FLEXIBLE FEDERALISM: WORKING ACROSS BORDERS FOR POLICY SOLUTIONS

An In-Depth Analysis of the Facts, Origins, and Trends of Federalism and Foreign Policy in California
ABOUT CALIFORNIA 100

The California 100 Initiative envisions a future that is innovative, sustainable, and equitable for all. Our mission is to strengthen California’s ability to collectively solve problems and shape our long-term future over the next 100 years.

California 100 is organized around 15 policy domains and driven by interrelated stages of work: research, policy innovation and engagement with Californians. California 100’s work is guided by an expert and intergenerational Commission. Through various projects and activities, California 100 seeks to move California towards an aspirational vision—changing policies and practices, attitudes and mindsets, to inspire a more vibrant future.

This California 100 Report on Policies and Future Scenarios was produced as part of California 100’s research stream of work, in partnership with 20 research institutions across the state. California 100 sponsored grants for data-driven and future-oriented research focused on understanding today and planning for tomorrow. This research, anchored in California 100’s 15 core policy domains, forms the foundation for the initiative’s subsequent work by considering how California has gotten to where it is and by exploring scenarios and policy alternatives for what California can become over the next 100 years.

The California 100 initiative is incubated through the University of California and Stanford.

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FLEXIBLE FEDERALISM: WORKING ACROSS BORDERS FOR POLICY SOLUTIONS

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The Bill Lane Center for the American West, Stanford University
CALIFORNIA 100
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STANFORD UNIVERSITY

The Bill Lane Center for the American West is dedicated to advancing scholarly and public understanding of the past, present and future of western North America. The Center supports research, teaching and reporting about Western land and life in the United States, Canada and Mexico.
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EXECUTIVE SUMMARY

California faces two fundamental governance problems in the next century. Within its boundaries it must improve its ability to coordinate government bodies to solve pressing problems such as climate change, water, housing, and health. With its welter of local governments, tradition of only partly thought out populist solutions, and growth of restrictive regulations affecting almost any action, California faces gridlock and inaction while it confronts problems that require regional, statewide, national, and even international action. Outside its boundaries California must establish its position in the American federal system and in the world. Within the American federal system, California is the largest state in total population, third largest in land area, richest in terms of GDP, the most diverse in terms of ethnic and racial groups, and certainly one of the most environmentally sensitive, and yet it is dramatically under-represented at the national level because it only has two Senators—the same as every other state no matter how small—in a powerful Senate whose everyday actions affect California in fundamental ways. Within these constraints, California must consider how it will define itself and interact with other states, with the federal government, and even with jurisdictions outside the United States in order to move forward its distinct vision of governance. With its face toward Asia and Latin America, with its role as the center of innovation in the world, and with its ties to Asia and Latin America through immigration and trade, California is already actively pursuing relationships around the world, and it must consider how to do this within the confines of American federalism. We consider these issues in this report.

We start with the American system of federalism. In this system, national, state, and local governments have designated responsibilities and powers and demarcated geographical jurisdictions. This creates vertical fractures of power across various levels of government as well as horizontal ones among different branches of government and among overlapping governments at each level. These intergovernmental arrangements both serve and challenge the state’s ability to effectively conduct its policies and affairs. The initial reason for designing the government’s core architecture in this way was primarily to prevent centralized tyranny, but over time fractures in American government have increased for other reasons as well. For many purposes, these traditional divisions have worked satisfactorily, but some of the most vexing policy problems such as energy and water policy are exacerbated because of these demarcations of governmental sovereignty.
After describing American federalism and California governance as it exists today and exploring principles for the allocation of functions and powers across jurisdictions that can ensure their successful operation, we go on to consider problems created by the profusion of governments with overlapping powers by considering two important policy areas, energy and water policy where jurisdictional authority is especially complicated given the regional nature of the problems. When it comes to California’s resources, both water and energy are critical assets that are threatened by climate change. No society can operate without an adequate supply of both of them, so understanding how these resources are managed in the state today, and looking closely at the origins of their governance is of the utmost importance. Through examination of water and energy management, we hope to identify key challenges of California’s intergovernmental relations and propose solutions that ensure resilience and reliability of the state’s invaluable natural resources.

While federalism tends to work well when problems fit within the geographic boundaries of distinct jurisdictions, many policy problems – particularly those related to water and energy – do not respect geographic boundaries. As a result, multiple levels of government must coordinate, cooperate and innovate solutions to shared regional problems – environmental or economic problems that spill across lines of government sovereignty. While intergovernmental collaboration is key, it does blur the distinction between the function of national, state and local authorities. For example, the federal government has attempted to shape K-12 education policy and health care through grants and subsidies even though those policy areas have traditionally been state and local government responsibilities. States and cities have engaged with foreign governments to forge agreements over shared rivers and aquifers, a task that normally belongs to the national government. Cities have used Memorandums of Understanding and formal Joint Powers Authority to collaborate with one another on police, fire and flood control, compromising their sovereign powers in order to solve collective problems more efficiently and effectively.

Advantages of such collaborations abound, but they can also create confusion about who is in charge and ignite disputes over responsibility and accountability when things go wrong. Tensions between different entities, especially when they are controlled by different political parties, can exacerbate problems. With regards to water, most policy is highly constrained and fractionalized by an antiquated system of water rights and innumerable water agencies. Electricity, by comparison, was until recently heavily dominated by large, vertically integrated utilities.

As the state looks to the future, particularly under the specter of drought, flooding, wildfires and other extreme weather events, it is critical to understand intergovernmental arrangements, tease apart their complexities, and explore improvements that might be made. Finding the right balance between intergovernmental coordination and self-governance can help the state achieve the most resilient future possible.
We end with thoughts about California’s future in a federal system where it currently occupies a unique position. We discuss how California might pursue its interests within American federalism and how it might develop its own foreign policy to achieve its ends. Although the analogy is far from exact, there are features of California’s circumstances that look like those of the province of Quebec in Canadian federalism during the last half of the twentieth century. As a large, arguably under-represented, and powerful entity, Quebec objected to its circumstances within its federal system and it fought, by and large successfully, to improve these circumstances. It did so by developing a clear vision of what it meant to be a Quebecker within the Canadian system and by working with other provinces, the government of Canada, foreign governments, and civil society to advance this vision. With this dramatic example in hand, we end by speculating about California’s future within the American federal system.
## Glossary

### Agencies, Departments and Utilities

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BLM</td>
<td>Bureau of Land Management</td>
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<tr>
<td>CAISO</td>
<td>California Independent System Operator</td>
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<tr>
<td>CEC</td>
<td>California Energy Commission</td>
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<tr>
<td>CPUC</td>
<td>California Public Utilities Commission</td>
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<tr>
<td>DWR</td>
<td>Department of Water Resources</td>
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<tr>
<td>FCC</td>
<td>Federal Communications Commission</td>
</tr>
<tr>
<td>GSA</td>
<td>Groundwater Sustainability Agency</td>
</tr>
<tr>
<td>IBWC</td>
<td>International Boundary and Water Commission</td>
</tr>
<tr>
<td>LADWP</td>
<td>Los Angeles Department of Water &amp; Power</td>
</tr>
<tr>
<td>PG&amp;E</td>
<td>Pacific Gas &amp; Electric</td>
</tr>
<tr>
<td>SCE</td>
<td>Southern California Edison</td>
</tr>
<tr>
<td>SDG&amp;E</td>
<td>San Diego Gas &amp; Electric</td>
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<tr>
<td>SMUD</td>
<td>Sacramento Municipal Utility District</td>
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### Associations, Boards and Councils

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CalCCA</td>
<td>California Community Choice Association</td>
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<tr>
<td>CARB</td>
<td>California Air Resources Board</td>
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<tr>
<td>CMUA</td>
<td>California Municipal Utilities Association</td>
</tr>
<tr>
<td>NERC</td>
<td>North American Electric Reliability Corporation</td>
</tr>
<tr>
<td>SWRCB</td>
<td>State Water Resources Control Board</td>
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</tbody>
</table>
WECC  Western Electricity Coordinating Council
WGA  Western Governors' Association
WIEB  Western Interstate Energy Board
WSCC  Western Systems Coordinating Council

POLICIES AND PROGRAMS

CARE  California Alternative Rates for Energy
CEQA  California Environmental Quality Act
CVP  Central Valley Project
FERA  Family Electric Rate Assistance
GSP  Groundwater Sustainability Plan
LIHEAP  Low Income Home Energy Assistance Program
PSPS  Public Safety Power Shutoff
SGMA  Sustainable Groundwater Management Act

GENERAL TERMINOLOGY

BA  Balancing authority
CCA  Community Choice Aggregator
CCS  Carbon capture and sequestration/storage
CWS  Community water system
DAC  Disadvantaged communities
DCFC  DC fast charging
ESP  Electricity service providers
EWI  Extreme weather impact
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>FAC</td>
<td>Fire adapted community</td>
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<tr>
<td>GDP</td>
<td>Gross domestic product</td>
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<tr>
<td>GHGs</td>
<td>Greenhouse gases</td>
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<tr>
<td>GWP</td>
<td>Global warming potential</td>
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<tr>
<td>ISO</td>
<td>Independent system operator</td>
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<tr>
<td>IOU</td>
<td>Investor owned utility</td>
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<tr>
<td>IRWM</td>
<td>Integrated regional water management</td>
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<tr>
<td>JPA</td>
<td>Joint Powers Authority</td>
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<tr>
<td>LSE</td>
<td>Load Serving Entity</td>
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<tr>
<td>MOU</td>
<td>Memorandum of understanding</td>
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<tr>
<td>NIMBY</td>
<td>“Not in my backyard”</td>
</tr>
<tr>
<td>POU</td>
<td>Publicly owned utility</td>
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<tr>
<td>RPS</td>
<td>Renewable portfolio standards</td>
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<tr>
<td>RTO</td>
<td>Regional transmission organization</td>
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<tr>
<td>WHR</td>
<td>Waste heat recovery</td>
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<tr>
<td>WUI</td>
<td>Wildland urban interface</td>
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<tr>
<td>ZEV</td>
<td>Zero-emissions vehicle</td>
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FEDERALISM

Through marvels of coordination and planning, human beings can work together to create healthy and peaceful communities, strong economies, great cities, and mighty nations. Governments with jurisdiction over the people within a defined physical boundary are the imperfect devices by which this is done. Imperfect because, as the American Founders knew, a government strong enough to do great things might also be strong enough to tyrannize its people.

Caught in 1787 between the failures of the weak Articles of Confederation in which each state government could abstain from its duties and the threat of recreating the tyranny rejected by the Declaration of Independence, the founders called a Constitutional Convention and established a federation of the “United States of America.” In this federation, states retained many of their powers, but certain powers such as taxing, regulating commerce, naturalization of citizens, coining money, granting patents and copyrights, declaring war, raising and maintaining armed forces, and creating a capital (Article I, Section 8, Clauses 1-17) were enumerated, delegated to, and reserved for the national government so that it would be powerful enough to accomplish great deeds. Indeed, it would have the power “to make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and other powers vested in the government of the United States.” (Article 1, Section 8, Clause 18). To counterbalance this concentration of authority, the states would also retain many of their powers as guaranteed in the Tenth Amendment to the Constitution: “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”

The Ninth Amendment made it clear that rights ultimately belonged to the people, not to their government: “The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.” Using the mechanisms of the division of power in the federal system, the guarantee of rights, the separation of powers among the legislative, executive, and judicial branches, and ultimately democracy beholden to the “the people,” the Founders hoped to provide the benefits of a functioning government while minimizing the dangers of tyranny.

Federalism not only divided power in an effort to control it, it also recognized that some problems required concerted, coordinated, national action while others were best addressed locally. In a world with authoritarian war-prone nations and with seas full of piracy, a strong national
government was needed to maintain armed forces and to prepare for the possibility of war. The regulation of commerce and the power to coin money had to be national to avoid ruinous tariffs across the states, to provide a common currency, to avoid inflationary banking practices, and to offer a common market for the exchange of goods. Although the Founders did not use the language of modern economists, all of these delegated powers provide public goods for which, without national coordination, free riding and the tragedy of the commons are dangers. These pitfalls were familiar to the Founders. The Articles of Confederation allowed some states to free-ride on others during the Revolutionary War by shunning their responsibilities to support the revolutionary army monetarily and with troops. The tragedy of the commons occurred during this same period when individual states allowed easy credit or inflated their currencies, thus destabilizing the monetary system for all. The Founders did not want to repeat these mistakes. Left to the states were public works, education, and policing where local information and local conditions varied and required tailored approaches.

This division of labor and responsibility has, for many purposes, worked well. But some of the most vexing policy problems spill over these demarcations of government sovereignty. The task of improving intergovernmental arrangements and institutions has become even more urgent as a consequence of climate change and increasing globalization since natural disasters like floods, fires, drought, sea level rise and the like spill across boundaries. Efforts at past intergovernmental collaboration have already blurred any neat division of labor between the function of national, state, and local governments. The federal government, for instance, has attempted to shape K-12 education policy and health care through grants and subsidies even though those policy areas have traditionally been state and local government responsibilities. States and cities have engaged with foreign governments to forge agreements over shared rivers and aquifers, a task that normally belongs to the national government. Cities have used Memorandums of Understanding and formal Joint Powers Authority to collaborate with one another on police, fire and flood control, compromising their sovereign powers in order to solve collective problems more efficiently and effectively.

While there are many advantages to these sorts of intergovernmental collaborations, they can create confusion about who is in charge and ignite disputes over responsibility and accountability when things do not go well. Federalism is a system of government where the same territory is controlled by multiple levels of government. In theory, the power hierarchy is structured such that the federal government sits at the top, followed by state governments and sub-state governments. But in reality, there are often tensions between these different entities, especially when they are controlled by different political parties, and, just as importantly, even when they are not.

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CALIFORNIA’S GOVERNMENTS

How did we get here? California entered the United States on September 9, 1850 as the 31st state. Just as the United States had to decide upon the division of powers between the central government and the states, California had to decide about the proper balance of powers assigned to the state government versus local jurisdictions. It also had to create these local jurisdictions. In California, there are four major kinds of local governmental units: counties, cities, school districts, and special districts. Each is responsible for about one-quarter of the spending on local government in California. There are 58 counties, 482 cities, over a thousand school districts, and thousands of special districts. Taken alone, there is a strong rationale for each, but taken together the result over the past 172 years has been a complicated crazy-quilt of governmental entities that makes coordination difficult because the average Californian is in a city within a county, served by a separate local school district, and provided services such as fire protection, water supply, sanitation, and parks with many special districts.

Counties

Like all American states, California created counties, ultimately 58 of them, covering the entire land area of the state, providing for governmental jurisdiction in every area. Counties, however, have only limited powers and the state legislature exerts close control over them. Many functions of government are taken over by cities or towns when they incorporate, leaving the county with responsibility only in the unincorporated areas.

California has 14 “charter counties”—generally larger ones with large cities, such as Alameda, Fresno, Los Angeles, Orange, Sacramento, San Bernardino, San Diego, San Francisco, San Mateo, and Santa Clara which are 10 of the largest 15 counties—with somewhat more powers than “general law” counties—which also include some large counties such as Contra Costa, Kern, Riverside, San Joaquin, and Ventura but are mostly smaller ones. But a charter only provides some powers with respect to the make-up and compensation of the governing board, it does not give officials “extra authority over local regulations, revenue-raising abilities, budgetary decisions, or intergovernmental relations.” Through an elected Board of Supervisors that has both legislative and executive powers (and some quasi-judicial powers as well), counties provide for health and sanitation, roads and bridges, recreation, welfare, and land use planning, but

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counties must work within legislation enacted by the state and they have only limited taxing powers. Counties also provide protection of persons and property and operation of the county jails through the elected Sheriff’s office and courts and prosecutions through the elected District Attorney’s office.

Counties spend slightly more than one-quarter of the total amount spent on local government in California. As shown in Figure 1, California counties get almost half their revenues from the

**Figure 1** Revenues and Expenditures of California County Governments

**Public Protection and Public Assistance Combined Account for Over Half of County Expenditures, 2015-16**

- Public Ways & Facilities: 3.0%
- Other: 3.8%
- General: 7.8%
- Health: 15.2%
- Enterprise Activities: 15.5%
- Public Protection: 28.1%
- Public Assistance: 26.5%

**State and Federal Funds Combined Comprise Nearly Half of Total County Revenues, 2015-16**

- State Funds: 31.4%
- Federal Funds: 15.7%
- Property Taxes: 19.5%
- Enterprise Revenues: 14.8%
- Charges for Current Services: 8.8%
- Other: 9.7%

* Business-type activities, such as airports and hospitals. ** Roads, transportation systems, and parking facilities. *** Debt service, recreation and cultural services, education, and sanitation.

**NOTE:** Excludes the City and County of San Francisco. Percentages do not sum to 100 due to rounding.

**SOURCE:** California Budget and Policy Center, [County Budgets](#), [County Expenditures](#), [County Revenues](#).
state (31.4%) or federal (15.7%) governments. Their expenditures are predominantly public protection (28.1%) including policing and courts and public assistance (26.5%) including MediCal (the California Medicaid program), CalFresh (the California Supplemental Nutrition Assistance Program or Food Stamps), and CalWorks (the California Temporary Assistance for Needy Families or welfare program). Mental and public health services comprise another 15.2 percent of expenditures and enterprise activities, such as airports, hospitals, and golf courses, another 15.5 percent.

**Cities**

Over 80 percent of Californians live in one of the 482 incorporated cities and towns. Cities spend a bit over one-quarter of the total amount spent on local government in California. Thirteen cities have populations of 300,000 or more (Los Angeles, San Diego, San Jose, San Francisco, Fresno, Sacramento, Long Beach, Oakland, Bakersfield, Anaheim, Stockton, Riverside, and Santa Ana) and comprise one-quarter of the state's population. Over 300 cities have populations of 50,000 or less. Incorporated cities have much greater powers than counties because of the 1879 California Constitution's provision for “home rule” which means that cities have broader taxing powers and can pass statutes as long as they do not conflict with state law. If they do not, they are enacted. Cities typically have responsibility for local land use, roads, policing, fire protection, parks and recreation, and perhaps also sanitation (sewerage and solid waste management), and utilities such as water, gas, and electricity but it is common for some of these activities to be undertaken by special districts or even private companies. Small California cities typically have a council-manager form of government where the elected city council appoints a city manager to run the city. Some larger cities have a mayor-council government with a directly elected mayor.

