



Evaluation of California State and Regional Transportation Plans and Their Prospects for Attaining State Goals

SUMMARY AND SYNTHESIS

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WHITE PAPERS IN THE SERIES INCLUDE:

A Brief History of Transportation Policies and Institutions

Review of Statewide Transportation Plans for California

MPO Planning and Implementation of State Policy Goals

Examination of Key Transportation Funding Programs in California and Their Context

Flexibility in California Transportation Funding Programs and Implications for More Climate-Aligned Spending



1. Purpose of This Report

Assembly Bill (AB) 285 (Friedman, 2019) requires the California Strategic Growth Council (SGC) to submit a report to the Legislature by January 31, 2022, that includes the following:

- An overview of the California Transportation Plan (CTP).
- An overview of all regional Sustainable Communities Strategies (SCS) and any alternative planning strategies, as needed.
- An assessment of how the implementation of the CTP and regional plans “will influence the configuration of the statewide integrated multimodal transportation system.”
- A “review of the potential impacts and opportunities for coordination” of key state funding programs,” to be conducted in consultation with the administering agencies.
- Recommendations for the improvement of these programs or other relevant transportation funding programs to better align the programs to meet long-term common goals, including the goals outlined in the CTP.

In spring 2021, the SGC contracted with the University of California (UC) to provide materials supporting its report to the Legislature. Researchers at the UC Berkeley Institute of Transportation Studies (ITS), UC Davis ITS, UCLA ITS, and Berkeley Law joined forces to prepare a series of papers to provide the evidentiary basis for the project. The UC Berkeley principal investigator coordinated the work and prepared this final summary report.

The report is based on findings from the professional and academic literature, a detailed analysis of the identified plans and programs of concern, meetings with staff of the agencies whose plans are being reviewed, feedback from briefings and presentations on draft findings, and nearly 100 hours of individual interviews with stakeholders across California.

2. Background

California has adopted ambitious goals for its transportation systems. The state has pledged to reduce greenhouse gas (GHG) emissions by 40 percent compared to 1990 levels, and by 80 percent by 2050, and also has committed to achieve carbon neutrality by 2045. With transportation California’s biggest emitter of GHGs, substantial changes in transportation vehicles, fuels, operations, and user choices must be achieved to meet the state’s emission reduction targets.

Climate change targets are urgent because without major action over the next three decades, global temperatures are projected to rise by 2.5 °C to 4.5 °C (4.5 °F to 8 °F) by 2100. Such temperature increases would have catastrophic effects on global health and safety and on the economy. Severe storms, floods, drought, and wildfires would become more frequent, and oceans would rise, threatening coastal cities. Because GHGs build up in the atmosphere and persist for long periods of time, some climate change is inevitable, absent a major technological breakthrough in carbon capture technologies. For these reasons, aggressive action using available emission reduction techniques is considered the best way forward.

Although climate change is a global issue, state governments have the power to alter GHG emission patterns significantly using their legal, regulatory, and planning authorities. By offering leadership, California can show the way for other states and countries to lower emissions and, in many cases, establish partnerships with others. In addition, many measures that reduce GHG emissions have important co-benefits. For example, cleaner vehicles and fuels reduce exposures to dangerous pollutants, and transportation alternatives offer healthy travel choices.

As pressing as climate change goals must be, other goals remain important. California has pledged to maintain its transportation infrastructure in a state of good repair, provide for safe operations, support economic development, meet state and national ambient air quality standards, protect the state's natural environment, and coordinate urban transportation with housing policies, and do so in a way that is equitable for all and improves quality of life. This ambitious set of goals places considerable responsibility on transportation planners and decision-makers.

A series of state initiatives has moved the state toward zero-emission vehicles (ZEV), cleaner fuels, and transportation and land use measures that reduce vehicle miles traveled (VMT). Nevertheless, a 2018 assessment by the California Air Resources Board (CARB) found that the State of California is at risk of missing its 2030 GHG emissions reduction target for transportation-related emissions, in part due to increases in VMT. Since then, CARB has taken steps to tighten its requirements, the California Department of Transportation (Caltrans) has updated its plans and planning guidance, and metropolitan planning agencies (MPO) and their partners (transit agencies, county transportation commissions, cities) have updated their plans and programs, which include both transportation and land use elements. However, concerns remain that unless the planned actions are expeditiously implemented and effective, emission reduction targets will still be missed.

California's transportation plans for the most part have been developed in a context of anticipated growth in population and the economy. In a business-as-usual context, such growth is associated with increases in travel. Nationwide, for example, the Federal Highway Administration (FHWA) has projected that VMT will continue to increase as the result of population increases, rising disposable income, increased GDP, growth in the goods component of GDP, and relatively steady fuel prices. For California to buck these trends would require a large-scale, concerted effort.

The COVID-19 pandemic has added considerable uncertainty to transportation planning. It disrupted daily life and led to massive reductions in travel, with shared ride modes hit especially hard, and a significant portion of the population out of work or working from home. California's population actually dropped slightly, due in part to COVID deaths, and the number of jobs declined. As recovery from the pandemic occurs in fits and starts, whether and to what extent pandemic-induced changes will persist remains in question. Population growth appears to have resumed, and job recovery has been strong. Major issues include whether telecommuting and e-commerce will remain popular and whether avoidance of shared modes will continue. Recent nationwide data from the federal government indicates that trip making has already returned to pre-pandemic levels, and VMT for both passengers and freight are almost back to previous highs. Transit use is recovering much more slowly.

