The unprecedented climate change and energy supply challenges identified in the essays by Dan Cayan and Bryn Davidson provide an important opportunity for Southern California to emerge as a national model for how to meet them. Transformation of existing governance and financing structures will be an essential part of meeting the region’s challenges, with lasting benefits in the provision of major infrastructure and public service projects for decades to come. In moving the region forward, it will be essential that a “Triple Bottom Line” (TBL) approach be adopted that combines economic growth, environmental and health safeguards, and an improved quality of life for all the people of the region into the ultimate gauge of the region’s prosperity. That the public and region’s leaders already aspire to the TBL has become evident through public opinion polls and the testimonials of leaders from the public and private sectors. Accomplishing TBL in practice is the challenge. Thinking as a region, working cooperatively, taking risks, and being creative in the face of countless uncertainties are necessary ingredients in the transformation required to undertake new strategies and new investments.

It will also require understanding that our region, like other regions is a complex interdependent system of systems. In terms of public policies, a policy system is the set of goals and parameters intended to guide and govern behavior within a single policy domain. In considering substantive areas such as transportation, energy, environment, and economic...
development, each can be thought of as its own system. As a guiding mental picture or metaphor for our thinking, an entire mega-region needs to be understood as a system as well, in our case, the Southern California mega-region. Each substantive area becomes interwoven within the broader regional context. Viewing Southern California as a system also begs the question of what are the critical points of intervention in the system for bringing about transformative change. Transformative changes, important to note, are unlikely to succeed if imposed from afar – from the state and federal levels. Region-wide changes in the American context have succeeded only when they have been inspired and motivated by the collective self-interest and determination of those involved residents, although they may well be motivated by the larger or external economic, political or environmental forces.

Finally, most of the policy and institutional changes and proposals for the Southern California region in this essay are new in this context. However, they follow the thinking and reinventing in the public and private sectors, policy experiments, and innovative financing approaches that have been suggested over the past decades and introduced in various places across the nation. What is new is our weaving them together into a new and more comprehensive transformational strategy at the system level, at the level of Southern California, as one of the more important mega-regions not only in the United States, but among the 20 most important regions on the face of the globe.

Those government agencies that need to be part of the transformation, but today are more characterized by having too narrow or parochial focus, protective of turf, or unwilling or unable to think and act regionally, will need to “reinvent” themselves to be part of the transformation. They will need to become part of the solution or will be shunted aside. While funding to achieve most major public projects and policy goals has historically come from state and federal sources, albeit in the Southland with increasing help from local sales taxes, a requisite of the transformation is that the region will need to take greater responsibility for innovative methods of financing its activities from within. Although the paucity of state and federal funding will be unpopular, the principle of self-funded and therefore regionally managed and “owned” projects and programs in all senses of the word, offers an opportunity. As an important component of the new approaches to financing, the region will need to utilize the kinds of public and private joint investment strategies and linking of services with payments being tested and refined elsewhere in the US and especially in Europe, Asia, and the developing world, in order to realize the TBL.

The transformation will require adopting approaches from those communities that are charting new ways of improving their decision making and policymaking delivery. Particularly important in this regard will be to change our input-driven thinking and practices where the public conveys to political leaders the public goods and services needed, these become public policy goals which government agencies implement, but in the end, the outcome of the process often fails to match what was expected. To avoid this result, we need to approach the policy process in reverse, starting with the goals for a prosperous Southern California, and then addressing how best to achieve them through effective and transparent implementation strategies; strategies drawn from best emerging practices out of both the public and private sectors. Reversing our thinking and approach to the policy process in this manner, known as backward mapping, is needed especially if Southern California is to cultivate the scale of entrepreneurship and the substantial investment capital in new technology that will need to be central in achieving the TBL.
Undertaking this transformation at the regional level in Southern California and helping to set the path for the state will position Southern California as the model for a “mega-region”-based strategy and will place Southern California in a leadership position in the global competition among mega-regions of the 21st century.