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4 See: California Budget and Policy Center, [https://calbudgetcenter.org/resources/county-budgets-where-does-the-money-come-from-how-is-it-spent/](https://calbudgetcenter.org/resources/county-budgets-where-does-the-money-come-from-how-is-it-spent/)

5 See: the 2017 U.S. Census of Governments, [https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html](https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html), Table COG2017_CGI7000ORG02_Data.xlsx and CGI7000ORG06-Data.xlsx, the data on districts also come from this source. California makes no formal distinction between cities and towns.

6 See: California State Controller’s Office, “Cities by the Numbers,” [https://cities.bytethenumbers.sco.ca.gov/#!/year/default](https://cities.bytethenumbers.sco.ca.gov/#!/year/default)
School Districts

Districts are limited purpose local governments, separated from cities and counties. In California there are 1,011 independent school districts according to the Census of Governments. School districts provide elementary and secondary education for students in their areas. They spend somewhat less than one-quarter of the total amount spent on local government in California.⁷ School Districts vary in size from fewer than 100 enrolled pupils (Alpine County Unified School District) to over half a million students (Los Angeles Unified School District).⁸ Although in some places, cities run the schools (New York City), all California public schools are operated through 1,011 school districts with elected, independent School Boards that hire a Superintendent to run the schools. School districts are funded through property taxes, other local taxes, substantial state funding, and federal funds. Before Proposition 13 limited increases in property taxes in 1978, California’s per pupil spending exceeded the national average and most of the funding for schools was through local property taxes. Because of their reliance on property taxes, school district budgets varied depending upon the wealth of the community. As a result of a set of court decisions beginning with Serrano v. Priest in 1971 and running throughout the 1970s, the Courts mandated that school funding should be equalized in California and elsewhere. With limitations on property tax increases from Proposition 13, the only source of funding that could equalize and maintain funding for schools in California was the state government so that by “2018–19, California public schools received a total of $97.2 billion in funding from three sources: the state (58%), property taxes and other local sources (32%), and the federal government (9%). These shares vary across school districts.”⁹ But the passage of Proposition 13 not only limited property tax increases, it also required a 2/3rd majority vote requirement for statewide tax increases, so that per pupil spending has fallen and California is now substantially below the national average.

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⁷ See: California Department of Education, “Current Expense of Education,” [https://www.cde.ca.gov/ds/fd/ec/currentexpense.asp](https://www.cde.ca.gov/ds/fd/ec/currentexpense.asp), This provides current expense of education which is a lower bound on total expenditures.


Special Districts

There are 2,894 special districts in California according to the Census of Governments. Special districts deal with fire protection, water, sewage, parks, recreation, cemeteries, libraries, and even mosquito abatement. They spend a little bit less than about one-quarter of the total amount spent on local government in California. About 85 percent of these special districts are single single-function districts which provide only one service, the rest are multi-function districts that offer two or more services. About two-thirds of these special districts are independent districts with independently elected boards or appointed boards whose directors serve for fixed terms. The other one one-third are dependent districts governed by either a city council or county board of supervisors.

Special districts vary in size from a few acres to thousands of square miles. The Metropolitan Water District of Southern California spans 5,200 square miles and includes parts of six counties (San Diego, Orange, Riverside, San Bernardino, Los Angeles, and Ventura) with 13 cities as members and 12 water districts or agencies. It delivers 1.5 billion gallons of water every day to 19 million people and has an operating budget of nearly $2 billion. The Contra Costa County Mosquito and Vector Control District is more typical. It spends about $8 million a year to fight mosquitoes, rats, mice, and other disease vectors in Contra Costa County. Some districts comprise only a few acres and spend less than a million dollars.

Special districts and school districts typically provide one or a small number of functions so that they can focus on those functions. One advantage of them is their costs for performing these functions (typically covered by special taxes or fees) can be readily linked to the benefits provided. But these districts can also be too small to be efficient or to be good decision-makers (most recently with respect to pension benefits), and their functions could often be taken over by local municipalities or county governments. In fact, roughly a quarter of them are “county-wide” service districts. They can fly “beneath people’s radar” because they do not get much media

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10 California State Controller’s Office, “Cities by the Numbers,” https://districts.bythenumbers.sco.ca.gov/#/year/default

11 See: Senate Governance and Finance Committee, 2016, “Special District Fact Sheet,” https://sgf.senate.ca.gov/sites/sgf.senate.ca.gov/files/special_district_facts_2016.pdf for this information. Note that even the number of special districts is uncertain. The 2017 Census numbers 2,894 but this authoritative source, the State Senate’s Governance and Local Finance Committee, refers to 3,300 in September 2016.


14 See: Senate Governance and Finance Committee, op cit.
coverage, and they can hamper regional planning because they do focus on just one issue, not the overall welfare of a region. The story of special districts is a mixed one.

Districts placed on top of counties and cities at the local area within a state that is within a nation exacerbate an already messy jurisdictional fracture problem. Within its state government, California’s executive branch includes over 230 agencies. In addition to these state agencies, the state has 58 counties, 482 cities and towns, a thousand school districts, and thousands of special districts. Creating harmony and solving problems in this welter of jurisdictions is a major problem for the federal system.

**State-Local Relationships**

As a first approximation, it is useful to think of the State-Local relationship as analogous to the Federal-State relationship within the federal system, but this can obscure the especially important role of states in the U.S. federal system. The state government-local government relationship does have some of the same features as the federal-state one such as the desire to have multiple centers of authority, to cater to heterogeneity by allowing for the creation of smaller units that can embrace that heterogeneity, to foster political involvement and participation closer to people, and to allow for innovation and creativity through many different “laboratories of democracy.” The federal-state and state-local relationships share many of the same problems of assigning functions, taxing powers, and actions to the right levels. And both require the same concern with coordination between units at a higher and lower level (e.g., environmental laws and actions in the federal-state and state-local relationships) and among the units at a lower level (e.g., public health across states or across localities). But constitutionally and legally, the relationships are much different which has implications for public policy.

True, the federal government has the final say in matters regarding interactions among the states and state governments have final say regarding the localities within their purview. But states in their relationship with the federal government retain some exclusive powers and sovereignty that is denied to local governments within a state. The federal government is ultimately a federation of the supposedly “lower-level” states, but localities are definitely the creatures of the (“higher-level”) states and states are not federations of localities. States are at the center of both the federal-state and state-local relationships.

The Constitution of the United States takes the existing states as the fundamental units of the country, basing representation upon them and requiring their assent for changes in the
Constitution. Constitutional amendments must be ratified by three-fourths of the State legislatures, or three-fourths of conventions called in each State for ratification. A new Constitutional Convention requires the application of “two thirds of the several states.” In the federal Constitution, the people appear in their roles as part of the states which are the fundamental units. The biggest compromise of the Constitutional Convention rejected the Virginia plan that would have made representation solely a function of population in favor of elements of the New Jersey Plan that argued for representation by states. The compromise led to the creation of a House of Representatives where representation was apportioned according to population within states and a Senate where each state received two votes. This compromise privileges representation by small states in the Senate and to a smaller extent in the House, and it means that the voice of Californians is stunted at the national level.

Within California, the people reign supreme and lower level units do not appear except as creatures of the state. Constitutional Conventions can be called by a majority of those people voting in an election after two-thirds of the membership of both the Assembly and Senate have agreed to hold such an election. Delegates to a constitutional convention are voters elected from districts with nearly equal populations. Nowhere do pre-existing governmental units (e.g., counties or cities) appear in this procedure. Moreover, in law, according to the famous “Dillon’s Rule” of 1868 (upheld by the Supreme Court in 1907), all local governments are creatures of the state which has ultimate responsibility for their operation and which can dissolve them or take them over if it deems necessary. “Home Rule Charters” available to cities provide them with more authority and leeway, but ultimately, they are creatures of the state. These facts mean that California has the power to reshape local governments to improve performance and coordination, and it has powers and rights within the federal system.

Tribal Nations and Intergovernmental Relations

Native Americans present an important and distinct set of governing issues given their special status in the United States and their large numbers in California. In the 2020 census, two percent or 778,593 members of the California population identified themselves as either solely or

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15 The fact that apportionment occurs within states means that small states are guaranteed one member of the House of Representatives no matter how small they are, thus further exacerbating the predominance of small states in the Congress.
partially of American Indian or Alaskan Native (AI/AN) background. Eighty percent of these people identified themselves solely with this background. By either definition, California has more native peoples than any other state, although it ranks eighth or ninth in percentage of Native Americans. Historically, the AI/AN population has been undercounted, but the counts of Native Americans jumped dramatically between 2010 and 2020 because of substantial efforts by the state of California to improve the census enumeration through outreach to Indian nations and decreased stigma attached to being an indigenous person.

**Tribal Nations and Tribal Lands:** Although only about 3 percent (21,869 people) of California’s Native American population lives on the 104 federally recognized tribal lands in California, tribal lands and nations play an outsized role for Native Americans because of their linkages to tribal members and to the history and culture of their people. After decades of successive public takings of Native lands and allotments to private entities, tribal lands in California comprise about 520,000 acres or 0.5 percent of the total land in California—about the size of Orange or Solano Counties. For comparison, the U.S. Forest Service controls about 20 percent (20 million acres) of California’s land, and the Navajo Nation in Arizona, New Mexico, and Utah controls 14.7 million acres.

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19 Indian Health Service, January 28, 2022, “List of Federally-Recognized Tribes in CA,” [https://www.ihs.gov/california/index.cfm/tribal-consultation/resources-for-tribal-leaders/links-and-resources/list-of-federally-recognized-tribes-in-ca/](https://www.ihs.gov/california/index.cfm/tribal-consultation/resources-for-tribal-leaders/links-and-resources/list-of-federally-recognized-tribes-in-ca/); There are four more that cut across state borders (Colorado River, Fort Mojave, Quechan, and Washoe), but they are not included in this count.

20 The number of AI/AN on tribal lands comes from Figure 3 and Figure 7 in: NCAI Policy Research Center, September 2021, “2020 Census Results: NCAI Pacific Region Tribal Land Data,” National Congress of American Indians, [https://www.ncai.org/policy-research-center/research-data/prc-publications/2020_Census_NCAI_Region_Pacific_Summary_9_14_2021_FINAL.pdf](https://www.ncai.org/policy-research-center/research-data/prc-publications/2020_Census_NCAI_Region_Pacific_Summary_9_14_2021_FINAL.pdf) (Note that the NCAI “Pacific Region” is coterminous with California, and the enumeration of tribal nations in Figure 7 corresponds exactly with those in California.)

Native Americans have a unique relationship with the federal government through their association with Indian nations.\(^{22}\) Article 1, section 8, of the Constitution of the United States places state governments and Indian nations on the same footing with respect to the federal government with the assertion that Congress has the power “to regulate commerce with foreign nations, and among the several states, and with the Indian tribes.” In a series of Supreme Court cases from 1823 to 1832, the Court affirmed the sovereignty of Indian nations including their right of self-governance and their right to occupy their own territory to the exclusion of the citizens of the state in which they are located. Over the following century, the power of Native self-governance went through a series of pendulum swings. Starting in the 1870s, the federal government weakened tribal power by granting churches the authority to educate and administer on tribal lands. It also enabled the division of tribal lands into private lots under the 1887 Dawes Act, which not only weakened collective tribal authority but also made many Native people susceptible to selling their property under predatory circumstances. The New Deal era saw the rise of tribal governance once again, as the 1934 “Indian Reorganization Act” reaffirmed that “each Indian tribe shall retain inherent sovereign power to adopt governing documents” and that “the Constitution, as interpreted by Federal case law, invests Congress [and not the states] with plenary authority over Indian Affairs.”\(^{23}\)

California’s federally recognized tribal nations and their lands are mostly in rural areas in California, although with the growth of population, some of them, especially in the south of the state, have been engulfed by suburbs. Thirty-one tribal lands are in the southern part of California and almost all of them are in the hot and dry areas of San Diego, Riverside and San Bernardino Counties. Twenty-eight tribal lands are in the east central part of the state primarily in the counties adjacent to (on both the western and eastern sides) or containing the Sierra Nevada Mountains. These counties include (going north along the mountains) Inyo, Fresno, Mono, Tuolumne, Amador, El Dorado, and Butte Counties. Twenty-six tribal lands are in the west central part of the state concentrated in the rainy western counties of Mendocino, Sonoma, and Lake. Nineteen tribal lands are in the northern part of the state concentrated in California’s most northern counties of Humboldt, Del Norte, Siskiyou, Modoc, and Shasta.\(^{24}\)

\(^{22}\) Much of the literature refers to “Indian Tribes” but we shall mostly use the term “Indian Nations” that is currently preferred by Native Americans except in some of our historical references.


\(^{24}\) Although the listing is not quite up to date, this web page provides very useful information: California’s Clean Air Project, “County List of Tribal Nations,” https://www.etr.org/ccap/tribal-nations-in-california/county-list-of-tribal-nations/
Historical Background: Tribal lands are located where they are because tribal nations were displaced from their ancestral lands as a result of colonization, the duplicitous and genocidal policies of the United States and California\(^25\) during the 19th century, and the policy of treating Indian nations as “wards of the federal government”\(^26\) instead of as equal sovereign nations. This is not the place to recount fully that sorry, tortured, and tragic history, but a few aspects help explain the current situation in California.

In the midst of the Gold Rush in 1852, 18 treaties were negotiated with Native Americans across California. As with most treaties of this type, their intent was to extinguish native rights to valuable land by agreements with Indian groups ostensibly representing the interests of Native Americans. These treaties promised the tribal groups new permanent tribal lands and payment for the ceded land from the government in return for the tribes renouncing any future claims to ancestral lands. According to one source, if ratified, the treaties would have reserved about 7.5 million acres of California land as Tribal lands—about 14 times the current amount.\(^27\)

Despite the lopsided deals that were proposed, when the treaties were considered in the U.S. Senate, Senators thought that they could do even better because they questioned whether Native Americans had any claims at all to land in California given the Mexican laws that prevailed before California became part of the United States. The Senate met in closed session and rejected the treaties, placing them in a secret file and failing to make payments for land taken from Native Americans.\(^28\) Nevertheless, a series of “small, scattered reservations of varying quality for Indians” were created.\(^29\) Despite efforts in the late 1890s by groups such as the Northern California Indian Association (NCIA) to rectify the situation, except for some relatively small federal appropriations in the early 20\(^{th}\) century to fund Indian Rancherias, the die was cast. California’s tribal nations would end up with a small fraction of their ancestral lands.

The second major historical fact is that for a number of interrelated reasons, many Native Americans ended up outside these tribal lands. First, many of them never made it to the new tribal


\(^{29}\) Ibid., page 39.
lands in the first place because they remained in their ancestral areas—albeit without any ownership rights. Second, because of poor conditions, underfunding, and neglect, life on tribal lands was difficult, leading many to leave, including members of Indian nations from other states. For example, the Cherokee Nation, which has no tribal lands in California, has 25,000 tribal members in California. Finally, in the 1940s and 1950s, the Bureau of Indian Affairs began a project of dismantling and terminating tribal sovereignty that led to the Indian Relocation Act of 1956 with the goal of assimilating Native Americans into urban life. As a result, most Native Americans in California live far away from their tribal lands.

Starting in the 1960s, a new approach by the federal government aimed to help Indian nations instead of terminating them. The Indian Civil Rights Act of 1968 once again recognized Indian tribes as sovereign nations with the right to their own law courts, and it extended the guarantees of the Bill of Rights to Native Americans. The 1975 Indian Self-Determination and Education Assistance Act found that:

... the prolonged Federal domination of Indian service programs has served to retard rather than enhance the progress of Indian people and their communities by depriving Indians of the full opportunity to develop leadership skills crucial to the realization of self-government, and has denied to the Indian people an effective voice in the planning and implementation of programs for the benefit of Indians which are responsive to the true needs of Indian communities.

The act provided a way that the federal government could provide funding for programs and enter into contracts with Tribal Nations to implement these federal programs, thus providing a greater degree of self-determination.

**Citizenship Status of Native Americans:** Many Native Americans have the opportunity to have dual citizenship in both their Indian nations and the United States. Membership and citizenship in tribal nations is entirely controlled by these nations as sovereign entities. For some tribal nations, requirements include a blood quantum definition relating to the degree of Indian blood.

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A 1996 review of over 300 tribal constitutions across the United States found that slightly less than one-third had no minimum requirement, almost two-thirds had a minimum requirement of some Indian blood but it was only one-quarter or less, and seven percent had a requirement of more than one-quarter.\textsuperscript{33} The Bureau of Indian Affairs provides “A Guide to Tracing American Indian and Alaska Native Ancestry,”\textsuperscript{34} and it will provide a Certificate degree of Indian Blood (CDIB) that shows a person’s blood quantum and Tribal affiliation.\textsuperscript{35} But it does not determine membership in a tribe.

Membership in a tribe is different from residence on a reservation. The Santa Rosa Band of Cahuilla Indians, for example, notes on its web page that “Currently, there are 118 recognized Tribal Members (18 and over). Approximately 70 individuals live on the Reservation.”\textsuperscript{36} Membership in a tribe provides access to services from the Bureau of Indian Affairs, and it allows for participation in the governance of that tribe.