While uncertainties about past assumptions create concerns about plans for the future, new possibilities for positive change are also on the horizon. Climate-friendly transportation options, from high-speed rail to hydrogen-powered buses and freight vehicles to bike sharing, are being added to the transportation mix. Transportation vehicles and fuels that promise greatly improved energy and emissions performance are being developed—vehicle electrification and automation are examples. Operations strategies that reduce congestion without requiring road widening are becoming available. How fast these technologies will be widely available and used is unclear, but their potential needs to be considered in plans that aim to steer actions for the next 20, 30, or even 50 years. How these factors are dealt with in plans can make a difference in the implementation policies chosen and in how well the plans comport with actual experiences in the future.

The UC team has evaluated California’s state and metropolitan transportation plans, financing for transportation, and legal framework in this broad and uncertain context, also taking into consideration the legacies of successive transportation technologies and the institutions that shaped and were shaped by them.

3. Research Methods

The UC team carried out its work based on 1) a review and analysis of previous research on the topic, including government reports and assessment documents as well as scholarly literature; 2) discussions with SGC staff and the staff of state agencies involved in transportation planning and related activities in California; 3) interviews with nearly 100 key informants; and 4) feedback on presentations of the work and review of drafts, on which nearly 300 comments were received. A series of white papers was prepared to address the topics called for in AB 285.

4. Organization of This Summary and Synthesis Report

Section 5 of this report summarizes the key findings of each white paper, which address the following questions:

- How is transportation shaped by the technology it uses and the institutions developed to deliver transportation services? What are the issues when policies and priorities change?
- How do the California transportation plan and other key statewide transportation plans shape the state’s transportation systems? How does new technology figure in the plans? What do stakeholders think about the plans?
- How do MPO plans and their Sustainable Communities Strategies shape transportation in California? How are plans translated into projects?
- How does California’s approach to transportation finance affect goal attainment?
- What are the legal issues in pursuing new priorities in transportation?

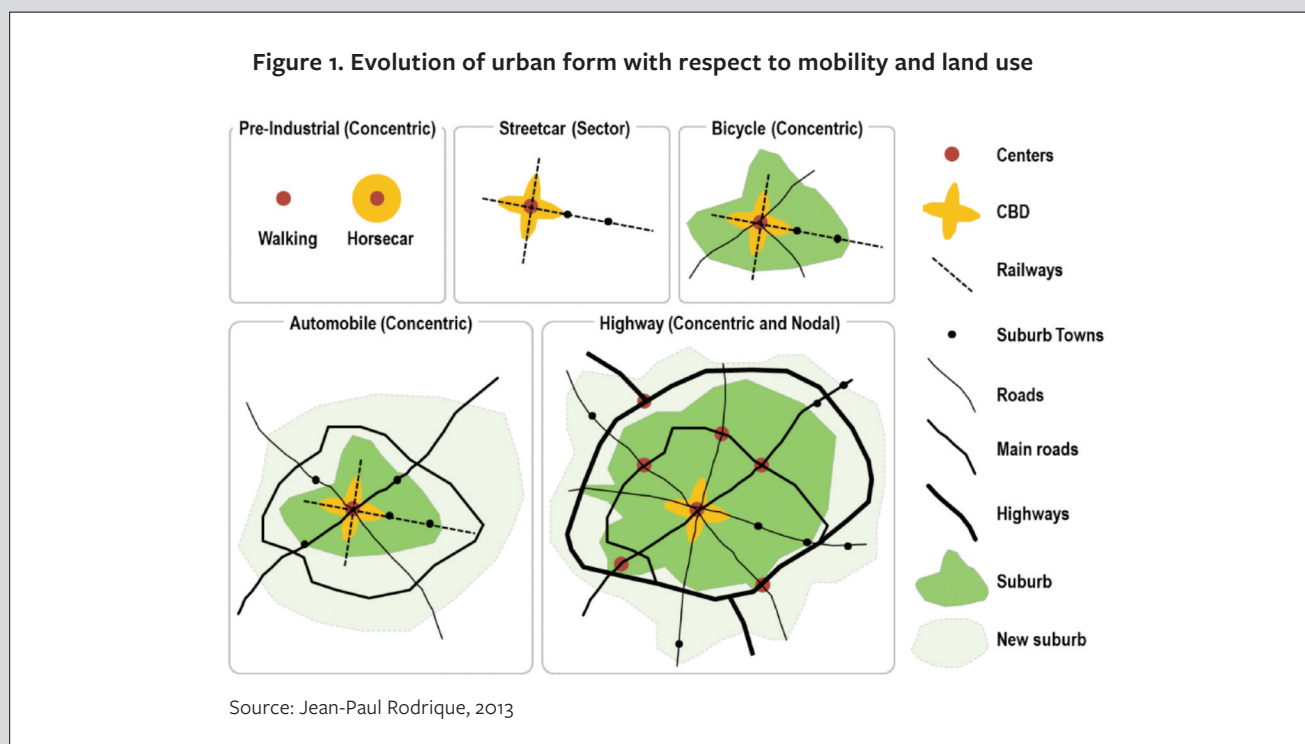
Section 6 presents the UC authors’ recommendations for changes to policy and practice that could improve overall system performance and achievement of state goals for climate, equity, environment, safety, infrastructure, and the economy.

5. Summaries of the White Papers

These are the key findings of each white paper.

WP 1: A Brief History of Transportation Policies and Institutions

This paper presents a brief history of transportation policies and the institutions that shape them in the United States, with special attention to the California case. The white paper also discusses the issues associated with changing organizational culture to better respond to the problems of the times.



Transportation systems reflect the economic, political, technological, and cultural conditions of their time, as well as the specific context in which they operate. California’s transportation systems have largely mirrored those of the rest of the United States, but California also has led the way on several issues, including combatting climate change.