Pundits and seasoned practitioners will likely feel that simultaneously pursuing all three dimensions of the TBL and the underlying transformation in governing institutions and financing practices this will require is at best impractical, if not an impossibility. It will be a challenge, for sure. Though our response is that it is harder yet to imagine how the goals of economic development, air quality improvements, greenhouse gas reduction, and a more equitable society can be achieved without the political, economic, and technological changes embodied in a comprehensive, region-wide transformation. Furthermore, our optimism is bolstered in recognizing the region’s meteoric rise over the span of a mere century (the 20th) and all this required in terms of innovation and invention that has made Southern California the world class mega-region that it is today. Emerging from a semi-arid desert town to a post-WWII industrial leader, from the air pollution capital of the nation to a world class model in air quality improvement, from a water strapped outpost to the delivering of water and power over great distances, and creating what has become the nation’s leading deepwater port and transshipping hub, the region has conquered larger obstacles. Transformation can happen.

Goods Movement as a System

The logistics industry in Southern California is not only an enormously powerful economic driver, but also a major contributor to greenhouse gas emissions, particulates, and other pollutants. As such, it illustrates our point about system level thinking and the crucial importance of interconnectedness and interdependence among systems. Conceptually, the logistics or goods movement industry meets the definitional requirements of a Large Technical System or LTS, which are the complex and capital intensive organizations that have been developed to meet the needs of modern industrial societies. In essence, an LTS is an intricate construction of technology, people, and governance structures that are sometimes
created, but just as often evolve to provide necessary services. From that standpoint, the goods movement LTS can serve as a good illustration to tease out the broader implications of the TBL approach to climate change and energy policy. This is especially important today given the need to reconcile economic growth at the Ports of Los Angeles and Long Beach with environmental goals and maintaining health standards, jobs and overall quality of life throughout the region. The goods movement system also provides a valuable test-bed for meeting the challenges of AB 32. Currently, the industry relies on internal combustion engines (gasoline, natural gas, or diesel) to move goods from points “a” to “b”. New approaches and advanced technologies will need to be applied to meet AB 32 goals. This will require cooperation amongst all entities of the goods movement LTS.

Although we speak of a goods movement “system”, in reality the components necessary to actually move goods involve multiple actors that span political and organizational boundaries and utilize multiple infrastructure modes owned and operated by both the public and private sectors. Decision-making is fragmented along narrow lines of self-interested actors and organizations. Even when collaborative decisions emerge, they are rarely based on what might be considered as optimal – in terms of cost, benefits, functionality – for the entire system. Knowing this, it is worth emphasizing that the absence of coordinated governance and decision-making will, in all likelihood, present the greatest challenge to the goods movement industry as it attempts to address the linked issues of global warming and air pollution in a holistic and efficient manner.

Reducing greenhouse gas and pollutant emissions will require improved performance from a myriad of mostly mobile sources. Goods arrive and depart the Ports of Los Angeles and Long Beach by ships which are almost exclusively diesel-powered. Landside drayage is provided by truck and rail, again almost exclusively diesel-powered. No single federal or state statute controls pollutant emissions from these multiple sources which makes it difficult to implement an effective and equitable control strategy. Meanwhile, the state’s AB 32 legislation is the only regulatory guidance in place for controlling greenhouse gases; the federal role is only now evolving.

Thus, while everyone can agree that addressing mobility and infrastructure needs will play a major role in improving air quality, the regulatory environment and responses to it are fragmented. Trucks moving to and from the ports are a major direct source of pollutant emissions and contribute to the massive highway congestion that surrounds them. Reducing congestion will require substantial investments in the transportation network for which no funds have been identified. Electrifying the rail system or moving to an alternative combustion-free technology will similarly require new investment, but the railroads have shown little interest in generating the necessary funds from increased tariffs. As a result, container fees paid by shippers have emerged as the funding source of least resistance although considerable opposition has developed as manifest by the Governor’s veto of SB 974 ("Clean Ports") in 2008 which proposed a cargo fee to address these issues.