Membership data are hard to come by and they are guarded as proprietary information by many tribes as illustrated by recent tumult over their use by the federal government. With the American Rescue Plan in 2021, the Bureau of Indian Affairs asked for tribal membership data so that funds for Native Americans could be allocated more fairly. Some tribes supported the effort because they felt that previous methods of disbursing federal funds had been unfair, but others worried about the quality of existing tribal enrollment data and the possibility that the data would be made publicly available through the Freedom of Information Act.\textsuperscript{37} In the end, these data were provided to the Bureau of Indian Affairs.\textsuperscript{38}

All Native Americans born in the United States or naturalized now have U.S. citizenship rights, but these rights developed slowly. The Fourteenth Amendment to the U.S. Constitution (1868), which stated that “all persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside,” did

\begin{flushright}
\textsuperscript{33} Thornton, 1996, op cit., Table 5-1.
\textsuperscript{35} Bureau of Indian Affairs, “Certificate of Degree of Indian or Alaskan Native Blood Instructions,” https://www.bia.gov/sites/default/files/dup/assets/public/raca/online_forms/pdf/1076-0153_CDIB%20Form_Expires%202011.30.2024_508.pdf
\textsuperscript{36} Santa Rosa Band of Cahuilla Indians, https://sctca.net/santa-rosa-band-of-ahuilla-indians/
\textsuperscript{38} Dean Rhodes, April 4, 2021, “Tribes Submit Enrollment Data for American Rescue Plan Funding,” https://www.smokesignals.org/articles/2021/04/12/tribes-submit-enrollment-data-for-american-rescue-plan-funding/
not include Native Americans on tribal lands as those subject to the jurisdiction of the United States. The Fifteenth Amendment to the Constitution, ratified in 1870, guaranteed the right to vote to all U.S. citizens regardless of race or color,\textsuperscript{39} but many states still denied Native Americans the right to vote. Both the California Constitution of 1849 and the Constitution of 1879 gave the right to vote to all citizens, but they remained mum on whether Native Americans and others were citizens. “Most American Indians, including California Indians, did not have the right to vote until the federal Citizenship Act of 1924 was passed.”\textsuperscript{40} This act made all Native Americans born in the United States citizens. Still, the right to vote was controlled by the states and some states did not expand voting rights to Native Americans until the 1950s. The lifting of impediments to voting such as literacy tests required the passage of the Voting Rights Act of 1965.\textsuperscript{41}

California has now entered a new era of more and more dual citizenship for Native Americans in which they combine their tribal and U.S. citizenship. In a 2005 Congressional hearing on “Dual Citizenship, Birthright Citizenship, and the Meaning of Sovereignty,” three witnesses criticized dual citizenship on the grounds that it leads to divided loyalties that undermine civic responsibility.\textsuperscript{42} In response, Dr. Peter Spiro pointed out that dual citizenship across nations is growing, that it already exists with respect to involvements in federal, state, local, and tribal governments, that it is entirely possible to know enough to be engaged in multiple citizenships, and that it is a form of identity whereby individuals express their cultural involvement with two different nations (e.g., Indian tribe and federal government). He also noted that it extends America’s global reach by creating groups with linkages to other nations, that as a form of identity it is supported by our right to free expression and individuality, and that given all this, nations cannot jealously guard their membership by requiring sole allegiance.\textsuperscript{43} These arguments are parallel with other re-imaginings of citizenship that have sought to rethink how it might sustain individual identity, strengthen the bonds of society, and create opportunities for more imaginative policy-making.\textsuperscript{44}

One of the governance challenges of the next 100 years is to continue this rethinking of citizenship.

\textsuperscript{39} “The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude.”


\textsuperscript{43} Ibid., pages 74-78.

**California’s Relationship with Native Americans:** California relates to Native Americans as citizens of the United States in which capacity they vote in elections, pay income taxes, enjoy the rights and privileges of Americans, and receive services indirectly (e.g., roads and infrastructure) or directly (e.g., Bureau of Indian Affairs) through federal and state agencies. California also relates to Native Americans as members of sovereign tribal nations that have their own law courts, provide services to their members, and their own tribal lands. Recognizing this, through Executive Order B-10-11 in 2011, Governor Jerry Brown created the Governor’s Tribal Advisor within the Office of the Governor with the duties of implementing “effective government-to-government consultation between my Administration and Tribes on policies that affect California tribal communities.”

Through Executive Order N-15-19 on June 18, 2019, Governor Gavin Newsom acknowledged and apologized on behalf of the state for the historical “violence, exploitation, dispossession and the attempted destruction of tribal communities,” and he established a “Truth and Healing Council” to “bear witness to, record, examine existing documentation of, and receive California Native American narratives regarding the historical relationship between the State of California and California Native Americans in order to clarify the historical record of this relationship in the spirit of truth and healing.” Following up on this Executive Order, on September 25, 2020, the Governor put forth a policy of “co-managing,” whenever possible, ancestral lands now under the control of the state.

With these steps, California has recognized both the importance of Native Americans to the state and the need to interact with their tribal nations as sovereign states. Nowhere is this clearer than in gaming and gambling where in 1987, in the case of *California v. Cabazon Band of Mission Indians*, the Supreme Court affirmed the right of Native Americans, given their tribal sovereignty, to run gaming operations on Indian land. With Proposition 1A in 2000, the state formalized a process of negotiating compacts with tribes that respected their sovereignty while providing for a role for the state and federal government. More broadly, California is working to improve its relationships with tribal nations to strengthen their capacities and to respect their sovereignty. The nexus of issues surrounding governance and citizenship make the state’s relationship with tribal governments especially interesting and important.

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FUNDING, TAXES, AND EXPENDITURES FOR CALIFORNIA’S GOVERNMENTS

Table 1 displays the sources of revenues for the state of California and all its local governments (counties, cities, and districts) for 2017 based upon the most recent Census of Governments. It is often thought that governments rely entirely upon taxes and fees, but this chart makes it clear that there are three other important sources of funding:

- Intergovernmental transfers
- Insurance and trust funds
- Utilities that provide services.

Indeed, the most remarkable feature of this table is that both California and its local governments get slightly less than half their total revenues from their own taxing efforts. The state government gets about a quarter of its revenues from insurance and trust funds, most of which (85.3%) comes from employee retirement funds and the remainder primarily from Unemployment and Workers’ Compensation funds (8.16%). Most notably, the state gets almost another quarter of its revenues from federal intergovernmental transfers for programs such as Food Stamps, Medicaid, and TANF. Local governments (most notably counties and school districts) get an even larger portion (36%) of their revenues from intergovernmental transfers, almost all from the state government (89.7%) but some from the federal government (10.3%). Local governments (often special districts) also get 8.58 percent of their revenues from employee retirement funds, and 8.48 percent from utilities such as water, power, transit, and gas. Intergovernmental transfers are a big deal in the federal system.

The prevalence of inter-governmental revenue across the three layers of American government, federal, state, and local epitomizes one of the features of American federalism, first noted by political scientist Morton Grodzins in his report to the 1960 Presidential Commission on National Goals. The federal system is not a “three-layer cake” with each layer performing its own functions, albeit with the federal government on top, the states in the middle, and the local governments on the bottom. Instead, it is more like a “marble cake” with taxing, fund transfers, functions, and expenditures interpenetrating all three levels. Grodzins used the term “cooperative federalism” to describe how each layer has some distinct characteristics, but they are ultimately intermingled and must cooperate with another.

<table>
<thead>
<tr>
<th></th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL REVENUES</td>
<td>$393,727,563,000</td>
<td>$338,235,933,000</td>
</tr>
<tr>
<td>General Revenues from Taxes and Fees</td>
<td>49.84%</td>
<td>47.23%</td>
</tr>
<tr>
<td>Intergovernmental transfers</td>
<td>23.69%</td>
<td>35.71%</td>
</tr>
<tr>
<td>Federal</td>
<td>22.54</td>
<td>3.67</td>
</tr>
<tr>
<td>State</td>
<td>n/a</td>
<td>32.04</td>
</tr>
<tr>
<td>Local</td>
<td>1.15</td>
<td>n/a</td>
</tr>
<tr>
<td>Insurance/Trust Funds</td>
<td>26.22%</td>
<td>8.58%</td>
</tr>
<tr>
<td>Revenues from Utilities</td>
<td>0.26%</td>
<td>8.48%</td>
</tr>
</tbody>
</table>

**Source:** Author’s calculations from U.S. Census Bureau, “2017 State & Local Government Finance Tables.”

**Note:** Indented percentages add to non-indented category just above them. These percentages are fractions of the total sources of revenues.
SELF-GENERATED REVENUES OF CALIFORNIA’S GOVERNMENTS

For the half of their budgets that come from their general revenues from taxes and fees, state and local governments also rely upon different sources. In some cases such as counties, this is because local governments are limited in their possible sources of tax revenues but in others it has to do with the history of property taxes in the state. Since the passage of a state income tax in 1935, the California state government has relied more and more upon corporate and income taxes while local governments relied upon property taxes and sales taxes. One reason for this was simply the fact that property is local, hard to assess without local knowledge, and immobile. Similarly, commerce is local so that sales taxes could be best imposed locally. Table 2 shows the distribution of general revenues from own sources which includes taxes, charges, and miscellaneous general revenue.

The state government depends upon income taxes (43% of its total self-generated revenues), sales taxes (26%), and corporate taxes (5%) – altogether these account for almost three-quarters of its self-generated revenues. Local government depends upon property taxes (38%) and sales taxes (13%) which constitute just over half of its self-generated revenues. But charges and user fees also matter, especially for local governments for which they are over one-third of total self-generated revenues with hospital, sewage and solid waste, and transportation related charges constituting the majority of the charges. State government also depends upon hospital (5.73%) and higher education (5.58%) charges, but charges and user fees are only about one-seventh of its total self-generated revenues.

The first major change in California’s tax system was the passage of the income tax in 1935 so that today income taxes are the major tax in California. The passage of Proposition 13 in 1978 that limited property taxes also increased the state’s reliance on income and sales taxes.

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## General Revenues from Own Sources—California State and Local Government, 2017

<table>
<thead>
<tr>
<th></th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL REVENUES FROM OWN SOURCES</td>
<td>$196,219,554,000</td>
<td>$159,736,008</td>
</tr>
<tr>
<td>TAXES</td>
<td>81.06%</td>
<td>55.48%</td>
</tr>
<tr>
<td>Property</td>
<td>1.37%</td>
<td>37.95%</td>
</tr>
<tr>
<td>General Sales</td>
<td>19.73%</td>
<td>9.07%</td>
</tr>
<tr>
<td>Selective Sales (e.g., gas, public utilities)</td>
<td>6.44%</td>
<td>3.91%</td>
</tr>
<tr>
<td>Income</td>
<td>42.91%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Corporate</td>
<td>5.15%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Motor Vehicle</td>
<td>2.17%</td>
<td>0.04%</td>
</tr>
<tr>
<td>Other</td>
<td>3.28%</td>
<td>4.51%</td>
</tr>
<tr>
<td>CHARGES AND USER FEES</td>
<td>14.18%</td>
<td>35.13%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>5.73%</td>
<td>10.13%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>5.58%</td>
<td>0.76%</td>
</tr>
<tr>
<td>Airports, Ports, Highways, Parking</td>
<td>0.03%</td>
<td>4.46%</td>
</tr>
<tr>
<td>Sewage and Solid Waste</td>
<td>0.00%</td>
<td>7.27%</td>
</tr>
<tr>
<td>Natural Resources/Parks and Recreation</td>
<td>0.69%</td>
<td>1.40</td>
</tr>
<tr>
<td>Other Charges</td>
<td>2.15%</td>
<td>11.11%</td>
</tr>
<tr>
<td>MISC. GENERAL REVENUES</td>
<td>4.76%</td>
<td>9.39%</td>
</tr>
</tbody>
</table>

**SOURCE:** Author's calculations from U.S. Census Bureau, “2017 State & Local Government Finance Tables.”
## Direct Expenditures—California State and Local Government, 2017

<table>
<thead>
<tr>
<th>EXPENDITURE CATEGORY</th>
<th>State</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Welfare (e.g., Medicaid, TANF, other relief)</td>
<td>38.66%</td>
<td>5.68%</td>
</tr>
<tr>
<td>Employee Retirement</td>
<td>16.16%</td>
<td>4.10%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>12.22%</td>
<td>3.69%</td>
</tr>
<tr>
<td>Hospitals and Health</td>
<td>6.35%</td>
<td>11.73%</td>
</tr>
<tr>
<td>Unemployment Insurance, Workers Compensation, other</td>
<td>5.09%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Govt. Administration</td>
<td>3.65%</td>
<td>4.21%</td>
</tr>
<tr>
<td>Corrections</td>
<td>3.46%</td>
<td>1.93%</td>
</tr>
<tr>
<td>Transportation (highways, airports, ports)</td>
<td>3.16%</td>
<td>4.56%</td>
</tr>
<tr>
<td>Other Education</td>
<td>2.64%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>2.05%</td>
<td>0.61%</td>
</tr>
<tr>
<td>Protective Inspections and Regulations</td>
<td>1.09%</td>
<td>0.54%</td>
</tr>
<tr>
<td>Police</td>
<td>0.78%</td>
<td>5.28%</td>
</tr>
<tr>
<td>Utilities-Water, Electric, Gas, and Transit</td>
<td>0.46%</td>
<td>13.08%</td>
</tr>
<tr>
<td>Sewerage and Solid Waste</td>
<td>0.31%</td>
<td>3.61%</td>
</tr>
<tr>
<td>Parks and Recreation</td>
<td>0.21%</td>
<td>1.91%</td>
</tr>
<tr>
<td>Housing and Community Development</td>
<td>0.12%</td>
<td>2.61%</td>
</tr>
<tr>
<td>Elementary and Secondary Education</td>
<td>0.00%</td>
<td>26.70%</td>
</tr>
<tr>
<td>Fire</td>
<td>0.00%</td>
<td>2.63%</td>
</tr>
<tr>
<td>Other</td>
<td>3.59%</td>
<td>7.13%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$241,995,381,000</td>
<td>$322,665,678,000</td>
</tr>
</tbody>
</table>

**SOURCE:** Author’s calculations from U.S. Census Bureau, “2017 State & Local Government Finance Tables.”
EXPENDITURES OF CALIFORNIA’S GOVERNMENTS

Table 3 displays the direct expenditures of local governments (counties, municipalities, school districts, and special districts) and the state government in California in 2017 – the last Census of Governments. The word “direct” is important because the federal government provides substantial intergovernmental transfers (see Table 1) in some areas (e.g., Medicaid) that go to the state and country governments for direct expenditures and the state government provides even larger intergovernmental transfers (see Table 1) in some areas (e.g., for elementary and secondary education at the local school district level) that go to local governments for direct expenditures. We focus on direct activities partly because that is what these governments actually do. As we go along, we will indicate how these activities get funded.

First note the bottom figures – local governments spend more money than the state, although much of the funding, as we have seen, comes from the state. In 2017 the state government spent about $6,000 per Californian and altogether local governments spent about $8,000. We have ordered the categories in Table 3 so that those involving substantial state funding (2% of total expenditures or more) are listed in order of their importance. It is not hard to see that the overwhelming function of the state is to provide funds for health (Medicaid for the poor), welfare (Temporary Assistance for Needy Families) and associated programs. Much of the funding for this actually comes from the federal government. The next biggest function is running state retirement programs that are for government employees, some of whom work at the local level (these programs include the California Public Employees Retirement System [CalPERS], California State Teachers Retirement System [CalSTRS], and the University of California Retirement Plan [UCRP]). Higher education is a substantial fraction of the budget, partly because tuition payments (from individual students) and research grants (typically from the federal government) are counted as revenues and then, in this table, as expenditures by public colleges and universities.

Three other important categories are hospitals and health, unemployed insurance (UI) and related programs (paid for by employee contributions and federal dollars), and corrections. Note that administrative costs are relatively low at about 3.65%. So a good deal of state activity is (a) redistributive programs such as Medicaid, TANF, UI, and health and hospitals accounting for 50% of its expenditures, (b) retirement programs for another one-sixth, and (c) higher education and corrections accounting for another one-sixth – a total of over 80 percent of the budget. These state activities involve redistribution (e.g., Medicaid), providing for the future (e.g., retirement), or economies of scale (e.g., corrections) or in some cases all three (e.g., higher education).
Local governments have a much different profile. Their largest expenses are elementary and secondary education (26.7%), direct services like utilities (transit, water, and electric systems at 13.08%) and sewerage and solid waste (another 3.61%), hospitals and health including public health (11.73%), police and fire protection (7.91), transportation (mostly highways) at 4.56%, and parks and recreation (1.91%) for a total of about 70 percent of their budget. Local governments specialize in providing immediate services at a neighborhood scale.

ASSIGNING FUNCTIONS IN A FEDERAL SYSTEM

PRINCIPLES OF ASSIGNMENT

Government typically gets involved in providing a service when it might not be provided at an optimal level by private actions in the marketplace. Classic examples are the provision of military protection, the regulation of environmental pollutants, the building of highways, the education of the young, or the provision of food and shelter to the poor and homeless. These are areas where “market failures” occur that make markets imperfect solutions. The “free rider problem” occurs when someone can “free ride” on the investments of others in military protection or the education of the young. “Myopia” occurs when people are shortsighted in their thinking about the future need for security or education or about the long-term negative effects of poverty. The “tragedy of the commons” and “externalities” occur when a common resource such as the air, water, or land is polluted or used up because nobody has property rights in its maintenance. In these cases, there is a case to be made for the government stepping in to provide these services. But what level of government?51

One answer is that the level of government should match the technical aspects of the problem. For environmental regulation watersheds or air-sheds provide natural boundaries. It makes sense to have environmental regulation of water quality cover an entire watershed so that some unregulated actor within the watershed can’t pollute the entire area. A related answer is that

government should be able to internalize externalities by encompassing an entire travel or job market area. The benefits of educating the young, for example, should redound to the benefit of the local area. Another answer is that the level of government should be able to provide economies of scale. It makes no sense to have individual states provide military security when the federal government can do it more economically.

At the same time, the assignment of functions should ensure that people have a say in what is done and that information is readily available on the extent of the problem. It should also ensure that people’s preferences are matched as much as possible. And, there should be some mechanism by which people can choose among various ways that public goods might be provided. Some people, for example, might want more spent on one thing rather than another.

Historically, cities have proved to be convenient areas that balance many of these factors for many functions. They are large enough to ensure economies of scale (which many people believe require at least 100,000 people for many functions), they encompass an inter-dependent area so they internalize many externalities, they are small enough so that information can be readily gathered and so that citizens can feel involved in decision-making about solving problems, and they can offer different bundles of public goods so that people can choose among them.

**ASSIGNMENTS OF FUNCTIONS**

These kinds of considerations provide a rationale for why police and fire, K-12 education, parks and recreation, sewage and solid waste, hospitals and public health, utilities, and streets, buses, and subways should be provided locally. While many of them are public goods and would not be provided without government involvement, they typically do not have that much impact beyond the city’s borders and they are of intense local concern. It makes sense for smaller governments to provide them.

These considerations also suggest why environmental regulation, highways between cities, higher education, prisons (as opposed to local jails for short sentences), natural resource projects such as dams and levees, and redistributive aid such as unemployment insurance, health insurance, and welfare should be provided on a state level. In these cases, the catchment areas for externalities is far larger than a single city, and there are good reasons to believe that cities would not deal with them adequately. Indeed, it seems quite possible that cities would under-regulate pollution, especially if they were, say, in a coastal area where smog was pushed inland to other areas by prevailing breezes. They would also try to keep taxes low by under-investing in redistributive programs. These considerations also suggest why there might be more school
districts than cities (1,011 versus 482) in California because of local desires to have a say over the schooling of children, and why there might be still more special districts (around 3,000) because of the need for very different sizes of governments to handle special problems.