Over the years, the expectations for transportation providers have expanded, from an early focus on designing and building infrastructure to provide for mobility, access, and economic growth, to a broader set of responsibilities that emphasize managing multimodal transportation facilities in a way that maintains and promotes a healthy environment, a vibrant economy, and social equity.

Economic development and the provision of fast, safe, and efficient transportation were the main policies driving transportation planning and investment in the United States from the earliest years of colonial settlement until quite recently. Building the system was the highest priority. As transportation networks became widely available, attention

began to shift to operations and maintenance and to reducing the adverse impacts of transportation facilities and services. Today, while efficient project delivery remains important, new social and environmental goals have gained prominence.

The organizations and planning processes devised to deliver and manage transportation systems reflect the problems, opportunities, and cultural beliefs of the time of their creation. When the mission to build was dominant, the country's engineering skills were tapped, and military organization and management models shaped the public and private organizations that built highways and railroads. Over time, additional institutions were established to handle problems in management. Regulatory agencies were formed to prevent private operator price gouging and other unfair practices. Commissions were established to oversee bureaucracies and infuse a business-like culture of cost management and efficiency into public transport projects. Metropolitan planning organizations were established to give urban areas greater say over the projects being built within their borders, and in nearly three-quarters of the states, ballot-box measures were introduced to allow the people to have a direct say in prioritizing investments. Highway departments became transportation departments when federal government grants began to flow for transit and intercity modes and political leaders clamored for a balanced transportation system. And lately, partnerships among transportation, housing, and environmental officials have been established to better coordinate development efforts and improve their performance.

While transportation institutions grew more complex, with more organizations involved and more responsibilities to be carried out, in many instances transportation organizations were slow to fully respond to changes in technology, policy, and community values, or even openly resistant, clinging to preferences for building projects over managing systems and treating social equity and environmental mandates as constraints or secondary issues rather than as cause for redirection. In such instances, merely changing assignments of responsibility is unlikely to be sufficient. Rather, an explicit change strategy aimed not only at operational practices but also at the organization's social and human resource elements is needed.

Today, the road systems first envisioned nearly a century ago are largely built out, and attention has increasingly turned to providing more choices to travelers, including those who cannot drive a car, and in improving equity and the environment so that all can experience a high quality of life while maintaining and expanding prosperity and continuing to improve health and safety. With a mature and extensive network of highways in place, greater attention is being given to maintenance and rehabilitation and to managing and operating highways using new technologies and methods, including telecommunications, sensors, information technologies, automation, and control systems. Technological advances are already offering new services that blur the distinctions between public and private, transit and auto. Other transport modes are still developing, including micromobility options, on-demand services, driverless vehicles, and smart highways.

California Lane Miles by Roadway Class	
Interstate	14,925
Arterials and collectors	153,503
Local streets and roads	235,927
Total	404,355

Source: Highway Performance Monitoring System as reported in CTP 2050, p. 43

The changes in context present both challenges and opportunities. The COVID-19 pandemic has disrupted traditional ways of going to work, shopping, and socializing for many and added to the uncertainties about the future. Disruptions in air travel, sharp losses of transit riders, a five-fold increase in telecommuting, and a substantial increase in e-commerce have occurred, and while there has been some recovery, it is unsteady and uneven. It remains to be seen whether and to what extent the changes that the pandemic imposed will be lasting.

The recognition of global warming as a crisis with deadlines has been slow in coming, but is now a top priority for California. Likewise, past practices that have disproportionately harmed people of color and left out low-income individuals and households have finally been acknowledged. Acceptance of the need for policy change is leading to new efforts to remediate problems and deliver equitable programs and services. Transportation agencies continue to have important roles as designers and builders, but today attention also must be given to social and environmental considerations as well as transportation planning, management, and operations issues. Organizational change is needed to support this broader set of goals.

Over the past several decades, California has created a complex institutional structure for dealing with this broad set of goals and objectives. The state DOT, Caltrans, is responsible for the state highway system, prepares a state transportation plan and modal plans, and programs interregional projects (the projects that will be developed and funded), but notes that it fills the gaps between the regional plans and does not mandate policy changes or specific actions at the regional level. Caltrans reports to a cabinet-level transportation agency (CalSTA), but also responds to the state Transportation Commission, which develops fund estimates and guidelines and approves the state and regional programs. California MPOs have been given greater authority than in most states over the projects selected for programming for their regions, but they are expected to incorporate County Transportation Authority programs over which the MPOs have little say. The MPOs have been assigned responsibility for implementing Sustainable Communities Strategies—transportation and land use strategies designed to meet ambitious GHG reduction goals—but not the authority to require cities and counties to implement them. Some MPOs have been using funds over which they have discretion to incentivize local action, but such funds are limited. With this large and complicated organizational structure and its decentralized responsibilities, it can be very difficult for anyone to steer investments in a different direction. Because of the multiple signals that transportation agencies receive, it can be even more difficult to change transportation agencies' culture—their views of what needs to be done.

