director
San Diego Association of Governments
San Diego, CA

The Honorable Lee Ann Garcia
Chair, Transportation Committee, Southern
California Association of Governments
Councilmember, City of Grand Terrace
Grand Terrace, CA

Annette Gilbertson
Assistant Deputy Director
California Transportation Commission
Sacramento, CA

LeRoy Graymer
Founding Director
UCLA Extension Public Policy Program
Los Angeles, CA

Ron Guss
President
Intermodal West
Pico Rivera, CA

Randolph Hall
Senior Association Dean for Research; Co-Director,
CREATE Homeland Security Center; Professor, Epstein
Dept. of Sys. Engineering, USC
Los Angeles, CA

Arno Hart
Vice President
Wilbur Smith Associates
Los Angeles, CA

Maida Hastings
Associate Academic Dean
UCLA Extension
Los Angeles, CA

Jon Haveman
Program Director
Public Policy Institute of California
San Francisco, CA

Stanley Hoffman
President
Stanley Hoffman Associates
Los Angeles, CA

Andrea Hricko
Associate Professor & Director, Community Ed.
University of Southern California
Los Angeles, CA

Hasan Ikhata
Director, Planning & Policy
Southern California Association of Governments
Los Angeles, CA

Barbara Ivanov
Director, Freight
Washington State Department of Transportation
Olympia, WA

Bruce Kern
Executive Director
Economic Development Alliance for Business
Oakland, CA

David Kircher
Manager
Puget Sound Clean Air Agency
Seattle, WA

Lewison Lem
Transportation Policy Manager
AAA of Northern California
San Francisco, CA

The Honorable Pete Hathaway
Deputy Executive Director
Sacramento Area Council of Governments
Sacramento, CA

Gill Hicks
President
Gill V. Hicks & Associates
Pacific Palisades, CA

The Honorable Lori Holt Pfeiler
Mayor, City of Escondido
Chair, SANDAG Regional Planning Commission
Escondido, CA

Michael Huerta
Senior Vice President & Managing Director
ACS State and Local Solutions, Inc.
Washington, DC

Fran Inman
Senior Vice President
Majestic Realty Co.
City of Industry, CA

Jocelyn Jones
Freight Planning Specialist
Federal Highway Administration
Baltimore, MD

Norman King
Executive Director
San Bernardino Associated Governments
San Bernardino, CA

Sue Kiser
Director, Planning & ROW
Federal Highway Administration
Sacramento, CA

Kirk Lindsey
Immediate Past Chair
California Transportation Commission
Sacramento, CA

Angelo Logan
Director
East Yard Communities for Environmental Justice
Commerce, CA

The Honorable Alan Lowenthal
Assemblyman
California Assembly
Sacramento, CA

Richard Marcus
Section Manager
Orange County Transportation Authority
Orange, CA

James McCarthy
Office Chief
California Department of Transportation-District 7
Los Angeles, CA

Jim McGrath
Environmental Director
Port of Oakland
Oakland, CA

Kristen Monaco
Professor of Economics
California State University Long Beach
Long Beach, CA

William Mosby
Deputy District Director
CA Department of Transportation
San Bernardino, CA

Richard Nordahl
Chief
California Department of Transportation
Sacramento, CA

The Honorable Ronald Loveridge
Mayor, City of Riverside
Boardmember, South Coast Air Quality Management
District
Riverside, CA

Ray Maekawa
Director, Gateway Cities Area Team
LA County Metropolitan Transportation Authority
Los Angeles, CA

Gary Maring
Senior Associate
Cambridge Systematics
Chevy Chase, MD

D.A. McClain
Transportation Deputy
LA County Metropolitan Transportation Authority
Los Angeles, CA

David Menninger
Associate Dean
UCLA Extension
Los Angeles, CA

Michal Moore
Chief Economist
National Renewable Energy Laboratory
Golden, CO

Jose Luis Moscovich
Executive Director
San Francisco County Transportation Authority
San Francisco, CA

The Honorable Pam O'Connor
Director, Los Angeles County MTA
Councilmember, City of Santa Monica
Los Angeles, CA

Bob O'Loughlin
Air Quality Team Leader
Federal Highway Administration
San Francisco, CA

Pedro Orso-Delgado
District Director
CA Department of Transportation
San Diego, CA

Keola Pang-Ching
Director of Cargo Sales and Marketing
Alaska Airlines/Horizon Air
Seattle, WA

Glenn Pascall
Coordinator
West Coast Corridor Coalition
Seattle, WA

The Honorable Bev Perry
Past President, So. California Association of Governments
Mayor, City of Brea
Brea, CA

The Honorable Jan Perry
Governing Boardmember, South Coast AQMD
Councilmember, City of Los Angeles, District 9
Diamond Bar, CA

Kathryn Phillips
California Air Quality Project Manager
Environmental Defense
Sacramento, CA

Mark Pisano
Executive Director
Southern California Association of Governments
Los Angeles, CA

Robert Poole Jr.
Director of Transportation Studies
Reason Foundation
Los Angeles, CA

Ron Popham
Senior Director, Maritime Division
Port of San Diego
San Diego, CA

Richard Powers
Executive Director
Gateway Cities Council of Governments
Paramount, CA

The Honorable Beatrice Proo
Councilmember, City of Pico Rivera
Board of Directors, LA County Metropolitan
Transportation Authority
Los Angeles, CA

Deborah Robinson Barmack
Director
San Bernardino Associated Governments
San Bernardino, CA

Werner Rothengatter, Ph.D
Professor, Sciences and Economics
University of Karlsruhe, Germany
Karlsruhe, Germany

Michael Scheible
Deputy Executive Officer
California Air Resources Board
Sacramento, CA

Bijan Sartipi
District 4 Director
California Department of Transportation
Oakland, CA

Lisa Schweitzer
Assistant Professor, Urban Affairs and Planning
Virginia Tech University
Blacksburg, VA

Susan Shaheen
Program Leader, Policy & Behavioral Research
California PATH
Richmond, CA

Catherine Showalter
Former Executive Director
RIDES for Bay Area Commuters, Inc.
Seal Beach, CA

Roger Snoble
Chief Executive Officer
Los Angeles Metropolitan Transportation Authority
Los Angeles, CA

David Souten
Managing Principal
ENVIRON International Corporation
Novato, CA

Tianjia Tang
Air Quality Specialist
Federal Highway Administration
Baltimore, MD

Ruthanne Taylor Berger
Deputy Executive Director
Western Riverside Council of Governments
Riverside, CA

John Vickerman
Principal
TranSystems Corporation
Norfolk, Virginia

Bill West
Manager, Electric Transportation
Southern California Edison
Rosemead, CA

The Honorable Mary Teresa Sessom
Boardmember
San Diego County Regional Airport Authority
San Diego, CA

Donald Shoup
Professor, Department of Urban Planning
University of California, Los Angeles
Los Angeles, CA

Brian Smith
Deputy Director
California Department of Transportation
Sacramento, CA

Joan Sollenberger
Division Chief
California Department of Transportation
Sacramento, CA

Peter Swan
Assistant Professor of Supply Chain Management
Pennsylvania State University
University Park, PA

Brian Taylor
Associate Professor and Director
Institute of Transportation Studies, UCLA
Los Angeles, CA

Marianne Venieris
Executive Director
CSULB Foundation
Long Beach, CA

Martin Wachs
Roy W. Carlson Distinguished Professor In Civil &
Environmental Engineering, Professor and Director, UC
Berkeley
Berkeley, CA

Mike Zdon
Executive Director
Napa County Transportation Planning Agency
Napa, CA

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