TENSIONS WITHIN FEDERAL SYSTEMS

Most of all, these considerations suggest that the assignment problem is complex, not easily solved, and subject to changes in our understanding of problems or solutions to them. We need to know a great deal about any problem before we can devise the best way to govern in that area. And it is likely that a solution that worked for many years will need to be changed as the problem itself and solutions to it change. Nowhere is this more clearly evident in the areas of energy and water that form our case studies. These case studies illustrate three kinds of tensions (Bednar 2009) that occur in federal systems, tensions that often depend upon one’s political point of view:

- **Encroachment** – The higher level power encroaches on the powers of the lower level unit and reduces its ability to independently solve problems. The Trump administration’s actions to take away California’s ability to regulate car emissions is an illustration. Another is the Obama Administration’s Affordable Care Act whose requirements for the expansion of health care access were deemed so onerous by some states that, despite an exceptionally generous funding formula, they did not take it up.52

- **Shirking** – The lower level unit shirks its responsibilities (sometimes because it believes that encroachment is occurring) and cannot be induced to fulfill them. California’s actions with respect to immigration by allowing sanctuary cities are considered by some to be shirking, but by others to be legitimate rejections of encroachment. California cities and counties have been given targets for building housing, but very few jurisdictions are meeting them.53

52 See: “Status of State Medicaid Expansion Decisions: Interactive Map,” [https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/](https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/) In March 2022, 39 states (including the District of Columbia) have taken up Obamacare and 12 have not. These states are almost all strongly Republican.

• **Burden Shifting** – A lower level unit shifts its problems to other lower level units through actions that affect the other units. California’s actions with respect to Colorado River water appear to be burden shifting to many. For years, California took more Colorado River water than its entitlement, and it still has not done much to help other states as the Colorado River flow suffers from reduced flow due to drought. California cities that have large-lot zoning and restrictions on building housing are shifting the burden of the housing crisis to other cities by being unwilling to build more affordable housing.

Even in the best designed federal systems, tensions of these sorts will inevitably arise. In systems that have been somewhat haphazardly designed over decades and centuries, the tensions are even more acute, especially as problems such as climate change, immigration, or housing become acute.

Within a federal system, there are several canonical methods called “policy instruments” for obtaining cooperation and coordination: (1) regulations, mandates, and preemptions in which one level of government directs what others can or cannot do, (2) grants and tax expenditures in which monetary incentives are provided from one level of government to another level to induce them to do something, and (3) information and facilitation of cooperative agreements through Memorandums of Understanding.54

Mandates involve one level of government telling another that it must do something or suffer some penalty. States require, for example, that public schools provide certain hours and kinds of K-12 education. In the Bush Administration’s “No Child Left Behind Act of 2001” the federal government mandated that states establish K-12 academic standards and a testing regime to ascertain progress towards meeting those standards. In pre-emption, a higher level of government preempts the ability of the lower level to regulate activities. The federal government preempts the states with respect to the regulation of most major industries such as drugs, banking, securities, automobile safety, air transportation, and tobacco.

Intergovernmental grants can be categorical (e.g., Lead-Based Paint Hazard Control in Privately-Owned Housing) so that they can only be used for one specific purpose or block grants so that they can be used for a variety of purposes. These grants can come with matching requirements in which the lower level of government must provide a match of some percentage for every dollar provided by the upper level of government. The state matching requirement in the federal Medicaid program has meant that state governments have expanded their revenue

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54 Governments can also decide to provide services on their own, but this approach does not involve intergovernmental cooperation or coordination.
efforts as health care costs have climbed. They can involve maintenance of effort (MOE) require-
ments in which the lower level of government is required to maintain a certain level of expendi-
ture to receive the grants. In policy areas with MOE requirements, states cannot cut their own
support for the area and substitute federal dollars. In most higher education legislation there
has been no MOE requirements so that states have dramatically reduced their support for
public universities over the past twenty years and substituted various forms of federal aid, often
loans for students that have placed enormous burdens on students to finance their own educa-
tion. Tax expenditures occur when one level of government gives another level access to its tax-
ing power directly or through exemptions or credits. The State and Local Tax deduction allows
citizens to deduct their state or local taxes from their federal income tax liability. The Trump
administration limited this deduction to $10,000 in the 2017 Tax Cuts and Jobs Act. This deduc-
tion allows state and local governments to tax at a somewhat higher rate because taxpayers
get a break on their federal taxes from having paid state and local taxes.

Information can allow one level of government to inform another about an issue that might
otherwise go unnoticed. Memorandums of Understanding often involve governmental agencies
agreeing to inform one another of actions that they are taking, but they also sometimes include
agreements to act in certain ways to solve problems. MOUs are especially useful when it is in both
governments’ interest to act together, although unless both parties find that it is in their individual
interest to act that way, whatever the other party does, there is the possibility of reneging.

For each of these policy instruments, the details of a situation matter a lot for whether there are
possibilities for or perceptions of encroachment, shirking, or burden shifting and for whether or
not the instruments achieve their goals. For example, many Republicans think the Affordable
Care Act is encroachment while Democrats believe that failure to implement a program with a
very generous federal funding formula is shirking with respect to helping low income groups.55

Energy and water policy are rife with areas in which tensions occur in the federal system and in
which diverse policy instruments have been used to achieve coordination.

55 When Republican John Kasich was Governor of Ohio, he famously argued that “we cannot take health-care
coverage from people just for a philosophical reason” and he implemented Obamacare in Ohio. See: “Spurning
the Party Line,” Washington Post, January 5, 2016. https://www.washingtonpost.com/sf/national/2016/01/05/de-
ciderskasich/
WATER AND ENERGY: FACTS AND TRENDS

CHALLENGES FOR THE FEDERAL SYSTEM

This section examines California's intergovernmental relations through the lenses of water and energy management. Both are critical resources for the state. Both are challenged by climate change with respect to providing for adequate supply, finding new forms of storage, and ensuring resilience and reliability. Droughts, for example, will stress the existing system of water infrastructure and the availability of hydroelectricity in the future. Wildfires can pollute a watershed and disrupt transmission and distribution systems. And because energy often utilizes water (e.g., to cool or generate steam) and water utilizes energy (e.g., to transport water by massive pumps over the Tehachapi Mountains), the resilience and resource adequacy of the one can affect that of the other.

Water and energy to some degree also represent two ends of the intergovernmental spectrum in California. California water policy is highly constrained and fractionalized by an antiquated system of water rights and innumerable water agencies. Electricity, by comparison, was until recently heavily dominated by large, vertically integrated utilities. California has made major efforts during the last 20 years to give the state more control, or at least more influence over water policy in order to achieve an integrated approach to water management. Examples include the Integrated Regional Management Planning Act of 2002, the Sustainable Groundwater Management Act of 2014 and the California Coastal Act of 1976. Ironically, electricity governance seems to be moving in a more decentralized direction due in part to advances in rooftop solar and battery systems and the desire of some communities to assume more control over their energy portfolios. Both water and energy may ultimately converge towards a more hybrid form of coordination, but all of this is evolving at the moment.

In addition, California will need to coordinate more closely on both topics with its neighbor to the South—Baja California. With respect to water, this means sharing common aquifers on the border, cleaning up the Tijuana River and ensuring that the concentration of desalination plants in the area provide much needed water with as minimal destruction to the marine biota as possible.

In the Water and Energy Facts and Trends section below we will contrast California’s governance systems of water and energy by presenting facts and trends in two versions: one for
water and one for energy. This will hopefully make the similarities and dissimilarities between the two much clearer. Then we will outline the competing narratives about the origins of water and energy governance that help to explain their current circumstances today.

TECHNICAL FEATURES OF THE SYSTEMS

The state and federal governments built an elaborate system of water conveyance in California and continue to subsidize agricultural water use.

The challenge settlers faced coming to live and work in California was how to deliver water from where it was plentiful to the many areas of the state where it was not. This involved building an elaborate system of pumps, canals, aqueducts, reservoirs and dams to collect, store and redistribute the water (see Figure 2). Snow would deposit on the mountains in the winter, then melt in the spring and be used in the dry summer months until the precipitation came back the next winter. When water was in short supply during periods of low precipitation, the diminished surface water supply was apportioned to agriculture according to a system of appropriative rights with the first allocations going to senior rights holders (i.e., those who had established the earliest claims in time). Junior rights holders could often offset their surface water losses by pumping water up from the aquifer below their land. Currently, 50 percent of water use in California goes to environmental flows, 40 percent to agriculture and 10 percent to urban/suburban areas.

In addition, the federal government has provided substantial subsidies to California's agricultural sector since the enactment of the Reclamation Act of 1902. It is estimated for instance that 6,800 Central Valley farms receive annual subsidies worth $416 million dollars. Most of this highly subsidized water goes to large commercial farms at a price that is only 2 to 3 percent what residents in Los Angeles and San Francisco pay (EWG).

In drought periods, this price disparity typically becomes much more salient to the public, causing critics on the left to question whether the agricultural allocation and subsidies should be reduced and critics on the right to object to the amount of environmental flows.
Aqueducts, Canals, and Reservoirs in California

Figure 2

SOURCE: National Geographic, California's Pipe Dream.
Transmission Lines in California and Linkages with Other States and Mexico

California’s Major Electric Transmission Lines

LEGEND
- Pacific Gas & Electric (PG&E)
- Southern California Edison (SCE)
- Imperial Irrigation Distric (IID)
- Los Angeles Dept. Of Water & Power (LADWP)
- San Diego Gas & Electric (SDG&E)
- Sacramento Municipal Utility District (SMUD)
- Pacificorp (PCORP)
- Western Area Power Administration (WAPA)
- All Other Substations
- Selected Substations
- Cities

SOURCE: Global Energy Network Institute, California’s State Electricity Grid.
Electricity is also conveyed along an elaborate grid system that transmits and distributes energy from where it is generated to where it is used.

Like water, electricity is distributed across the state with an extensive system of transmission and distribution lines. With the exception of behind-the-meter rooftop solar, most renewable and fossil fuel power is generated at the utility scale inside or outside the state, and then transported by transmission lines to retail service providers and distributed to customers. As with surface water, California's electricity crosses many jurisdictional boundaries inside the state, the country, the Western region and across the international border with Baja California (see Figure 3). These transmission lines are largely owned and maintained by the Investor Owned Utilities (IOUs) such as Pacific Gas & Electric, Southern California Edison and San Diego Gas & Electric and two Publicly Owned Utilities (Los Angeles Department of Water & Power and Sacramento Municipal Utility District). Community Choice Aggregators (CCAs) are a hybrid form of Load Serving Entity (LSE) that contracts for power but does not own or manage any transmission lines.

A critical difference in this regard with respect to water and energy is that the grid must always balance supply and demand since any imbalance can result in blackouts and service disruptions. The responsibility for this rests with the approximately 40 balancing authorities in the Western region, the largest of which is California’s Independent System Operator (CAISO). The water system is more flexible and forgiving, allowing for emergency water curtailments, for instance, in order to divert power used for pumping water along the state water canal to the grid when there are emergency shortages.

Another key difference to keep in mind is that interstate water supplies (e.g., Colorado River water) are fixed in any given year and must be divided between California and the upstream states. The interstate energy market is competitively priced, and the amount of energy can usually be ramped up or tamped down to adjust to demand. Typically, LSEs contract for a reserve capacity that can generate more power if needed. Depending on water that flows through other states can be contentious: energy transmission across the western interconnection by comparison increases grid reliability as a whole by opening up additional out-of-state supplies of power. The western state interconnection will likely be more important in the future as California becomes more dependent on time- and weather-variable sources of clean energy such as solar, wind and hydropower.
CENTRALIZATION/DECENTRALIZATION OF GOVERNANCE

*Water governance is highly fractured between public and private entities.*

Water is regulated primarily by three state agencies: the Department of Water Resources, the State Water Quality Resources Control Board (with 9 regional counterparts) and the California Public Utilities Commission. In addition, there are sixteen other state agencies with regulatory authority over various aspects of water governance including the State Water Commission, three agencies that deal with the Delta and two that deal with the sea coast.

The number of state level governmental water agencies pales in comparison to the number of local water entities. One effort to count all these community water agencies in California came up with a figure of 2,895 separate community water systems falling into 26 distinct types. They include publicly-owned ones (e.g., cities and counties), independent special districts, state and federally owned systems, investor owned utilities, other private ones, and more.

These local water entities often have very different institutional designs. A study done in 2002 identified over 1,200 water districts with statutory authorizations (LAQ). These water districts have different types of governance structures. About a third of these water districts employed a “dependent governing body” where the governing body was directly controlled by either a city or a county. Dependent districts are governed by a city council or county board of supervisors, or by city or county appointed representatives. The other two-thirds of water districts employ “independent special districts” where the governing body is either directly elected by voters or appointed for a fixed term of service by a board of supervisors. These institutional design variations create different bureaucratic dynamics, constituency pressures and accountability issues.

This agency heterogeneity is less problematic during a drought emergency because the governor has fairly sweeping emergency powers. It is more problematic when there is no immediate emergency, but when nonetheless there is a need for a more coherent way to prepare for the next drought. The state’s Integrated Regional Water Management (IRWM) program made a valiant effort to bring local water entities together to develop joint projects and planning at the watershed scale, but with mixed results.
Electricity governance is less fractured and has been more effective in guiding the state toward a sustainable, clean energy policy.

The landscape of entities that control electricity in California is not as complex and varied as in the case of water. But it is certainly not simple. Policy can be made by executive action, normal legislative policy processes, agency discretion and bargaining across agencies with stakeholder groups. The same could be said for some aspects of water policy, but the state has much firmer regulatory control over the electricity market than it does over water supply and usage.

<table>
<thead>
<tr>
<th>Roles</th>
<th>CEC</th>
<th>CPUC</th>
<th>CAISO</th>
<th>CARB</th>
<th>CDWR</th>
</tr>
</thead>
<tbody>
<tr>
<td>State’s primary policy and planning agency</td>
<td>State agency that regulates CA retail sellers – investor-owned utilities (IOUs), ESPs, CCAs, electric, natural gas, telecommunication</td>
<td>Operates a competitive wholesale electricity market</td>
<td>Manages reliability of 80% of CA’s transmission grid</td>
<td>Responsible for attaining clean air – climate criteria, and air toxics.</td>
<td>State agency responsible for managing and regulating California water resources</td>
</tr>
<tr>
<td>Lead CA agency for international energy activities</td>
<td></td>
<td>Manages reliability of 80% of CA’s transmission grid</td>
<td></td>
<td>Typically regulates intrastate equipment (Cars, trucks, off-road vehicles) and fuels</td>
<td></td>
</tr>
</tbody>
</table>
There are five state agencies that play a significant role in energy policy (see Table 4). Each has a defined role. The California Energy Commission (CEC) oversees planning and has particular responsibility for the POUs. The California Public Utilities Commission (CPUC) oversees the other retail sellers such as the IOUs and CCAs. The California Air Resources Board (CARB) regulates mobile sources of pollution and GHG greenhouse gas emissions and is most heavily involved in the effort to increase electric vehicle use and build more charging infrastructure. The CAISO is an independent entity that operates a competitive wholesale electricity market and manages reliability for 80 percent of the transmission grid that the LSEs Load Serving Entities (LSEs) rely on.

The state legislature and recent governors have set out very ambitious decarbonization goals, and these agencies have done an admirable job to date implementing them. They also have made a strong effort to collaborate with one another, particularly in the context of setting out the state’s Integrated Resource Plan. But, the open, multiparty process of negotiation between these agencies and stakeholder groups is laborious and time consuming. And the rise of the local LSEs called Community Choice Aggregators (CCAs) has introduced new tensions over who pays for legacy power contracts and how much excess energy must be purchased to maintain system reliability. Looming on the horizon is the more difficult task of working closely with local governments on deeper decarbonization steps, particularly given the fraught history of state-local government relations, in order to reduce emissions in buildings, manufacturing, agriculture, home appliances, and transportation.

PLANNING AND REGULATORY STRUCTURES

The California State Water Plan is not an enforceable document, and there is little coordinated control over land use policy except along the coast.

The California Water Plan is an impressive compilation of data and information about water resources in the state. The Department of Water Resources (DWR) manages the state’s water system effectively and has a hand in both the Integrated Regional Water Management (IRWM) and Groundwater Sustainability Agencies (GSA) programs. And the State Water Resources Control Board (SWRCB) along with the governor’s office played a central role in designing drought policy in the critical 2012-2017 period. But neither of these agencies can control water usage policy in non-emergency periods.

As a consequence, the state continues to build new housing and commercial developments in water-stressed parts of the state such as the Central Valley. Some of them in Southern California include artificial lakes and golf courses, apparently on the assumption that they will have continued supply from the Colorado River despite climate change and population growth in upriver states like Nevada, Arizona and Colorado. At the same time, Central Valley counties permit farmers to plant fruit and nut trees that cannot go fallow in dry years and depend on increasingly depleted groundwater supplies.

These water governance problems foreshadow some of the obstacles that the state will encounter to a greater degree in the future when it tries to decarbonize the economy beyond the grid such as by building more dense housing along rail lines in order to cut down on car emissions or eliminating end end-use gas in family and commercial residences. Local governments carefully guard their sovereignty over local roads, economic development and zoning, and tend to resist state interference. They are particularly resistant to unfunded regulatory mandates that require them to make changes at their own expense. Most of the successful state efforts to enhance local water resource capacity building have provided public bond funding and matching grant programs that incentivize rather than require local cooperation.

California’s highly regulated electricity sector is charged with implementing ambitious goals for decarbonizing the grid and the economy.
In the water case, the core task is to substitute old forms of surface water storage with stormwater reuse, desalination and aquifer replenishment. In addition, the power for the pumps that extract, clean and store water has to become greener. The electricity sector challenge is even more formidable: the state needs to shift its energy profile from fossil fuels to clean energy according to recent benchmarks set by the governor and legislature. These goals have become progressively more ambitious over time with respect to lowering emissions as compared to 1990 levels and achieving carbon neutrality by 2045. The initial benchmarks were set by legislation, but Governor Brown used his executive authority to up the ante for decarbonization (see Figure 4). Much of the progress to date in meeting these goals is due to regulatory pressure on the LSEs to meet renewable portfolio standards (RPS). In addition, the state has tried to encourage the voluntary green incentives (i.e., renewable goals above the RPS floor levels) through its CCA program.