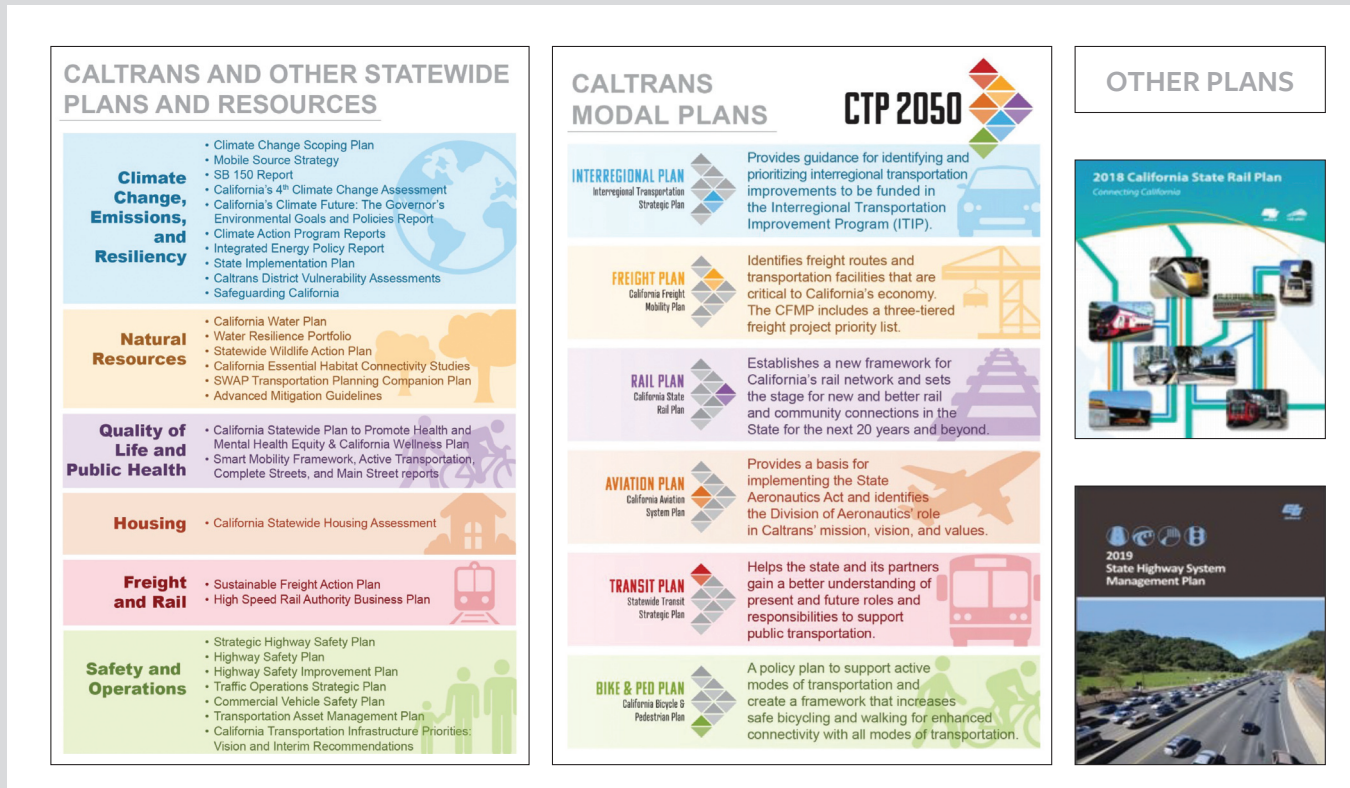
It now appears that transportation is on the cusp of another technological revolution. For California, this is coming shortly after the state increased its funding for transportation and just as the federal government has also stepped up its transportation funding. The disruptions being created by technological change and the pandemic, coupled with new planning imperatives established in legislation and executive orders, open up opportunities to rethink institutional arrangements, assignments of responsibility, staffing, funding, and planning processes for transportation. Used strategically, the new funding can create opportunities for creative change.

WP 2: Review of Statewide Transportation Plans for California

This paper, in three parts, reviews the most recently adopted California Transportation Plan (CTP 2050) and other key transportation plans adopted by state agencies (Part 1). The paper also discusses the special attention given to new technologies in the CTP (Part 2) and presents the findings from over 80 interviews with stakeholders across California who were asked to weigh in on the strengths and weaknesses of the state's transportation plans and planning practices (Part 3). The state plans' prospects for delivering an integrated transportation system that meets state goals are assessed, and ways to strengthen the plans and their efficacy are outlined.

The analysis of the key state transportation plans was framed by definitions of integrated multimodalism as put forth in the scholarly literature and presents our own assessment of the plans' strengths and weaknesses.

Figure 2. CTP and related plans



We found that the CTP sets forth an ambitious, multifaceted vision and eight interrelated goals for California's transportation systems:

- **Safety**—Provide a safe and secure transportation system
- **Climate**—Achieve statewide GHG emission reduction targets and increase resilience to climate change
- **Equity**—Eliminate transportation burdens for low-income communities, communities of color, people with disabilities, and other disadvantaged groups
- **Accessibility**—Improve multimodal mobility and access to destinations for all users
- **Quality of life and public health**—Enable vibrant, healthy communities
- **Environment**—Enhance environmental health and reduce negative transportation impacts
- **Economy**—Support a vibrant, resilient economy
- **Infrastructure**—Maintain a high-quality, resilient transportation system

The CTP was developed by drawing on scenario analyses designed to explore how well various courses of action would achieve the articulated goals. The analyses included a baseline scenario that assumed that the plans in place would be implemented, a scenario focusing on land use, a scenario focusing on transportation strategies, and a combined package

of land use and transportation strategies. The strongest performance came from the combined package of strategies, and the CTP consequently presents recommendations and action items that would pursue both land use and transportation actions.

A key finding from the scenario analyses is that even with the combined scenario and all current regional transportation plans and state plans implemented, aggressive ZEV implementation would be needed to achieve the mandated emissions reductions by 2050. The analyses show that most of the emissions reductions come from new vehicle technologies and only a small amount stems from other transportation investments.