There is a growing consensus among business, government, and environmental and health stakeholders that if the goods movement industry and those who depend on it are to thrive, the twin problems of emissions and infrastructure need be addressed concurrently if not in tandem. Under the present fragmented governance structures, this is unlikely. Ships, railroads, and trucks need to be addressed within a systems-level comprehensive framework in order to make the rail and highway improvements and deliver the new technologies that will be
necessary to alleviate congestion and reduce emissions. The fact that no single framework yet exists is evidenced by the challenge by the environmental community to the recent State Implementation Plan that CARB, AQMD and SCAG developed as not going far enough in this direction. Similarly, the regulatory actions of environmental agencies under the Clean Air Act are not designed nor are they capable of addressing the long-term transformational capital investments needed. Once again, the linked problems can only be solved in a coordinated manner, but without a unified governance structure, such coordination will not occur even though all the actors will suffer if it does not. If each agency could agree on the TBL goals and embrace them into their decision making processes, that would be a good first step. Additionally if the regulations and incentives were arranged differently and the investments from public and private were obtained differently we could succeed. The challenge for goods movement will not be what to do, but how to get it done.

Transformative Interventions

The example of the goods movement industry is not unique and underscores the point that a TBL decision-making framework needs to be used in evaluating future system-level governing processes and investment decisions in the region. Ultimately, we must create a situation where the region benefits by devising strategies where the gains to individuals and organized interests also maximize the common good. In short, we need to maximize “collective self interest”. To that end, we offer the following observations and recommendations.

Maintaining Consistency among Objectives: The Triple Bottom Line

- SCAG has already laid out TBL priorities for the region that include meeting the region’s emission reduction goals, creating conditions for continued economic growth, distributing prosperity equitably, and allowing the region to maintain a high quality of life. Goals, which are the guideposts for actions undertaken by all the entities in the region, were first articulated in the 1996 Regional Comprehensive Plan and carried forward to the present in the state climate change and economic development policies, and the region’s growth, green ports and air quality proposals. The critical component is that goals achieved in one subsystem must support or at least not impede the goals of the others. For example, the COMPASS 2% Strategy adopted by SCAG relates how land in the region can be used to meet the goals of affordable housing, reduction of vehicle miles traveled and congestion, reduction in energy consumption and CO₂ emissions, and provides for growth in the region. Interestingly, if the region and individual jurisdictions achieve these TBL goals under the recently enacted SB 375 (Transportation planning: travel demand models: sustainable communities strategies: environmental review), particularly vehicle miles traveled (VMT) reductions, there will be CEQA streamlining for them. This is an example of state policy supporting the regions’ self-defined objectives in support of the Triple Bottom Line ideal.

- Funding, both public and private, is not always based on a decision-making process that links it directly to achievement of TBL goals, however. SCAG did pioneer such a process in its 1998 Regional Transportation Plan. Yet absent the reinforcement of collective self-interest by larger or external forces, narrow self-interest has continued to win out. What is needed is the adoption of a “performance
objectives” approach and the development of a method of evaluating the use of all funds (whether public or private, capital or maintenance and operations), in terms of how well they contribute to the TBL. Use of this method will need to be adopted by all entities and all levels of government in the region. Caltran’s and MTA’s willingness to use this kind of decision-making approach are good examples.

Getting the Incentives Right

- Regulatory policies should incentivize strategies to meet the TBL goals, including requirements contained in AB 32. Investing in the resulting “green economy” will create new jobs, stimulate and diversify economic growth, and help advance technologies to meet climate change challenges. If a cap-and-trade framework is utilized, then the trades need to demonstrate that the region is moving toward its emissions reduction target, and more importantly if the trade is outside the region that the goal of greater equity within the region are nonetheless met. Alternatively a distributed pricing structure could be used to incentivize the desired investment or behavior. For example, in the goods movement area, a price could be imposed on the discharger equal to the cost of damage from the emissions. The discharger could innovate, change technology, or pay to have another party innovate and build new systems. Ships, for example, could change fuels, change their equipment or pay another party – public or private – to collectively accomplish this objective. The same is true for trucks and trains.