**Figure 4** California’s Emissions Targets

California greenhouse gas emissions by sector (1990-2015) and targets through 2050

- **2020 target:** equal to 1990 level
- **2030 target:** 40% below 1990 level
- **2050 goal:** 80% below 1990 level

**SOURCE:** U.S. Energy Information Administration.
While the record of achievement to date has been impressive, there are some concerns that arise from tensions between the various new state energy goals and the necessity of maintaining a balanced portfolio of energy options in order to deal with steep evening ramp-ups when the sun goes down or prolonged heat waves in the Western region that can affect the availability and cost of energy imports. The state’s current renewable energy definition precludes certain forms of clean energy such as large hydro and nuclear, which currently many of the LSEs are counting towards their clean energy target. It is not clear whether the state can build enough utility-scale solar and wind to offset the loss of these non-renewable categories of clean energy. In addition, the CAISO has concerns about the rate at which we are retiring gas plants and the impact of such a fast build-out of solar without adequate levels of storage to ensure grid reliability. The ongoing fight over CCA exit fees\textsuperscript{56} also manifests a disagreement between local community LSEs and the state over who assumes the burden of legacy energy contracts and wildfire liability costs.

Electricity regulation was much simpler when the state could work through the large Public and Investor Owned Utilities (POUs and IOUs), but the proliferation of local CCAs in recent years has raised the transaction costs (i.e., the time and effort devoted to negotiation between agencies and stakeholder groups) and lessened the state’s control over retail purchases. It is important to bear in the mind that the electricity system represents only 15 percent of the state’s emissions (see Figure 5). To make a serious dent in that overall emission’s goal will require taking on transportation and industrial sectors of the economy, efforts that will put much more pressure on state-local government relations. But given that the long long-term plan is to electrify many more things in the future, the success of the decarbonization effort hinges crucially on greening the grid as quickly as possible. The rationale is pretty straightforward: if, for example, Californians electrify the transportation sector but still depend to some significant degree upon important imported power generated by gas or coal in order to charge vehicles at night, we are undercutting the overall emissions goal.

\textsuperscript{56} These are fees charged by investor-owned utilities (IOUs) to community choice aggregation (CCA) and other departing load customers to compensate for electricity generation built or contracted in the past at prices that are now above-market.
Figure 5  California Greenhouse Emissions

SOURCE: Green Car Congress based upon California Air Resources Board Data.
NEW TECHNOLOGIES AFFECTING THE SYSTEMS

*California is trying to rely less on dams and reservoirs and more on water recycling and aquifer replenishment.*

The seasonality of California’s weather means that the state needed to find ways to store water in the winter when it is most likely to rain for use in the summer when precipitation is rare. As discussed earlier, this not only means building dams and reservoirs throughout the state to store the winter water, but also aqueducts and canals to convey it. That infrastructure is now aging, prone to breaking down (e.g., the recent damage to the Oroville Dam spillway) and harder to replace due to concerns about environmental impacts and costs. The drought in 2012-17 took its toll and reduced water levels in the reservoirs. As Figure 6 shows, the current level of water in California’s reservoirs is currently well below both capacity level and historical averages for October. Groundwater, the backup when surface water is scarce, has dropped significantly over time due to overuse and low precipitation. While California has made more effort in recent years to replenish its depleted aquifers, water subtraction still exceeds natural and mechanical replenishments, creating a cumulative water deficit.
Figure 6  California Reservoir Conditions as of March 31, 2022

SOURCE: California Department of Water Resources, Reservoir Conditions, March 31, 2022
At the same time, it has become harder politically to build reservoirs and dams. The last large reservoir constructed in California was the New Melones on the Stanislaus River in 1979. Dam construction has also slowed to minuscule levels while some dams have been or will be torn down because they have filled with silt or in order to restore the ecology of the area that was flooded when the dam was constructed.

As a consequence, California water policy is turning towards recycled water (see Figure 7) and desalination (see Figure 8), despite the higher cost and personal aversion some people have to drinking treated water.

**Figure 7**  Increase in Recycled Water Use in California

**FIGURE SOURCE:** Public Policy Institution of California, *Growing Demand for Water Has Ripple Effects.*

**DATA SOURCE:** State Water Board Municipal Wastewater Recycling Survey, 2017.

**NOTES:** Volumes are from a survey about recycled water use in the state (with survey years marked). Urban refers to use for landscape and golf course irrigation, commercial, and industrial. Groundwater recharge use refers to groundwater recharge for potable reuse and seawater barriers. Other uses of recycled water include natural systems restoration, recreational impoundment, and geothermal energy production.
California is trying to rely less on fossil fuels and more on green energy.

For most of the 20th century, the power companies’ goals were to provide reliable energy at the cheapest cost. Now there are additional requirements such as switching to clean energy, ensuring the resilience of the transmission system to wildfires, building storage and resource adequacy to offset the extra demands due to extreme weather or the daily cycles of solar energy, and ensuring greater equity across race and class in this transition. Greening the grid is an es-

**Figure 8** Desalination Capacity in California

SOURCE: Heather Cooley, Peter H. Gleick, and Gary Wolff, *Desalination, with a Grain of Salt*, Pacific Institute, page 25, from Wagnick/GWI data.
sential first step because many of the next decarbonization steps will increase the total demand for electricity. To repeat what was said earlier, it would undercut the goal of reducing carbon emissions if the state has to import more “dirty” energy in order to charge more electric cars.

Emissions from the electricity sector only contribute 15 percent of total carbon emissions in the state. Transportation alone accounts for 41 percent, which is why the state has committed to getting 5 million zero-emissions vehicles (ZEVs) on the road and building 10,000 DC Fast-Charging stations. But building out charging stations requires siting the chargers strategically, acquiring the land and making it through the state’s cumbersome environmental permitting processes. The CARB can provide funds and incentives towards these goals, but it will require working with local government officials and dealing with inevitable objections from some residents. Potentially, the CCAs could facilitate this process as many of them have programs to promote ZEV use, but as we shall discuss later, CCAs vary enormously in their commitment to decarbonization and their capacity to do anything about it.

Beyond the transportation sector, decarbonizing the agricultural and manufacturing sector will cost California businesses substantially, and many of them worry about their competitiveness with companies outside the state. Engineers can propose lots of possible technical ways to lower the carbon footprint for each of the sectors, but there are large costs associated with many of these ideas. Methane emissions from livestock could be reduced with anaerobic digesters. Carbon capture and storage could reduce emissions from cement production. Electrifying trucks and fueling them with green hydrogen could lessen the carbon footprint for many businesses. But all of these measures would raise the costs for the companies and make them less competitive with firms from other states. There are market constraints to what California can achieve on its own if other states do not also decarbonize at the same time.

**IMPACTS OF EXTREME WEATHER AND CLIMATE CHANGE**

*Extreme weather poses an increasing threat to California’s water supply and infrastructure.*

We discussed earlier the impact that longer and more severe droughts have on surface and groundwater supplies. Another aspect of droughts is the enhanced risk of large wildfires that burn watershed areas, potentially affecting both the supply and quality of water. Rain may not follow the plow as people thought in the 19th century, but wildfires follow the people. Human
activity is the greatest source of wildfire ignition. As people continue to build and live next to or within wildland areas, the risks of fire ignition increase at a time when forests are drier and more susceptible to horrific fires. There is an important water-energy connection here: construction in new areas requires new electricity transmission and distribution lines, which raises the odds of more ignitions and potential harm to vital watersheds.

Wildfires can cause extensive damage to watershed areas by impacting water quantity, water quality, snowpack, debris flow and aquatic ecosystems. The damage to vegetation increases the overland flow, but releases water earlier than normal (which increases the need for storage) and diminishes snowpack storage in the burned areas. Wildfires also lead to soil erosion and debris flow, adding potentially harmful sediment and contaminants to the water. This can also decrease the volume of storage in reservoirs and shorten their lifespan.

All of this poses significant challenges for water resource management. Planning and building water infrastructure requires anticipating and adjusting to these challenges but with a fair degree of uncertainty about where and when fires will occur. For many decades, water planning could assume that there would be year to year variations in extreme weather, but count on a relatively stable climate. Now water infrastructure planning must also account for changing climate conditions that will likely increase the frequency and intensity of extreme weather events like drought and fire. The data about water conditions in the state exist in abundance, but the effort to improve planning about water resources on a watershed scale had a shaky start in the IRWM program. The capacity of the state, or indeed regional entities, to get local communities to operate collaboratively when the state is not in an emergency situation is still too weak for the likely extreme weather challenges ahead.
Extreme weather poses threats to California’s electricity supply and transmission system.

The electricity system is a cause of wildfires but is also impacted by them as well. When the Diablo and Santa Ana winds are blowing hard, transmission lines can fall or be struck by trees and spark a fire. As a precautionary measure, the grid operators can call for Public Safety Power Shutoffs (PSPS) that stop the flow of electricity to businesses and residences until conditions improve (see Figure 9). If the danger persists for several days, it can be very disruptive for large...
numbers of customers. It may be even more disruptive in the future if we electrify everything in order to move away from dependence on gas and fossil fuels. Complicating matters further, wildfires in other states can affect California’s energy supply due to the western grid interconnection. Wildfires are a regional problem.

There are organizations that study and make recommendations about resilience problems at the regional scale, such as the Western Governors’ Association (WGA), the Western Electricity Coordinating Council (WECC), and the Western Interstate Energy Board (WIEB) (see Table 5). There are ways to improve vegetation management around transmission lines. Sensors and dynamic line rating systems can identify transmission problems more quickly. And there are efficient ways to cut off power during wildfire emergencies while minimizing customer inconvenience and economic loss. But taking these steps is largely left up to the utility companies and is not controlled by any government entity. Once again, we run into a core intergovernmental issue: to what extent should coordinating organizations have stronger means to either influence and compel LSEs to undertake measures that could enhance electricity reliability and resilience.

### Table 5  
**Areas Impacted by Public Safety Power Shutoffs**

<table>
<thead>
<tr>
<th></th>
<th>WIEB</th>
<th>WECC</th>
<th>WGA</th>
</tr>
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<tbody>
<tr>
<td><strong>History</strong></td>
<td>Created by Western Governors in 1970 under Western Interstate Nuclear Compact (passed by Congress)</td>
<td>Formed in 1967 by 40 power systems, then known as the Western Systems Coordinating Council (WSCC).</td>
<td>Established in 1984 through merger of two Governors' organizations to provide strong multistate leadership on critical issues in the Western U.S.</td>
</tr>
<tr>
<td></td>
<td>Originally intended to encourage state cooperation on <strong>nuclear energy</strong> but compact includes “related fields” so focus is <strong>all energy matters</strong></td>
<td>In 2002 it became WEC when three regional transmission associations merged.</td>
<td>In 2007, received delegated authority from the <strong>North American Electric Reliability Corp (NERC)</strong> and designated Regional Entity in the Western Interconnection</td>
</tr>
</tbody>
</table>
## Roles

- **Provide framework for cooperative state energy efforts.**
  - Goal to “enhance the economy of the West and contribute to the well-being of the region’s people.”

- **Non-profit corporation that assures a reliable Bulk Electric System in an area known as the Western Interconnection.**
  - Serves as the **Regional Entity** for the Western Interconnection.

- **Support bipartisan policy development, information exchange, and collective action on critical issues in the Western U.S.**


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### THE BORDER WITH MEXICO

*California faces important water issues along the border with Mexico.*

Water issues have long been a source of contention between California and Mexico. One that dates back to the 19th century is apportioning water Colorado river water shares between the two countries. The Treaty of 1944 gave Mexico a guarantee of 1.5 million acre feet of water, and potentially more under certain circumstances. It also established the International Boundary and Water Commission (IBWC) as the agency tasked with addressing and overseeing the resolution of binational water disputes. The IBWC has the ability to adopt minutes that have the force of treaty and can address issues as they arise such as water salinity, the construction of new dams along border rivers, the design of drought measures and the like. There have been 170 minutes adopted since that time.

Most of the controversy and negotiation to date has been between Texas and Mexico. Positioned at the end of the line after water is diverted down the All-American Canal to California, Mexico receives its much smaller share of poor-quality water. When California built the All-American Canal to transport Colorado River water to San Diego, it was lined in such a manner as to adversely affect the aquifer that Baja and San Diego share. With water scarcity likely to become
even more problematic given climate change in the southwest and Mexico, California could find that issues related to the Colorado River will become more contentious. Baja already suffers from severe water shortages, and climate projections suggest that it could receive 60 percent less precipitation in the future. As a consequence, Baja has constructed large desalination plants, including near the San Diego border. San Diego also has constructed a desalination plant in Carlsbad. Given the various problems with the outflow of residual brine and the intake of biota, both sides of the border will need to coordinate the operation of these and future plants to minimize these problems.

Another issue is industrial pollution from the Mexican side of the Tijuana River. The river flows north into San Diego and the pollution it carries is treated by a waste treatment plant in San Diego before it is released into the ocean. California would like Mexico to do more to reduce the river pollution before it enters U.S. territory but there has not been much progress on the issue.

California faces important grid opportunities and emissions challenges with Mexico.

As defined by the La Paz Agreement between the United States and Mexico, the U.S.-Mexico border region is a zone stretching 100 kilometers on either side of the international boundary. This agreement covers the California/Baja California border region. The 100-kilometer (62-mile) zone includes all of San Diego and Imperial Counties and the Mexican municipios of Tijuana, Rosarito, Ensenada, Tecate and Mexicali. This area encompasses all main population centers of the region and contains its principal energy-related infrastructure.

The primary energy resources in the region are imported natural gas and renewable energy. Baja California does not produce any of its own natural gas and relies entirely on imports, mainly from the United States. During 2019, the state consumed about 340 million standard cubic feet of natural gas per day, with most of the energy going towards industrial uses. Although the region has few non-renewable deposits, it does have a lot of potential for wind and solar energy given strong wind patterns and high solar irradiance in Baja California.

A wind farm was built in Baja based on a power purchase agreement by San Diego Gas & Electric to purchase $820-million over 20 years in 2015. This 1,200 MW plant was comparable to that of the largest wind plant in the U.S., giving Mexico a bigger footprint in the energy market and providing the surrounding communities with essentially passive income from the profits of renting out the land to a private energy company. Siting wind farms in Mexico is easier than
in the United States due to laxer environmental standards with respect to protecting migrating birds from the turbines.

The Western Interconnection is the energy grid that spans more than 1.8 million square miles in all or part of 14 states, the Canadian provinces of British Columbia and Alberta and the northern portion of Baja California in Mexico. The Western Interconnection is governed by the Western Electricity Coordinating Council (WECC). Baja California, a WECC member, has two international power connections clusters with California, one at the Tijuana-Miguel border and another at the La Rosita-Imperial Valley border. Baja California’s international gas border crossings, a crucial component of its energy portfolio, comprise a combined volume of 2 billion cubic feet of natural gas per day. Firms that have invested in the pipelines include San Diego Gas & Electric, Ecogas, Sempra, TransCanada, and Southern California Gas Co.

In 2014, Governor Brown signed a four-year MOU to enhance cooperation on energy and the environment with Mexico. It pledged to share information about science, technology and regulatory policy related to decarbonization, to address air quality problems on the border and to facilitate the transition to ZEVs. Baja has experienced strong population growth and economic development, which has generated both more water and air pollution. While there was some follow-up and exchanges on these items, the elections of President Trump and President Lopez Obrador essentially limited further progress on this initiative. Baja imports a substantial amount of gas from the United States and is tied to the Western interconnection, but aspirations for a tighter connection to California’s climate change have been slowed considerably by the lack of support at the federal level. That said, Mexico has committed to ambitious climate goals and more needs to be done to promote greater collaboration between California and Baja.

ENVIRONMENTAL JUSTICE

There are substantial environmental justice issues with respect to water governance and policy.

Poorer communities tend to have bad water resources (see Figure 10). This is particularly true for rural communities in the Central Valley and along the Central Coast from Santa Cruz to Santa Barbara that are dependent upon groundwater supplies. As discussed earlier, groundwater has been depleted over many years in these areas as a consequence of a withdrawal during
drought years and of inadequate aquifer recharge. Often poorer communities have to deal with both quality and quantity issues. Along the coast, the water quality problem associated with chemicals or nitrates are compounded with saltwater intrusion and seal level rise. The Coastal Commission, despite its strong powers, is largely focused on development. Mostly water quality problems are dealt with by the State Water Resources Control Board.

Figure 10  Drinking Water Problems in the San Joaquin Valley

Water systems out of compliance with water quality standards (July 2018)

- Arsenic
- Nitrate
- Surface water treatment issues
- Other chemicals
- Multiple chemicals

Water systems and households facing shortages (2012-16)

- Households reporting water shortages
- Small water systems applying for emergency drought funding


DATA SOURCE: Department of Water Resources (household water shortages) and the State Water Board (small water system shortages and systems out of compliance with water quality standards).
Even outside the problematic areas, there are other water justice problems. Some disadvantaged communities rely on small relic mutual water companies that lack the capacity to install money saving efficiencies or infrastructure improvements. During droughts, higher income people can cut their usage by letting their lawns go brown whereas poorer people have to cut back on indoor water uses for bathing, cleaning and cooking. The communities that could benefit the most from programs that would subsidize the water costs for the poorest residents lack the revenue to institute such subsidies or the capacity to enact the surcharges that could pay for them.

The increasing diversity of the legislature has helped to some degree. The minority caucuses have grown after the last three rounds of redistricting and have tweaked the criteria for grant awards to reward those communities that include disadvantaged community (DAC) areas. But poorer cities often lack the internal capacity to go after technical water grants or the private funding matches that are often required in the funding competitions.