It is important to note what the CTP 2050 does and does not aim to do. As it states, “The CTP does not contain projects, but policies and strategies required to close the gap between what the regional transportation plans (RTP) aim to achieve and how much more is required to meet 2050 goals.” In addition, while the CTP draws on the state’s modal plans and the RTPs, it does not amend them. The CTP will inform the next round of modal plans, but “does not attempt to modify or prioritize project spending at the regional level.” These are significant limitations on the CTP’s ability to change transportation policy directions.

The CTP is intended to be supplemented by stand-alone documents that elaborate on the strategies considered, the analysis conducted, the planning process, funding options, and implementation strategies. However, while the financing element and the implementation element are the most salient to this review, the financing element is in draft form, and the implementation element has not been released as of the time of this writing (Dec. 2021).

We also briefly reviewed California’s interregional, rail, and bicycle and pedestrian modal plans as well as a draft transit plan (not released by Caltrans). Except for the interregional plan, these plans predate the CTP 2050 and are scheduled to be updated soon. The plans we reviewed, while covering nearly 1,000 pages, barely scratch the surface: The six modal plans plus the CTP amount to almost 1,600 pages and the additional related plans listed in the CTP add thousands of more pages.

The modal plans list additional recommended actions, including ones that would fill gaps and support multimodal and multi-operator travel, such as fare cards that work for bikeshare as well as transit, transit passes that work on systems throughout the state, and coordinated, pulsed transfers between regional rail systems and intercity rail.

CTP and modal plans

Title	Year Produced	# Pages
California Transportation Plan 2050	2021	137
Interregional Transportation Strategic Plan	2021	73
California State Rail Plan	2018	309
Statewide Transit Strategic Plan (unreleased draft)	2017	269
California Bicycle & Pedestrian Plan	2017	84
California Freight Mobility Plan	2020	312
California Aviation System Plan	2021	396
Total pages		1,580

Assumptions about technological change, including ambitious plans for the production and uptake of connected and autonomous vehicles, are key factors in emission reductions in the CTP 2050 and the modal plans. For example, autonomous trucking, platooning, and intelligent transportation systems are identified as ways to significantly improve freight operations and capacity; zero-emission trucks would reduce emissions and exposures, and alternative last-mile deliveries, such as drones and other automated delivery technologies, would reduce local truck traffic. The application of text analysis software in Part 2 of this white paper confirmed just how frequently the plan depends on technological advances, including ZEVs, connected and autonomous vehicles, and goods movement innovations, measures that are only partially transportation agencies' ability to implement. In the CTP, out of 127 pages of the document, 31 pages mention new technologies, with the greatest emphasis given to electric and autonomous vehicle technologies. While these technologies are viewed as the most promising ways to reduce emissions, and the automation elements are expected to improve safety, the CTP notes that an emphasis on new vehicle technologies could also lead to increased motor vehicle use, VMT, and congestion unless carefully regulated. Assumptions in the plan are consistent with state laws and executive orders with regard to timing of sales, but assumptions about vehicle costs and rate of uptake are not discussed in any detail.

For Part 3, over 80 interviews were conducted with experts in the field and other stakeholders to gain additional views of the plans and planning process. The interview respondents included current and former elected officials; federal, state, regional, and local agency leaders; advocates for low-income and minority communities; transportation, land use and environmental experts; developers and builders; economic development specialists; and representatives of nonprofit organizations specializing in civic, business, and environmental issues. Each interview lasted 45 minutes to an hour and was designed to allow the discussion to focus on topics of greatest interest and concern to the respondent. Respondents were offered anonymity so that they felt free to speak frankly. Interview notes were summarized, and highlights were extracted and categorized by key issues raised. The resulting compilation formed the basis for the analysis presented here.

A key finding is that **most of those interviewed were appreciative of the progressive goals and objectives laid out in the CTP 2050, but they also were disappointed that the plan did not provide a more explicit way forward.**

State modal plans received mixed reviews, with some seen as offering concrete strategies and others remaining largely aspirational. Specific criticisms of the CTP 2050 was its lack of an implementation plan with clear assignments of responsibility, performance measures, and deadlines for achievement; lack of a clear funding plan; insufficient attention to modal competition and markets for various services; and heavy reliance on regional and local action as well as the actions of other organizations to achieve goals. In addition, many commented that the assumptions about technological innovation and its diffusion were highly optimistic, as were assumptions about transit expansion and telecommuting. While recognizing that the CTP 2050 is fiscally unconstrained and is not expected to propose specific projects, many of those interviewed felt that this made it possible to avoid hard issues. They recommended supplementing the aspirational plan with an alternative that illustrates what can be done with existing and reasonably anticipated funding and legal authorities.

Many of those interviewed were concerned that **the plans do not acknowledge that goals can be in conflict and do not lay out clear priorities among goals or strategies for dealing with conflicts.** Many noted that institutional complexity and internal resistance to change can be a barrier to effective planning, especially when multiple priorities are in effect. Several commented that the current institutional structure gives the state and regional agencies only limited ability to steer investments. Interviewees further commented that contextual differences in user needs, available transportation services, and barriers faced were glossed over in the plans.

Explicit strategies for coordinating economic development and housing with transportation s frequently mentioned as a planning gap. In addition, the sheer number of plans, their length and repetition, and disjointed timing were seen by many as making it impossible to get a full picture of transportation today or as proposed for the future and harder to participate meaningfully in transportation planning processes.