A Catalytic Role for Public Organizations

- Public organizations need to become leaders in the transformation towards reducing CO₂ emissions and can do so through adopting new procurement policies. Because the needed and ultimately “best” technologies are yet unknown, outcome-based procurement should be required. Rather than specifying a particular technology, public organizations would specify the desired CO₂ reduction outcome and purchase the best solution through an open and competitive process. Being the first to purchase new technologies helps to create a market, keep prices lower and add credibility. This would require changes in the existing federal, state and local procurement laws to allow for such flexibility, innovation, and inevitably some risk. AB 1467, authored by Assemblyman Nunez, authorizes flexible procurement procedures and is an example of an outcome-based procurement for public and privately funded initiatives, but it is limited to four projects of a limited nature.

Acknowledging and Shouldering Risk

- Shared technology testing programs should be utilized that create a win-win for the state and industry. This has been used with cargo handling equipment in goods movement where vendors, the ports and terminal operators participate for mutual benefit. The vendor offers the technology to be paid for by the users and assumes the risk if something goes wrong. The terminal operator gets free technology at no cost or risk. The port gets to measure the benefit of the technology in a real life setting.
Transparency and Accountability in Decision Making

Reporting of progress against the TBL and providing clear accountability is essential. The goals and the performance standards used in the decision-making process must be quantified if they are to be used to make funding decisions. Nexus must be quantified for regulatory decisions. Strategies must factually achieve these goals and objectives. Then, on a regular basis, public agencies must measure and report on the progress made in achieving them. The State of the Region report, the Further Progress report of the agencies, and the Annual reports of all entities are the instruments to jointly report on the collective self-interest progress toward the TBL.

Conclusion

Southern California has the opportunity to implement the TBL approach to decision-making and create a strategy for the reduction of climate changing greenhouse gas emissions that the entire nation can follow. The benefits of this TBL transformation will be the improved quality of life that SCAG has aspired to for all economic and social groups in the region for more than a decade including new jobs, affordable housing, and clean water and air. An undertaking of this magnitude is unprecedented but not unachievable. The enactment of of SB 375 along with the companion legislation of SB 732 puts in place the policy framework of a non-hierarchical management structure where the region is held accountable to long term sustainability and survivability. Moreover, by not addressing the TBL goals the actions needed to sustain growth are also frustrated, e.g. the goods movement dilemma. Without growth and sustainability positive changes in equity will not be made.

Performance-based decisions that link all money – public and private – to outcomes is the method for assuring those directly involved, the public and private sector financiers and the public at large, that programs and services will be delivered as promised. “Collective self-interest” in pursuit of regional goals must be the motivating force and basis of incentives and rewards, for without being held to this standard, individual, corporate, and agency self-interests will inevitably prevail. Procurement should not be minutely specified, but determined by outcomes. Innovation and experimentation is encouraged and incentivized by policy.

Lastly, clear accountability and reporting of progress creates transparency and creditability. In this way, the Southern California TBL regional strategy will be positioned to help shape future federal climate change policy as regionally-based and transformational, rather than being seen and designed as simply the addition of more environmental regulations. Of utmost importance, we believe that once the new framework is embraced, the public will be far more willing to pay, to invest, in the region’s well being and a prosperous future.

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Additional Resources

IBM Center for the Business of Government
http://www.businessofgovernment.org/

National Academy of Public Administration
http://www.napawash.org/

America 2050
http://www.america2050.org/

The Canadian Council for Public-Private Partnerships
http://www.pppcouncil.ca/

National Civic League
http://ncl.org/