*There are substantial environmental justice issues with respect to electricity governance and policy.*

Because water subsidy programs are organized and funded at the community water system level, there is a wide variance in the availability of those programs that is rooted in the local community’s socio-economic circumstances and fiscal capacity. State subsidies through the CARE and FERA programs are administered statewide and cover the IOUs and CCAs. POUs have their own energy assistance programs. CARE offers a 30 to 35 percent discount on electricity bills and 20 percent on natural gas. Those who are struggling to pay their utility bill can qualify for Low Income Home Energy Assistance Program assistance, which pays up to $1,000. These programs are important in light of the fact that California’s electricity rates are higher than in the country as a whole, as shown in Figure 11.
The problems for electricity largely concern the inability of disadvantaged communities to participate in rooftop solar or ZEV programs (see Figure 12). This not only means that they cannot participate as fully in the green economy, but they also miss out on the savings from participating in net metering programs. Analysis at the county level shows that high income communities are more likely to receive solar subsidies. Much the same applies to ZEVs and hybrids. One study by CNBC found that 70 percent of electric car owners earned at least 100,000 dollars per year, and various other studies show that owners of hybrids and electric vehicles tend to be better educated, between the ages of 30 and 49 and disproportionately male. A study of Maryland ZEV ownership shows the same socio-economic skew (Wang, Erdogan and Ducca 2019).
Designing these programs so that they reach more of the DAC communities is not just a matter of fairness but also of scaling up: we cannot scale up decarbonization without moving opportunities down the socio-economic ladder.


**Notes:** Distribution of county median incomes weighted by population (blue), subsidies in 2006 (green), and subsidies in 2014 (red). For the systems installed in 2006, the proportion of subsidies that flowed to richer counties was substantially larger than the proportion of the population that stayed in them. The distribution of subsidies matched the distribution of the population more closely for systems installed in 2014. Nevertheless, subsidies continue to flow to richer counties. These calculations are performed assuming a discount rate of 2%. The results are qualitatively similar if a 7% discount rate is used, and also if cross subsidies from net metering are excluded.
WATER AND ENERGY: ORIGINS OF GOVERNANCE STRUCTURE AND PROPOSALS FOR CHANGE

ORIGINS OF GOVERNANCE STRUCTURE

There are four levels of intergovernmental relations as it applies to California, three that are domestic and one that is international: between the state and the U.S. government, between the state and other states in the Western region, between the state and local government entities and between the state and Baja California. None of these four relations has been static over time. As is the case with most western states, the federal government maintains a heavy footprint in California in the sense that it owns 47 percent of the state’s land. This matters for water and energy policy because what the federal government does with respect to its land directly impacts the state’s energy and water goals. The legacy of federal policies during the period of territorial expansion and settlement of the West still shapes California water policy today. Similarly, federal policies that promoted fossil fuel extraction in support of the Western regional industrialization created the current tension between California and other interior western states over the commitment to decarbonization versus the continued extraction of oil and gas in the West.

Intergovernmental relations at all levels concerning California have legacy histories that shape current negotiations. Relations with the federal government have varied with the party in control of the presidency and have become generally more difficult over time due to rising partisan polarization. Relations between California and neighboring states have been shaped historically by bitter disputes over water rights and differences in the commitment to climate change goals. But on the positive side, there are economic opportunities to run electricity to California from abundant wind and solar in interior red states. While California looks uniformly blue in partisanship to the rest of the country, it is highly diverse, especially between coastal and interior California, and this shapes state-local government relations. Moreover, the relationship between state government and local entities has been chronically difficult due to long-standing concerns over unfunded mandates and other encroachments on local government sovereignty. Beyond domestic policy, intergovernmental relations with Mexico have morphed over time, driven by electoral turnover in both countries.
The basic poles in intergovernmental relations are between more coordinated versus more distributed and autonomous governmental entities. Traditionally, coordination tends to come from the top and is exerted on the units below. Foreign policy was always more difficult because lacking a formal power hierarchy, coordination had to be forged by negotiation between nations. But over time, coordination from the top and below has become more common, and now often includes stakeholders from the private and nonprofit sectors. While bottom-up and highly participatory processes take more time and effort, they can sometimes result in more stable, less contested outcomes. These general trends are at work in both the energy and water sectors.

Moreover, water and energy share one critical trajectory: namely, the goals of both water and energy policy have become more complex over time. In the 19th century, providing water resources in a predominantly arid and semi-arid was instrumental to population and agricultural growth. However, with the emergence of the environmental movement in the mid to late 20th century, an appreciation of how water policy and infrastructure affected the conservation of watershed habitat grew.

Similarly, as California’s electricity system was initially set up, it too was about providing reliable, affordable supply for a growing population and commercial sector in California. But over time and especially in recent decades, other goals have emerged, such as greening the energy sources of electricity, providing resource adequacy to compensate for the intermittency of weather dependent sources of power and energy justice for low-income groups. In other words, in both water and energy policy, the policy goals have multiplied over time, and, as a consequence, governments have needed to balance more competing demands on the supply of both.

Legacy institutions in both cases pose challenges to policy-makers today. When California’s current water policies were initially formulated, agriculture was the main commercial enterprise. To foster settlement and commerce, the government conferred water rights and subsidies on farmers. The federal government’s 1902 Reclamation Act, for instance, promoted irrigation in the arid areas of the west by constructing dams and reservoirs. By reducing repayment provisions and lowering prices for farmers, water became heavily subsidized and still is today. Moreover, the state got into the act of conferring water rights to farmers and building infrastructure to promote irrigation. In 1914, for instance, California adopted an appropriative water rights system that prioritized water allocations to farmers based on when they first made their claim and premised on their continued use of that allocation. And like the federal government, the state built water infrastructure that transported water from the north to the semi-arid areas of the south. A critical act was the successful passage of the State Water Resources Development Bond Act 1960 (i.e. the State Water Project), enabling extensive irrigation in the Central Valley.
Because individuals, companies and communities could lay claim to the water right under or their land, the ability to control and coordinate water use at the state level was weak and the number of local water entities proliferated. Farmers in recent decades have moved away from growing cheap crops that could be fallowed in drought years and moved toward planting higher value fruit and nut trees that could not be fallowed. When surface water was cut off during drought years, farmers then relied on groundwater resources to back up the missing surface water allocations. Over time, this led to critically overdrafted groundwater basins. While California has a state water plan process, and has enacted legislation that incentivizes more collaboration (e.g. the Integrated Regional Water Management and Groundwater Sustainability Acts), there is no mechanism that rationalizes water use in either the agricultural or housing sector. As a consequence, we continue to plant more orchards and to build more affordable housing in water-stressed areas of the state.

The electricity story is one of California moving toward more institutional decentralization and losing some of the policy coordination advantages that it enjoyed throughout most of the post-World War II period. The vertically integrated system relied heavily on large investor- and publicly-owned utilities regulated by the state legislature, the California Energy Commission and the California Public Utilities Commission. As mentioned before, the fact that the electricity grid must always be in balance between supply and demand and requires costly investments in generation and transmission meant that it had to operate at a large scale and could not be as fractionalized as California's water system. The main regulatory goals were to ensure that these monopolies would not exploit their market power for excess profit but still keep the lights on, so to speak.

But now the pressure to move away from fossil fuels and the possibility of more distributed systems of energy generation and battery storage have unleashed new pressures for more distributed governance. In the language of Marxism, a change in the means of production may be leading to change in the relations of production. Moreover, as mentioned before, there are multiple goals that need to be balanced: above all, decarbonization means shifting the supply of electricity from fossil fuels to clean energy and eventually eliminating gas and other fossil fuels from the state's energy portfolio. And as if this is not enough, the state has to do this power conversion in a way that minimizes cost to the businesses and consumers, is resilient to weather variations as it moves to renewables like wind and solar, and in a manner that is equitable and inclusive.

This would be hard enough if the major state agencies had retained total control over the electricity purchases, transmission and distribution, but the energy reforms in the last twenty years broke up the vertical integration of the utility sector and opened up a new hybrid form of load serving entities such as the community choice aggregators (CCAs). Most CCAs are local governments singly or in a Joint Powers Arrangement that purchase power for their communities while relaying on the transmission and distribution systems of the IOU in their
territory. These CCAs vary greatly in their technical capacity and their dedication to decarbonization goals: in wealthier liberal communities, the CCAs are rushing ahead to establish all clean energy portfolios, while in other less-advantaged communities they are struggling to stay afloat financially and still meet the state’s minimum renewable portfolio standards.

On the plus side this has led to some communities taking steps in terms of purchasing renewables in excess of what is required by the state’s renewable portfolio standard: on the minus side, this has lessened the ability of the state to control the transition to clean energy in a coherent way by ensuring the systems reliability and capacity to deal with extreme weather events. Moreover, there are ongoing tensions between the state and the local government LSEs over payments for older, long-term, expensive energy contracts, resource adequacy requirements, the fixed costs related to wildfires, and the like. The simpler system of the California Public Utilities Commission and the legislature overseeing a handful of large utilities has given way to multiple new CCAs and much more stakeholder involvement in setting the state energy priorities.

In short, water and energy governance are converging to some degree from their very different starting points. Both systems have to balance the benefits and costs of more centralized coordination versus more distributed systems.

**PROPOSALS FOR CHANGE**

In 2010, the Little Hoover commission argued that successful management of water would require reorganization of water agencies and that “water planning, management, rights and enforcement need not only to be located together, but fully integrated.” The report noted that without better management, California would be subject to court imposed legal solutions to meet environmental and contractual obligations. The Commission recommended that a new Department of Water Management become the state’s lead agency for water policy by taking on the planning and management functions in the Department of Water Resources and the responsibility for water rights and their enforcement residing in the State Water Resources Control Board. They argued that this would enable the state “to improve planning, better track progress on water conservation and efficiency, and improve the state’s ability to develop incentives to change the way Californians use water.” It would also “help streamline the water transfer process.” To do this, the Delta Water Master, a position created by the Sacramento-San Joaquin

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58 Ibid, page v.
Delta Reform Act of 2009, would also become part of the new department to further improve coordination. And other units such as the instream flow unit from the Water Branch of the Department of Fish and Game would also become part of the Department of Water Management.

The report also recommended an expanded role for the California Water Commission to have oversight over resource related general obligation bonds. It would also set guidelines for "minimum qualifications and competitive criteria for Integrated Water Management plans to separate the development of guidelines from the Department of Water Management that would administer grant and loan programs. Finally, the Commission proposed that the State Water Project, within the Department of Water Resources, become a separate organization operated outside the new Department of Water Management as a state-owned entity with an independent board. Locating the State Water Project outside the Department of Water Management "would remove the structural conflict to joining the water rights function and the water and management planning functions while also allowing the Department of Water Management to have independent regulatory oversight of the project through the added perspective of statewide management and planning."59 The Commission argued that these moves would avoid the conflict of interest inherent in having a planning and regulatory agency running a project that provides water. In general, the report argued that there should be a strong separation between those entities that provide water to users and the Department of Water Management which would plan, manage, and regulate those entities.

Over a decade later, there has not been much progress either on the Hoover Commission’s specific recommendations or towards achieving a more coherent water planning process generally. While the state’s water plan serves an informational purpose, it does not provide any enforceable planning guidance, especially on the problematic issues of water storage and water distribution due to future extreme weather. Efforts to stimulate better water planning through bond funded grant competitions and strengthened groundwater monitoring have had some success in the years since 2010, but for the most part, California has not achieved the kind of planning coherence and implementation influence needed.

In both water and energy, governance is still divided between the CPUC and other agencies (e.g., the California Energy Commission, State and Regional Water Resources Control Board, etc.). Especially in the instance of water, some consolidation of all the various local water entities would lower the total transaction and implementation costs. Australia is an example of a country that has accomplished some degree of local water board consolidation, reminding us that it is possible.

59 Ibid. page xii.
In retrospect, trying to reorganize water governance before there was a real commitment to a more coherent planning, implementation and enforcement process was doomed to be undermined. At some point, it will become more apparent that we do not have the planning processes for the energy and water systems that we need to deal with climate change effectively. The fact that California handled the 2012-16 drought so effectively using the Governor’s emergency powers suggests that if things get bad enough, the problems of fracture can be overcome. The key to success is that someone or some entity must have real authority to formulate a plan and enforce it. Similarly, we cannot make energy choices without a coherent effort to link energy choices at the local level regarding generation and storage with the state’s overall energy needs for resource adequacy, reliability, and resilience. Instead of considering agency jurisdictional issues first, perhaps water and energy governance planning needs to be more focused on what tasks and functions will be needed to plan and prepare for future climate change related demands, and then address the organizational issues that would make that happen.

For California to meet the multiple challenges of climate change it needs governing institutions that work across borders. These “trans-border institutions” must deal with problems at the level where they can be effectively managed. Water policy must consider watersheds, energy policy must consider transmission networks, and wildfire management must encompass entire forests. More generally, in the areas such as immigration, transportation, housing, and public safety, California must develop ways of working across borders that includes all the relevant decision-makers. The challenge will be to respect local control while brokering agreements that sometimes hurt local interests in order to avoid tragedies of the commons where everyone acting in their own narrow self-interest creates a collective catastrophe.

WATER AND ENERGY AND OTHER POLICY AREAS

Are the challenges of water and energy policy different in any important way from other types of policy? And if so, does it have implications for governance? Clearly, no modern society can operate without adequate water and energy supplies, so their critical importance stands out. But that said, policing, fire services, housing and transportation also have strong claims to being critical in modern society as well. A better explanation for thinking that water and energy policies are distinctive in some way is the theory of natural monopolies. This term refers to industries that tend to become monopolies due to inherent advantages that create barriers
to entry by competitors such as unique natural resources features, high start-up costs, or wide technological superiority. Water and energy fit the definition of natural monopolies in the sense that setting up the infrastructure for producing energy or clean water and then conveying it to households and businesses entails high costs. Once this infrastructure is established, it is hard for new entrants to compete except where communities have local access to these resources. Because monopolies can exploit their advantages to maximize their profits or neglect their services because their customers are captured, they have over time become highly regulated utilities overseen typically by agencies like the CPUC. In other cases, some communities came to the conclusion that they wanted to put water and energy under their direct community control and ownership run by accountable public officials. Hence, water and energy is in some places provided by POUs. When thought of this way, water and energy are governed in ways more like police and fire services.

This might seem like an abstract issue at first, but in reality, the governance tension between public control and regulated market coordination is very real for both water and energy. In both realms, there are private companies regulated by CPUC and publicly controlled utilities that are run by cities, joint powers authorities, and other local government entities. As discussed earlier, electricity was provided largely by three major regulated private utilities, but with the development of CCAs, energy governance in particular has become more complicated with local government officials responsible for energy purchases even while relying on the investor owned utilities for transmission, distributed and other services. In addition, behind-the-meter rooftop solar and potentially a build-out of local storage capacity has complicated the task of coordinating the grid to provide resiliencies and reliability.

While we see some efforts at more coordination of police and fire services, both still largely remain as public services maintained at the city and county level (see Table 6). Housing remains primarily in the private market, subject to zoning and various regulations about safety, equity and the like. The roads and highways portion of transportation has largely remained in the public sector, but as decarbonization efforts move forward, the tension over state versus local community control will likely grow as the state seeks to move toward ZEVs and building denser housing around transit lines. It also seems likely that the tensions between state and local or private and public will strengthen in the policy spaces that will be most closely affected by the state’s ambitious decarbonization goals and the damaging circumstances of more extreme weather.

This then leads us to consider another important difference between water and energy versus other policies: namely, the degree to which status quo policy might be disrupted in somewhat uncertain ways in the future due to climate change. While police and fire services will be stressed especially in emergency phases of extreme weather events, their services are largely related to
other kinds of challenges and events. Housing and transportation are somewhat higher up in the impacted services scale as areas of flooding and wildfire expand. But water and energy will be more fundamentally challenged by the tasks of decarbonization and resilience. Working out the political puzzle of finding a balance between coordination and self-governance will be critical as we shall see when considering various scenarios of climate change impacts in the Scenarios and Policy Recommendations report.

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<td>Limited Water markets</td>
<td>Mainly publicly financed</td>
<td>Markets with some exceptions</td>
<td>Markets with some exceptions</td>
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</tbody>
</table>

<table>
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<th>Immediacy of Coordinated Action</th>
<th>Energy</th>
<th>Water</th>
<th>Transportation</th>
<th>Housing</th>
<th>Police/Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>High/constant demand for delivery and future storage</td>
<td>Less immediate but storage/delivery critical in future</td>
<td>Variable in time</td>
<td>No, except emergencies</td>
<td>Variable</td>
<td></td>
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</table>

<table>
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<th>Geographic Scope</th>
<th>Energy</th>
<th>Water</th>
<th>Transportation</th>
<th>Housing</th>
<th>Police/Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional/Cross national</td>
<td>Across state local</td>
<td>Across state local</td>
<td>Local</td>
<td>Local</td>
<td></td>
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<table>
<thead>
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<th>Method of Coordination</th>
<th>Energy</th>
<th>Water</th>
<th>Transportation</th>
<th>Housing</th>
<th>Police/Fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical (CAISO, Western Interconnection)</td>
<td>Physical, legal, jurisdictional</td>
<td>Physical, CARB</td>
<td>Mostly local jurisdiction</td>
<td>Mostly state and local jurisdiction</td>
<td></td>
</tr>
</tbody>
</table>

*Table 6: Policy Area by Attribute*

*Source:* Authors.
TRENDS: CALIFORNIA IN THE AMERICAN FEDERAL SYSTEM - REPRESENTATION AND FOREIGN POLICY

TRENDS IN THE AMERICAN FEDERAL SYSTEM

Over the past 230 years of American federalism, the following trends have shaped the federal system:

Growing Scope of Problems: More and more problems have gone from being local, to statewide, to regional, to national, and even international. In the 19th century, commerce became more interstate and, in the 20th, global. Environmental and resource issues have gone from being ignored or simply local to becoming global. Transportation systems became national and interstate in the 20th century and now they, too, are global. Energy has been regional since the development of electric power, but the networks of transmission lines now operate on a continental scale. Water has been regional since Los Angeles filed for water rights to the Owens Rivers in 1905, and the Colorado River compact dates to 1922, but the issues have become even more statewide with the authorization of the California Aqueduct by California voters in 1960. Today, the issue involves all of the western states and Mexico. Security has always been international, but homeland security has now arisen as a global concern with local implications. Even housing, the pre-eminent local concern, now has become a regional one.

Growth in Federal Government Involvement: Through every major war in America’s history, the size of the federal government has increased. In addition the federal regulation begun with the Interstate Commerce Act (1887), the 16th Amendment’s authorization of the income tax (1913), the Depression and New Deal (e.g., Unemployment Insurance, Welfare, Social Security, the Wagner Act for labor, regulation of banks), and the Great Society (e.g., Food Stamps, Medicaid, environmental legislation) increased federal government involvement in all aspects of our lives in terms of regulations and intergovernmental and personal (e.g., Social Security or Medicare) transfers.