Regional plans and spending programs were flagged as key factors that could significantly affect attainment of the transportation goals set out in state legislation and executive orders. The CTP 2050 relies on the state’s many RTPs to establish much of the direction for the next 30 years, but the implementation is problematic for some elements of the RTPs. Regional plans are supposed to be fiscally constrained, but they also make numerous assumptions about technology, expanded transit services and bike and pedestrian infrastructure, road pricing, mobility innovations, and smart growth policies. Funding for the transit, bike, and pedestrian elements is in short supply, authority to implement road pricing is uncertain, and for some facilities, would depend on federal as well as state, regional, or local approval, and pricing and land use changes are controversial and might not win the support needed to proceed as proposed. Thus, like the policies in the CTP 2050, many RTP policies and priorities are aspirational and will be difficult to achieve absent additional funds and grants of authority. In addition, as the CTP 2050 notes, continued capacity increases in regional and county plans and spending programs are likely to increase VMT and emissions and spread out development, making it more difficult to achieve mandated emissions reductions and, over the longer term, requiring increased spending on maintenance.

The review found that the state plans present aspirational and inspiring goals, but are weak on implementation. They depend heavily on technology advances in vehicles and fuels for goal attainment and are both dependent on and to some extent constrained by regional plans for other content.

WP 3: MPO Planning and Implementation of State Policy Goals

California’s 18 MPOs, federally mandated regional transportation planning agencies operating in the state’s urban regions, play a central role in planning and programming transportation projects. This white paper, presented in two parts, first examines MPOs’ role in the state’s decision-making and governance structure for transportation, considering how and whether MPOs are helping achieve state goals for climate protection and sustainability. It then compares regional transportation planning and regional transportation funding programs using a detailed analysis of long-range regional transportation plans (RTP) and short-range transportation improvement programs (TIP) for five California MPOs.

California assigns more responsibility to its MPOs than most other US states. In California, MPOs plan and program all transportation projects in urban areas through their periodically updated long-range (20+ year) RTPs and shorter-range TIPs. Since passage of SB 375 in 2008, the MPOs have been required to produce RTPs that, in combination with land use plans called Sustainable Communities Strategies (SCS) developed by the MPOs in coordination with localities, can achieve state-mandated targets for reducing per capita GHG emissions from cars and light-duty trucks. Under SB 375, MPOs must also align their RTPs with regional plans for allocating housing need for all income levels among localities within regions, as required under the state’s Regional Housing Needs Assessment (RHNA) process.

SB 375 represents a groundbreaking effort to achieve more efficient development patterns through coordinated planning for transportation and land use at a regional scale. All the MPOs have developed RTP/SCSs deemed capable of achieving the initial state-mandated GHG reduction targets assigned under SB 375. The RTP/SCSs have been more ambitious than pre-SB 375 regional plans in encouraging more compact growth patterns, mode shifts toward sustainable transport, such as transit, biking, and walking, and reductions in VMT. Examining the most recently adopted RTP/SCSs, we

found that most MPOs had included performance objectives and measures aimed at improving accessibility (oriented to achieving efficient, multimodal travel patterns) than auto-mobility (oriented to reducing driver delay).

In addressing their GHG reduction targets, some MPOs have faced difficult challenges, such as for housing all the projected population growth for the region within their borders rather than allowing for spillover into surrounding areas, and for determining how and whether to forego desired roadway projects. These challenges have prompted some MPOs to devise evaluation methods and project ranking criteria to reward municipalities that adopt land use policies that support regional plan goals. For example, some MPOs subject transportation proposals to rigorous cost-benefit and social equity analysis and ranking.

Notwithstanding these achievements, SB 375 has come under scrutiny for failing, so far, to achieve its goals. In a report to the legislature in 2018, the CARB concluded that, “California is not on track to meet greenhouse gas reductions expected under SB 375,” with a particularly worrisome trend being an observed rise in VMT and associated GHGs from cars and light trucks starting after 2013.

What accounts for the disappointing performance of RTP/SCSs in achieving desired outcomes? Various observers have long warned of structural flaws in SB 375 in terms of a mismatch of MPO responsibility with inadequate authority or resources to carry it out. To achieve plan goals, MPOs need state and local government support and cooperation, which so far have been inadequate.

The need for local cooperation has been evident from the start. SB 375 relies on MPOs to coordinate transportation and land use at a regional scale, and plan analyses consistently show the synergistic benefits of this approach for reducing VMT and GHGs. But to achieve their SB 375 targets, the MPOs have relied on land use policy changes not yet adopted by many localities and which veer away from current local general plans and zoning ordinances. The MPOs do not control land use policymaking, which is the prerogative of local governments.

How do MPO plans allocate funding?

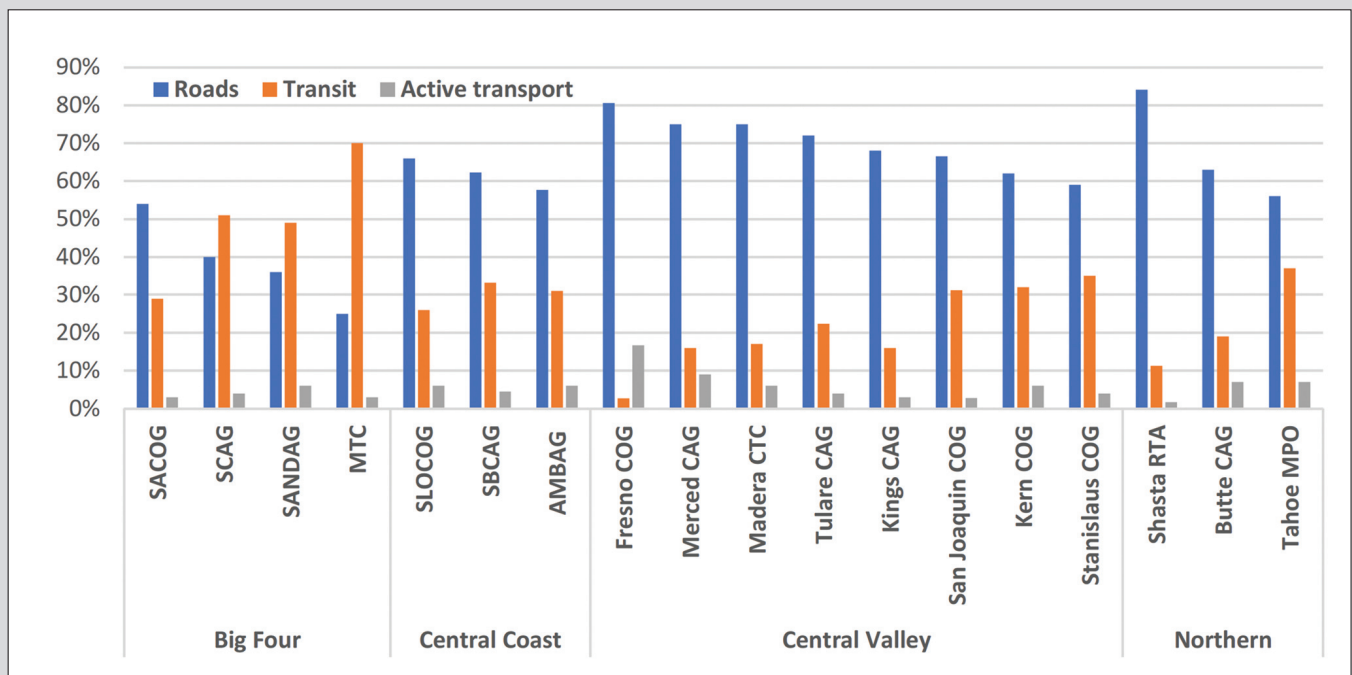
Our analysis of the most-recent adopted RTP/SCSs indicates that most MPO plans allocate more funds toward roadways than transit, although most allocate more roadway funding toward maintenance, operations, and rehab (M&O) than new facilities. Central Valley and northern-state MPOs are more likely to direct funds to roadways than coastal MPOs. When considering capital spending for new facilities by the “big four” MPOs (in the SF Bay, LA, San Diego, and Sacramento areas), the Bay Area and San Diego area agencies spend more for new transit than new roadways, while the other two spend more for new roadways than transit. Compared to funding shares allocated under SB 1, the state’s recent gas tax increase program, spending by the big four MPOs is allocated more toward transit than roadways, but also less toward M&O than new facilities.

The need for state action became more apparent when CARB renegotiated GHG reduction targets with the MPOs in 2018 in response to updated state GHG reduction goals, proposing stiffer targets for 2035 than those adopted originally under SB 375. The MPOs in the state’s four largest regions countered that achieving the deeper reductions would be infeasible absent adoption by the state government of additional policies to support SB 375, including road and parking pricing, more funds dedicated to multimodal transport, and more direct support for local infill development. CARB

adopted more-stringent MPO targets, although not as stiff as its own analysis had deemed necessary to help achieve the state’s overall GHG reduction target. To address the gap, CARB committed to conducting ongoing deliberations with MPOs on the new policy measures. In this fashion, **target renegotiation between CARB and the MPOs became a key venue for debate and deliberation on roles and responsibilities at different levels of government for ensuring the success of SB 375.**

These recent developments have brought the Achilles heel of SB 375—MPOs’ institutional weakness for ensuring implementation—into sharper view. MPOs provide a crucial planning interface to align federal, state, and local projects and priorities, and their plans demonstrate how each region could help achieve the state’s goals for sustainable transport if the projects and policies included in the plans are carried out. But MPOs cannot mandate local land use policy changes, and they have only limited discretion for initiating transportation projects, most of which are controlled by other levels of government, with the MPO role being to coordinate and prioritize project spending within regions. To achieve their now-tougher SB 375 targets, recent RTP/SCSs call for securing hundreds of billions of dollars of new revenue through state- and local-led pricing strategies, which the MPOs cannot directly and autonomously pursue. In its evaluation reports, CARB has critiqued some recent RTP/SCSs for relying on unsecured and uncertain revenue sources, but MPOs are banking on more ambitious but uncertain state and local action to be able to achieve their mandated goals.

Figure 3. MPO planned expenditures by mode as reported in the most recent RTP/SCSs



Note: Values do not sum to 100% if an RTP includes spending for “other” purposes than shown.

The divergence between what-if scenarios and existing conditions is underscored when considering how RTP/SCSs relate to the state’s long-range California Transportation Plan 2050 (CTP 2050). Unlike the RTP/SCSs, the CTP 2050 is not required to be “fiscally constrained” to “reasonably anticipated” revenue sources. The CTP 2050 aims to identify “policies and strategies required to close the gap between what the regional transportation plans (RTPs) aim to achieve

and how much more is required to meet 2050 goals” for the transportation sector. However, some unconstrained, aspirational funding strategies modeled for the CTP 2050, such as per-mile road user fees, are also included in RTP/SCSs, which then direct the new funds toward transit and other purposes. The inclusion of aspirational revenue sources in the RTP/SCSs raises questions about overlap between the regional plans and the CTP 2050. The lack of sharp delineation between constrained and unconstrained funding makes it difficult to determine exactly what more needs to be done beyond the RTP/SCSs to achieve state goals.