Growth in California State Government’s Involvement in Local Affairs: The passage of Proposition 13 in 1978 necessitated the growing involvement of California state government in funding local activities, especially education, but also police and basic services. In addition, local governments (especially counties) have become involved in administering federal government programs such as Medicaid or the Supplemental Nutrition Assistance Program (Cal-Fresh in California).
An Intertwining of Powers across all Three Levels: The idea of layer cake federalism has long ago been discarded with the realization that the federal system is more like a marble cake. One of the important features of this marble cake is that “the federal government consistently found it easier to enlist the states’ existing administrative apparatuses in the federal project than to build its own from scratch.”60 Another is that increasingly states and localities play important roles in foreign policy (e.g., climate change efforts), national security (e.g., immigration regulation), and the development of rights (e.g., marriage equality) – areas that have historically been thought of as national responsibilities. In a vivid metaphor, Heather Gerken argues that while states may have lost some sovereignty, they have the “power of the servant” to shape outcomes61 through their administrative roles and through their ability to make decisions (e.g., handing out marriage licenses for gay marriage) that later shape policies.

These first three trends suggest that higher levels of government are taking over from local levels, but the fourth trend indicates that the situation is more complicated than that. Lower levels are substantially more trusted than higher levels and their local knowledge, proximity, or contacts are often essential to the administration of a program. In addition, solutions have to be tailored to local conditions. They also have powers at the margins to affect policies by making decisions to provide sanctuaries to immigrants, offer marriage licenses to gay couples, and to set their own public health standards. Consequently, the challenge for the next 100 years is to find ways that will keep programs as local as possible, while implementing solutions that take into account regional, statewide, national and global conditions and trends. Doing this is especially important for California.

CALIFORNIA FACES ASIA, MEXICO, AND THE PACIFIC

Situated on the western edge of the North American continent on the Pacific Ocean, bordering on Mexico, and separated from the rest of the continent on the north and east by high mountains, California faces China, Japan, and India across the Pacific and Mexico to its south instead of the European powers across the Atlantic and Canada to its north that were the preoccupation of the original thirteen states, especially the northeastern states such as New York, New Jersey, and Pennsylvania. The population (40.9 million) of NY, NJ, and PA together is close to California’s (39.7 million) so they provide a useful comparison. California’s special connections to Asia, Mexico, and the Pacific are through people, trade, and history.

61 Ibid. 1704.
Consider people. Together, the Hispanic and Asian-American Pacific Islander (AAPI) populations in California form a majority (55%) of the population while they are only about one-quarter of the population of NY-NJ-PA. The Hispanic population in California is 39 percent and the Hispanic population in NY-NJ-PA is less than half that at 15.6 percent. The AAPI population in California is 16.5 percent and the AAPI population in NY-NJ-PA is less than half that at 8 percent.62

Consider trade and imports. China and Mexico dominate imports to California, but not to New York where Europe and Canada dominate. China alone accounts for about one-third of all imports to California. Mexico accounts for another one-eighth. About three-quarters of California’s imports are from Asia or Mexico (mostly from Asia), but only about 14 percent are from Canada and Europe combined (in equal proportions). In New York State, almost one-half of imports are from Europe or Canada (38% from Europe with another 10% from Canada), but only about 35 percent from Asia and Mexico combined (33% from Asia and 2% from Mexico) with only about one-eighth from China.63

Consider exports. In 2020, Asia and Mexico accounted for over 55 percent of California’s exports (two-fifths were to Asia and another one-sixth were to Mexico), but only a total of 33 percent of its exports were to Canada and Europe (one-fifth to Europe and another one-tenth to Canada). Exports to China (9.6%) alone ranked third behind Mexico (15.4%) and Canada (10.2%). For New York State, the reverse was true. Europe and Canada constituted a total of 54 percent of its exports (about one-third to Europe and another one-fifth to Canada), but Asia and Mexico constituted only a total of 26 percent of its exports (about one-fifth to Asia and a small percentage to Mexico).64

Consider history. California’s relationships with Mexico goes far beyond numbers of people, imports, and exports. California shares a border with Mexico and before Europeans came to America, there was a large and thriving population of Native Americans in both Alta (now the State of California) and Baja California (part of Mexico). Spanish involvement with California began with

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the entrance of Juan Rodríguez Cabrillo into San Diego Bay in September 1542. Spanish colonization of California began in 1769 with the establishment of a mission, and ended in 1821 with Mexico’s independence. California became part of the United States with the settlement of the Mexican-American War in 1848. This history is markedly different from that of the northeastern states that were engaged in the struggle between the French and English for North America culminating in France’s loss at Quebec City in 1759 and the eventual creation of the United States in 1787 and then the Dominion of Canada in 1867.

The visit of a Spanish Galleon to Morro Bay on California’s central coast in October 1587 with a largely Filipino crew initiated California’s relationship with Asia. Chinese immigration to California began in earnest with the Gold Rush in 1849. Japanese immigrants began coming in the second half of the 19th century. Mass migration of Filipinos began in large numbers in the twentieth century because they were U.S. nationals after the US annexation of the Philippines in 1898. Vietnamese came after the Vietnam War ended in the mid-1970s. Today, among the 16.5% of Californians who are Asian, the largest groups are Filipino (4%), Chinese (3.6%), Vietnamese (1.7%), South Asians (1.5%), Koreans (1.3%), and Japanese (1.1%).

CALIFORNIA’S UNIQUENESS

California is the largest U.S. state in population, the largest U.S. state in GDP only exceeded by the national economies of the U.S., China, Japan, and Germany, the third largest in land area—only Alaska and Texas are bigger, and the most diverse population except for Hawaii. California has the highest mountain in the continental United States, the third longest shoreline of any state, and extensive forests, deserts, and farmlands. It is the nation’s leading center for technological innovation, the greatest producer of agricultural goods, the greatest importer of goods, and the second greatest state in exports with only Texas bigger.

Although California’s history of exploiting its indigenous peoples, ravaging its environment, and excluding immigrants is of a piece with America’s history of xenophobia, racism, and careless use of its natural resources, in the past fifty years California has been a leader among the states in environmental legislation, in trying to reduce educational inequality, in making health care available to all, and in welcoming immigrants. And California’s innovations in technology, bio-medicine, space-flight, entertainment, and electric vehicles have led the world. Lord Bryce’s 1888 observation about California in The American Commonwealth still rings true. Of all the American states, only California could be a separate, self-sustaining nation.

California, simply because of its sheer size, sends more taxes to Washington, D.C. than any other state as well, and it is less dependent on federal dollars than three-quarters of the other states. But a better measure of its relationship with the federal government is the number of dollars that California receives for each tax dollar sent back east. Here California breaks-even – a recent study concluded that California gets one dollar back for each one dollar it sends to the federal government. Nine states fared worse (Illinois $0.94, Washington $0.94, Nebraska $0.93, New York $0.93, Ohio $0.90, Massachusetts $0.88, Minnesota $0.85, New Jersey $0.78, and Delaware $0.63). Because it breaks-even in its tax dollars and it is not very dependent upon federal largesse, California could be an independent nation. Interestingly, the study concludes that “Democratic-voting blue states tend to be wealthier and pay more to the federal government than they get. In contrast, Republican-voting red states tend to have less wealth and receive more federal government funds than they pay.”

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66 The measure is federal dollars as a percentage of the state budget. [https://www.moneygeek.com/living/states-most-reliant-federal-government/](https://www.moneygeek.com/living/states-most-reliant-federal-government/)

67 Ibid.

Yet, because of the Constitutional agreement that provided two Senators per state, as Figure 13 shows, California is the least well represented state in the Senate so that the average Californian’s representation in the Senate is about 1/68th of the smallest state, Wyoming. When a unit within a federation has vastly different power than other units in a crucial institution such as the Senate, the federalism literature speaks of “asymmetric federalism” that can create complica-

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69 Asymmetric federalism is not necessarily bad when it has been used to give unique powers in order to satisfy the distinctive needs of some units of the federation. For example, in Canada, three Supreme Court judges (of nine) must come from Quebec even though Quebec has only 24 percent of Canada’s population. Problems arise, however, when the asymmetries are thought to be unfair.
tions in the federal system.\textsuperscript{70} The problem for American federalism is exacerbated because there is a systemic asymmetry that disadvantages Democratic-voting states in several institutions,\textsuperscript{71} and California is decidedly Democratic. In the 2020 Presidential election, 63 percent of Californians voted for the Democrat and 34 percent voted for the Republican.

When Republicans control the Senate and the Presidency because of the asymmetries in the American federal system (which was arguably true in 2019-2021 in the 116\textsuperscript{th} Congress),\textsuperscript{72} then states such as California can feel under-represented. Matters are made worse when the President puts forth policies, such as those of Donald Trump, to increase taxation on states such as California with income taxes\textsuperscript{73} or to limit California’s independence with respect to environmental legislation by rolling back its right, that it has had for 50 years, to set special car emissions standards.\textsuperscript{74} Because California has different needs and aspirations than many other states, it feels unrepresented in these circumstances.

\textsuperscript{70} At least three other rules reflect asymmetries that disadvantage large states like California: There are slight asymmetries even in the House of Representations because states must have at least one representative even if they fall, as some states do now, beneath the population threshold for a seat. The number of votes for a state in the Electoral College is asymmetric because it is based upon the number of Senate and House seats. The Constitutional rule for deciding a Presidential election in which no candidate gets enough electoral votes is that each state delegation in the House gets one vote.

\textsuperscript{71} The Electoral College is the best known and Democrats have to get about two percent more in the popular vote than Republicans to win the Electoral College vote. See Robert S. Erikson and Karl Sigman, 2020, “Electoral College Bias and the 2020 Presidential Election,” Proceedings of the National Academy of Science, 117(45) 27940-27944. These authors show, however, that from 1980 to 2012, there was little bias in the Electoral College. On the bias in the senate see: https://www.vox.com/policy-and-politics/2019/12/17/21011079/senate-bias-2020-data-for-progress. Also see, “Advantage GOP: Why Democrats have to win large majorities in order to govern while Republicans don’t need majorities at all,” FiveThirtyEight, https://fivethirtyeight.com/features/advantage-gop/

\textsuperscript{72} Donald Trump lost the popular vote in 2016 but won the Presidency because of the asymmetries in the Electoral College. The Republicans controlled the Senate in 2019 by a small number of seats while the House, based upon popular vote, was decisively controlled by the Democrats leading to the possibility that an apportionment of Senators based upon population might have produced a Democratic Senate.


QUEBEC AS A MODEL FOR OPERATING IN A FEDERAL SYSTEM

The province of Quebec in Canada provides an example of how a state might think about its place in a federal system when it feels disadvantaged. Quebec is one of ten provinces (and three territories) in Canada. Unlike most of the rest of Canada, Quebec was settled by the French in the 16th through 18th centuries and has a sizable French speaking population. Although it was one of the founding partners along with Ontario, New Brunswick and Nova Scotia of the Dominion of Canada in 1867, its history, culture, French language, and customs distinguished it from the rest of Canada that was mostly English speaking and strongly tied to the British Empire. These differences became especially acute at times of war with the conscription crises in 1917 and 1944 in which French Canadians contested the right of the government to conscript them into the armed forces to fight the world wars in Europe.

During the first part of the 20th century Quebec developed economically and moved on from being primarily an agricultural society closely tied to the Catholic Church. In the 1960s, a Quebec independence movement started and it grew throughout the rest of the century. This movement pushed for Quebec having a “special status” within Canada’s Constitution and, episodically, for the sovereignty and independence of Quebec. In 1965, Quebec was allowed to “opt out” of certain federal programs, but that option has waxed and waned. During the 1969-1979 period, Prime Minister Pierre Trudeau passed legislation creating a bilingual Canada that gave full rights to the French language as well as English. Despite these efforts, in 1976 the Parti Québécois won control in Quebec based upon a separatist program. They pushed for a sovereignty referendum in 1980 in Quebec that was rejected by 60 percent of the voters. In the 1982 Canadian Constitution, Quebec did not get the designation of “special status” that it wanted, and the Constitution was approved by nine of the ten provinces but not by Quebec. Attempts to provide for special status, in reduced form, were made in the Meech Lake Accord (1987) and in the Charlottetown Accord (1992), but neither succeeded and a national referendum on the Charlottetown Accord was rejected within Quebec as well as by the rest of Canada.

Quebec and Canada are still working out the consequences of Quebec’s continuing concerns about its place in Canada. A second sovereignty referendum in 1995 barely lost by a 50.58 percent to 49.42 percent margin. In November 2006, the Quebec nation motion was passed (265-16) in the Canadian Parliament that recognized that the Québécois form a nation within a united Canada. At the moment, Quebec seems reconciled to its position within Canada, partly

75 “Que cette Chambre reconnaissait que les Québécoises et les Québécois forment une nation au sein d’un Canada uni.”
because it has made advances over the past 60 years in terms of language recognition and special rights within the Dominion of Canada, but it still works toward having a special status and veto powers within Canada.

Quebec has been involved in its own efforts to define its identity and its place within Canadian federalism. On the 150th anniversary of the Canadian Federation in 2017, the Quebec government released a report that “defines and names Quebec’s plural and inclusive national identity.” In a forward, the Minister Responsible for Canadian Relations and the Canadian Francophonie says:

“Last, we want to agree on actual ways to strengthen our relationship [with Canada]. These include asymmetry, which must be seen in its true meaning as a way to encourage participation rather than to withdraw from the debate. By ensuring that Québec’s specific characteristics are respected, differential treatment becomes a way to ensure equal treatment for all the provinces. Cooperation will encourage flexibility, not the imposition of a single model.”

In the past 60 years, Quebec has done the following:

**Foreign Relations:** Created “Maisons du Quebec” in Paris (1961) and London (1962) for advancing the international interests of Quebec despite the protests of the federal government in Ottawa. Today, Quebec “has a wide network of 26 delegations around the world, including delegations with shared occupation in Canada’s representations in China and India, as well as within Canada’s permanent delegation to UNESCO. It has signed over 750 international agreements with nearly 80 foreign states. Québec is a full member of the Organisation internationale de la Francophonie.” An agreement of May 5, 2006 between the government of Quebec and Canada now allows Quebec to be represented on Canada’s permanent delegation to UNESCO, and “for the first time, it confirms the right of the Government of Québec to make its voice heard within an organization of the United Nations.”

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77 Ibid. page 101.

Quebec’s Relations with Provinces and the Canadian Government: Created a Secretariat of Intergovernmental Affairs in 1961 for facilitating relationships with other provinces and the federal government. “In 2015-2016 alone, Quebec was party to 62 intergovernmental agreements.”\(^9\) Recently these agreements have included:

- One on the Canadian Free Trade Agreement in 2017 between Quebec and the government of Canada,
- Comprehensive Integrated Tax Coordination Agreement between the Government of Canada and the Government of Quebec,
- Quebec-Ontario agreements on electricity, trade and cooperation and the fight against climate change. These agreements connected the Ontario cap-and-trade system for greenhouse gas emission rights to the joint Québec/California market, starting on January 1, 2018.

Quebec’s Policy Agreements with the Canadian Government

- Developed, in conjunction with the federal government, an immigration policy that gives the Government of Quebec an exclusive power to select immigrants who wish to settle in Quebec and some control over the quotas for immigrants.
- Developed rights to “opt-out” of federal government initiatives (e.g., health and parental leave) at certain times – typically with promises that the province would provide similar services financed through a reduction in federal taxation that otherwise would have gone to the federal program.

Quebec’s Relationships with Civil Society: In October 2017, the Secretariat of Intergovernmental Affairs became the Secrétariat du Québec aux relations Canadiennes (SQRC) in order to confirm the broadening of its mandate beyond intergovernmental relations to working with civil society as well.\(^8\) This Secretariat was tasked with:

\(^9\) Ibid. page 115.

\(^8\) “The SQRC will help defend and promote Québec’s interests and its vision of Canada, particularly in connection with citizens’ groups, business, social and academic communities and the French-speaking communities. The SQRC will implement a new structure for strategic monitoring, reflection and action, and will seek new input from all government departments and bodies.” (Ibid., 134) “Québec intends to increase its presence on the Canadian stage to make its voice heard and ensure that its concerns are better understood. This will be achieved through active involvement in the university sector, with business and social groups, on traditional and social media, and everywhere Québec’s voice must be heard to project the vision and goals of its government.” (page 141)
Creating active youth programs related to the Canadian Francophonie,

Working with universities to create programs on Quebec’s distinctive role,

Developing an active media presence regarding Quebec’s distinctive history and role.

Over the past 60 years, Quebec has become increasingly active in working in all directions – with foreign governments, with other provinces, with the Canadian government, and most recently with civil society – to advance the interests of Quebec.

CALIFORNIA’S INTERGOVERNMENTAL ACTIONS AND FOREIGN POLICY TO INCREASE ITS INFLUENCE

California’s situation, of course, is different from that of Quebec. California is not a founding member of the United States, a majority of its population does not speak a language other than English (about three-quarters of Quebeckers speak French and about one-quarter of Californians speak Spanish), it has not had a strong sovereigntist movement, and California’s population is not as large a part of the United States (12%) as Quebec is of Canada (24%). But California is distinctive in many ways, and it certainly has reasons to push for a recognition of that distinctiveness. How should it do that?

Pushing to leave a federal system as Quebec has done is the “nuclear option” and often not credible. Certainly federal systems have fallen apart because of secession (e.g., the Soviet Union, East and West Pakistan, Yugoslavia, Czechoslovakia), but the American Civil War settled the question of whether American federalism allowed for peaceful secession and it created a long-lasting distaste for it. The Quebec case shows that other actions are possible. Quebec forcefully makes the case for its distinctiveness because of its language and one can imagine that California might make a similar case based upon its diversity and need for immigration. It can also claim that it has an especially fragile environment which requires special powers and perquisites. And California’s concerns about the unrepresentative Senate could gain some traction, just as the anachronistic, appointed Senate in Canada has undergone some reform based upon concerns expressed by all Canadians but especially by those in Quebec who see it as a way to protect their distinctive position in Canadian federalism.81

California is following Quebec’s example in a number of ways. The federal government has, since the 1970s, accorded California a unique role in setting automobile emissions standards that exceed the federal standard, through a waiver of the federal Clean Air Act. Recently, California has expanded immigrant rights on a variety of issues, including access to health benefits, in-state tuition, and financial aid, and the right to practice various occupations that far exceed the national standard and serve as a benchmark for other states.

California has also followed Quebec’s example by filing cases against the federal government to defend its rights and by creating units across levels of government to develop ties with other governments. Like Quebec, California has engaged in substantial legal action to roll-back federal policies it finds inimical. During the Trump years, the California Attorney General spent at least $41 million to file 110 lawsuits contesting federal government actions with respect to climate change, consumer rights, immigration, and other areas. Many of these are multistate lawsuits in which other states join. Also, many of these lawsuits contest not federal law itself, but the way that the law is administered. This legal strategy has been successful with the state winning more lawsuits than it has lost and covering the costs of its lawsuits with monetary settlements from the federal government.

California has also created new positions for those to engage internationally. Governor Gavin Newsom issued executive order N-08-19 on February 28, 2019 establishing Lt. Governor Eleni Kounalakis as the Governor’s Representative for International Affairs and Trade Development and creating the International Affairs and Trade Development Interagency Committee. Los Angeles has appointed a Deputy Mayor for International Affairs, Nina Hachigian who is a former U.S. Ambassador to the Association of Southeast Asian Nations (ASEAN). The Office focuses on increasing foreign investment and tourism to the city, building stronger relationships with the diplomatic corps of over 50 foreign consulates operating in the city, and working directly with other global cities on solutions to combating growing inequality and addressing climate change.

The International Affairs and Trade Development Interagency Committee is chaired by the Lt. Governor and the Vice Chair who is Director of the Governor’s Office of Business and Economic Development. The members are the heads of the California Energy Commission, Department of

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85 Lyons, op cit.
Food and Agriculture, Natural Resources Agency, Office of Emergency Services, Environmental Protection Agency, State Transportation Agency, Visit California, Air Resources Board, and the Governor’s Office of Planning and Research. Reading its minutes, there is, as we might expect given the Committee’s name and the prominent role of the head of the Governor’s Office of Business and Economic development as Vice Chair, a heavy emphasis on foreign trade and investment and the movement of people and goods across the Mexico-U.S. border and into the air and water ports. This concern with logistics in 2019 proved to be prescient, and by the December 21, 2021 meeting, the Vice Chair noted the establishment of an interagency supply chain task force to solve the logistics problems created by COVID. In addition, given the composition of the committee, there is an emphasis on the impacts of climate change on agriculture, the environment, energy production, and emergency preparedness (e.g., wildfires).

MOU’s figure prominently in the discussions: the August 27, 2019 minutes talk about eight MOUs with Mexico in the past six years with Mexico on clean air, energy, the economy, emergency services, and tourism. Through the Under2 Coalition (the name refers to limiting the increase in temperature due to climate change) supported by the state of California, 220 subnational governments agreed to Paris goals of which one was Mexico and 17 were subnational governments in Mexico. Trade missions, trade fairs, international delegations, and other forms of international contact are also mentioned repeatedly. A typical summary of activity is this one by the chair and Lt. Governor at the December 14, 2021 meeting:

At COP26 [climate conference] she signed a series of multilateral agreements on behalf of the state related to zero-emissions vehicles, forest protection, methane production, and biodiversity conservation. The Lieutenant Governor emphasized the essential role played by Mexico as a trade partner for the state, with reference to ongoing efforts surrounding the Otay Mesa East Port of Entry border crossing and the revitalized Commission of the Californias.

It is clear that this Committee serves an important purpose in facilitating and encouraging foreign trade and investment, working with Mexico, and providing leadership on issues related to climate change. And there can be no doubt about California working to be seen as a leader on climate change. But at least from the minutes, it does not appear that there is a vision of California that matches the kind of efforts by Quebec to define and nurture its distinctiveness. A comment by the chair of the California Energy Commission on May 30, 2019 hints at this. He spoke

86 See https://business.ca.gov/advantages/international-trade-and-investment/international-affairs-trade-development-interagency-committee/ and go to https://business.ca.gov/about/publications/ and then click on “International Affairs and Trade.”
of the importance of targeting delegation invitations and emphasizing California’s success in tackling climate change while strengthening the economy. He recommended a ‘success story’ tour, including stops at Tesla, which makes 1,000 cars a day, as well as stops at L.A. cleantech incubators, tourism, and audiences with top decision makers.

California appears to be just beginning to find a footing in what has come to be called “public diplomacy.”87 The University of Southern California offers a master’s degree in “public diplomacy” and it has a Center on Public Diplomacy. The Center’s web page explains the term as follows:

“In the past few decades, public diplomacy has been widely seen as the transparent means by which a sovereign country communicates with publics in other countries aimed at informing and influencing audiences overseas for the purpose of promoting the national interest and advancing its foreign policy goals. In this traditional view, public diplomacy is seen as an integral part of state-to-state diplomacy, by which is meant the conduct of official relations, typically in private, between official representatives (leaders and diplomats) representing sovereign states. In this sense, public diplomacy includes such activities as educational exchange programs for scholars and students; visitor programs; language training; cultural events and exchanges; and radio and television broadcasting. Such activities usually focused on improving the “sending” country’s image or reputation as a way to shape the wider policy environment in the “receiving” country.”88

This definition focuses on diplomacy among nations, but it can be easily extended to include, as Quebec has done, interchanges between states or provinces in a federal system and even work with civil society. Indeed, Quebec’s greatest success has been in typing together its definition of Quebec, its outreach beyond Canada, its outreach to other provinces, and now its outreach to civil society throughout Canada and around the world.

Los Angeles is a leader in this public diplomacy effort. In April 2018, the USC Center on Public Diplomacy partnered with the Los Angeles Mayor’s Office of International Affairs to bring together city leaders from 17 U.S. cities with a responsibility for international relations to discuss city diplo-

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That conference identified five ways in which cities (especially large cities) are involved in public diplomacy:

- **Economic Development:** Cities, especially those with air or water ports, work to increase trade, to facilitate transportation, and to attract investment.

- **Diplomatic Representatives and Protocol:** Los Angeles has over 50 foreign consulates. Cities are responsible for ensuring the safety of these consulates and visitors to them. They provide opportunities for the city to reach out and to make connections that will benefit local businesses and residents.

- **Global Policy Collaboration and Action:** Cities across the globe have common problems, and coalitions have developed to provide help to one another. “For example, U.S. Cities such as Los Angeles are part of Cities Alliance, Under2 Coalition, and the Global Covenant of Mayors.”

- **Community Engagement and Civic Empowerment:** Cities have diverse populations, and they require the trust of those populations to operate effectively. “Sister-cities” have been a time-honored way in which the leaders in cities recognize their affinities with other countries and places. Los Angeles has 25 sister cities, and they reflect the ethnic diversity of the city.

- **Hosting Special International Events:** The most coveted international event is the Olympics, but other events also can affect a city’s economy, prestige, or influence.

The report concludes, as this list suggests, that “the current landscape of city diplomacy is diverse and primarily function driven.” This same statement could be made about public diplomacy at the state level. The report goes on to say that public diplomacy works best when

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90 Ibid., page 3.


92 Ibid, page 5.
it is policy driven. The Quebec example demonstrates this. Quebec has a clear-cut notion of what it wants and how it will proceed to get there. The challenge for California is to develop a similar vision. Leadership on climate change is certainly a trademark for California, but more needs to be done to produce a broader vision of what California is and what it can be. Although there is consultation among the Governor, the State Attorney General, the Lt. Governor, and the Deputy Mayor in Los Angeles, more could be done to bring these separate efforts together. By doing this, California can make a case for why it should be given distinctive powers and rights within the U.S. federal system that are commensurate with its needs, with its size and population, and with its leadership role.

**CALIFORNIA’S FUTURE RELATIONSHIP WITH MEXICO AND LATIN AMERICA**

Relationships with Mexico and Asia, especially China, are important to California. This report has already described the many ways in which California is increasingly involved with Mexico in energy, water, and environmental issues. Concerns with immigration are another major connection between Mexico and California. The United States is Mexico’s most important trading partner (80% of its exports and 45% of its imports) and much of that relationship is between California and Mexico although Texas also has a major relationship with Mexico. Because California and Mexico share a border, this relationship is very local in twin cities such as San Diego and Tijuana and Calexico, California and Mexicali, Baja California. The relationship is also profoundly affected by national politics which provides additional reasons why California must be involved with Mexico.

There is every reason to believe that America’s relationship with Mexico and with Latin America will become more and more important as time goes on. Latin America as a whole has a population of about 665 million people, and it has a shared history with the United States of colonization and independence movements. With the increasing concern about trading with reliable partners, Mexico and other Latin American countries provide an opportunity, much like Canada, for establishing long-term, stable relationships that will survive changes in the international system.

**CALIFORNIA’S RELATIONSHIP WITH CHINA**

China is especially important because it is a rising superpower, major source of imports, an important destination for exports with a market of 1.4 billion people, and a technological rival.
In a recent book (2019), journalist Matt Sheehan names the relationship “The Transpacific Experiment: How China and California Collaborate and Compete for Our Future.” He defines it as:

The Transpacific Experiment is the living laboratory for a new breed of grassroots superpower diplomacy. It is the fluid ecosystem of students, entrepreneurs, investors, immigrants, and ideas bouncing back and forth between the Golden State and the Middle Kingdom. It’s the Chinese undergrads expanding their horizons on California campuses, and the Silicon Valley start-ups scratching for a toehold in China; the California mayors courting Chinese factory investment, and the Chinese Governors studying California carbon markets.”

Sheehan recounts the many ways that China and California are intertwined. California universities have educated large numbers of Chinese students at both the undergraduate and graduate levels. Silicon Valley was first a destination for many of these students and then an ideal to be replicated in China through the creation of home-grown companies that now compete with American rivals: Alibaba (started in 1999) competes with eBay (1995) and Amazon (1994) for online commerce, Baidu (2000) competes with Google (1998) for search, Weibo (2009) competes with Twitter (2006) for micro-blogging, and WeChat (2011) competes with Facebook (2004) for social networking. Sheehan goes on to discuss California’s quest for Chinese capital in both the real-estate and business sectors, and the complexity of Hollywood’s relationship with China as movie-makers in California try to break into the Chinese market.

In a deep and profound way, the California-China relationship involves the clash of two separate systems that are now organizing the world and two distinct ways to think about the world and those systems. The two systems are the traditional nation-state system of separate nations with prerogatives and perquisites and the Internet which organizes the world in networks of people, enterprises, and things. The nation-state system goes back at least to the Treaty of Westphalia (1648), and it is based upon geographical boundaries, powerful hierarchical nation-states, and an emphasis upon security and protection of its populations even if that means limiting freedoms. The creators of the Internet in Silicon Valley envisaged a world where people-to-people communication would empower people and allow for more freedom and democracy. The Internet knows no boundaries (and less-and-less so as AI makes possible the immediate translation of languages), it creates grass-roots social networks, and it focuses on free flow of information even if that means creating disinformation, allowing bullying, and facilitating the activities of terrorist organizations.

The two ways to think about the world are, on the one hand, the West’s long-standing commitment to liberalism, free trade, free speech, democracy, and globalization and, on the other hand, China’s traditional concerns for order and hierarchy hardened by communism’s distrust of democracy, faith in the dictatorship of the proletariat, and belief in the leading role of the Communist Party. The West’s commitment to its world-view increased with the end of the Cold War in 1991 that made it seem possible to have a liberal world order with free trade, democracy, and globalization. For Americans, the Internet appeared to be part of this strategy that would empower the world’s populations. The Chinese Communist Party’s commitment to order and hierarchy were increased with the shocks of the Tiananmen Square protests (1989), the dissolution of the Soviet Union (1991), the Arab Spring in the early 2010s where the Internet brought people together to overthrow their governments, and the revelations of Edward Snowden in 2013 that showed that the U.S. National Security Agency had created “backdoors” to American Internet software that facilitated its spying on users. These and other events have led China to reject a free internet.

China became connected to the Internet in 1994, and from the beginning it worried about increasing connections to the outside world. It soon created “The Great Firewall” that censored any material that suggested taking steps against the government. It blocked Google’s growth in China leading to Google’s exit from the Chinese market in 2010. It encouraged indigenous competitors to Twitter, Amazon, Google, Facebook and other foreign (mostly American) companies. With the ascendance of President Xi Jinping in 2012, China developed a new model for the internet called “Internet Sovereignty” or “Cyber Sovereignty.” In 2014 at the World Internet Conference in Wuzhen, China circulated a declaration that called for respecting a country’s rights to

94 There is debate about the role of social media, but the important issue here is whether China believed that the Internet played a role. Despite the debate, it seems likely that social media played a role, see: Heather Brown, Emily Guskin, and Amy Mitchell, 2012, “The Role of Social Media in the Araba Uprisings, Pew Research Center, https://www.pewresearch.org/journalism/2012/11/28/role-social-media-arab-uprisings/


the development, use, and governance of the Internet. In the past eight years, China has vigorously enforced censorship on the web, and used it to monitor the actions of its citizens.\textsuperscript{98}

With the rise of disinformation on the web, calls for internet regulation have gained a foothold in the United States as well, and one of the great challenges of the next decade will be developing better ways to govern the internet while both respecting and limiting state power so that the internet can be as free as possible. California will undoubtedly be at the center of these efforts that will constitute an important element of public diplomacy.

\section*{The Future of California's Relationships with Asia and Latin America}

California will have ever greater relationships with Asia and Mexico and Latin America in the future. Among the top 20 countries in population in 2022,\textsuperscript{99} nine of them are in Asia and two are in Latin America: China (number 1), India (2), Indonesia (4), Pakistan (5), Brazil (6), Bangladesh (8), Mexico (10), Japan (11), Philippines (13), Vietnam (15), and Thailand (20). Many of these already are important trading partners for California (China, India, Indonesia, Mexico, Japan, Philippines, Vietnam, Thailand, and Brazil) along with South Korea, Taiwan, Hong Kong, Singapore, and Malaysia. Shaping and defining these relationships is an important task of public diplomacy as the world navigates toward a world order that is more resilient and sustainable, that continues to innovate, and that one hopes becomes more equitable while respecting diversity. California is an important player in these efforts, and it needs to develop policies regarding people, education, trade, culture, and the internet that will ensure its future prosperity.

\textsuperscript{98} In 2021 Freedom House rated the internet in China as “Not Free” and “profoundly oppressive.” It “confirmed the country’s status as the world’s worst abuser of internet freedom for the seventh consecutive year.” \url{https://freedomhouse.org/country/china/freedom-net/2021}

CONCLUSIONS

SOLVING INTERGOVERNMENTAL RELATIONS PROBLEMS WITHIN ITS BORDERS

California must solve some difficult intergovernmental relations problems within its borders during the next 100 years. As chronicled above, it has had substantial success in energy where it has been a leader in the move toward renewable energy sources.\(^{100}\) It has also been successful in health care where its implementation of the Affordable Care Act has been a model for the nation,\(^{101}\) but it still faces two big challenges in controlling health care costs and making the California health care system more coordinated and accessible.\(^ {102}\) California’s criminal justice reforms have demonstrated the possibility of substantially reducing prison populations without increasing crime, but it has not decreased prison costs by very much.\(^{103}\) California’s higher education system still leads the world, and it has built a highly innovative economy on that system and other advantages.\(^{104}\) It has had some success with improving its K-12 system through the Local Control Funding Formula, but there is a long way to go given the underfunding of K-12 compared to other states.\(^{105}\) It faces challenges in the solution of its water problems as described above, and it faces great difficulties in solving its housing and homelessness,


transportation, poverty, and water problems.\textsuperscript{106} The state also has to develop ways to sustain the flow of immigrants, to welcome them to California, and to coordinate its policies with the federal government.\textsuperscript{107} Finally, California has to develop a coherent policy for the arts that recognizes both its economic and cultural value.\textsuperscript{108}

Solutions to these problems require thinking harder about the assignment of responsibilities across levels of the federal system, developing better methods of coordination horizontally and vertically, and ensuring that the federal government facilitates solutions. Yet California seldom thinks about its governance in this way. The state’s Little Hoover Commission is specifically authorized to help the Governor think about organizational matters, but it has focused on policy, personnel, and administration more than on organization with some notable exceptions.\textsuperscript{109} It seems likely that the state of California is underinvesting in thinking about its governance, and more could be done to challenge researchers to think about ways to improve California’s organization and governance.

**ADDRESSING INTERGOVERNMENTAL RELATIONS PROBLEMS OUTSIDE ITS BORDERS**

California must also develop a perspective on its identity and role within the U.S. Federal system, develop ways to function effectively with a federal government that might be unfriendly at times, and develop linkages with foreign governments who can help it resolve problems and


\textsuperscript{109} Of the 69 reports listed on its website (https://lhc.ca.gov/report-library) since 2010, about 90 percent have been on policy, personnel, or administration. There are, however, six notable reports on organizational matters although they date back five years or more: #237, August 2017, “Special Districts: Improving Oversight and Transparency”; #218, October 2013, “A New Plan for a New Economy: Reimagining Higher Education”; #211, May 2012, “A Review of Government Reorganization Plan No. 2”; # 206, June 2022, “A Review of the Governor’s Reorganization Plan to Unify and Streamline the California State Personnel System”; #201, August 2010, “Managing for Change: Modernizing California’s Water Governance;” and #200, February 2010, “Making up for Lost Ground: Creating a Governor’s Office of Economic Development”.

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provide it with allies in its quest to solve problems. Quebec provides a model for what might be done. Central to this effort is the development of a California identity that can guide its efforts. The Attorney General’s lawsuits against the Trump administration reflect certain priorities such as dealing with climate change and immigration, but they are not put forth as part of an overall vision. Governor Newsom’s naming of the Lt. Governor as Representative for International Affairs and Trade Development and Mayor Garcetti’s naming of a Deputy Mayor for International Affairs in Los Angeles reflect a realization about the importance of linkages beyond California, but these efforts could grow beyond facilitating trade and international exchanges if they were thought of as part of a coherent strategy to develop an identity for California within the U.S. federal system and the world.

DEVELOPING AN INTER-GOVERNMENTAL, TRANS-BORDER VISION

A satisfactory vision for California’s future should include continued intergovernmental policy leadership on climate change, criminal justice, and health care. It should include innovative policies in education, housing, transportation, water, and other policy areas. Beyond that, it should develop an agenda for public diplomacy with other countries, especially Mexico and China, that ties together innovative immigration policies such as expanding voting rights and issuing work authorizations for immigrants with astute thinking about how a state at the epicenter of the internet revolution can help to develop better ways to govern the digital world and to relate to its partners in Asia and Latin America and around the world.