But more crucially, the RTP/SCSs and the CTP 2050 underscore the same message—that a more ambitious multilevel policy package is needed if California intends to achieve its climate goals. That package would include roadway pricing, increased financial and policy support for compact development, and greater investment in non-auto modes. Rather than criticize MPOs for devising ambitious plans that fail to deliver on the ground, it would be more useful to ask whether state and local policymakers are ready to pursue the visions described in CTP 2050 and the RTP/SCSs and adopt the supporting policies needed for them—and SB 375—to succeed.

Disputes over whether local-, regional-, or state-level inaction is more to blame for inadequate SB 375 implementation are misplaced because stronger efforts are required at all levels. The multilevel policy combination advanced in the CTP 2050, and mirrored in many RTP/SCSs, would be more effective if pursued in a concerted fashion, enabling Californians to see the synergistic benefits that could follow. For example, support for the pricing and land use changes being proposed might come more easily if voters understand that road pricing revenues would fund realistic alternatives to driving that in turn would make compact development more attractive.

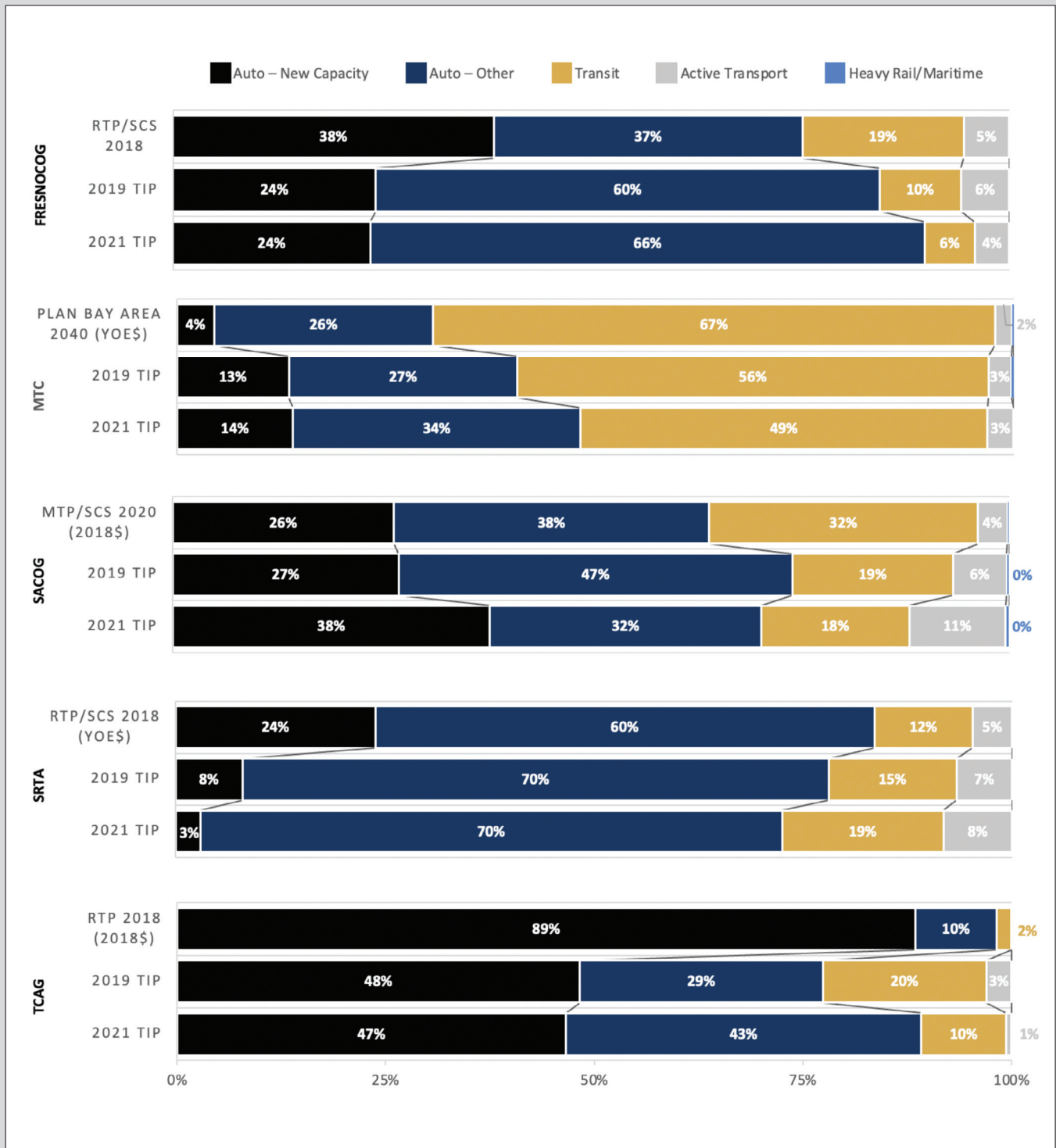
SB 375 is at a critical turning point, with recent analysis and negotiations serving to raise concerns about the law’s efficacy. However, these developments point not to the law’s failure to accomplish its central mandate—for MPOs to develop and adopt long-range plans deemed capable of achieving state goals for sustainable transport—but rather they call attention to the law’s built-in implementation deficit, which was apparent from the start but has not been adequately addressed. Like the CTP 2050, the MPO plans help show the way forward to achieving sustainable transport but also highlight the limitations of current assignments of responsibility and authority.

Part 2 of the white paper compares regional transportation plans and project funding—programming—using a detailed analysis of long-range RTPs and short-range TIPs for five MPOs in California. We developed and used a common coding scheme to categorize transportation projects in both the RTPs and TIPs and compared expenditures planned in the long-range RTP to the funds committed in the near-term TIP for automobile, transit, and active transportation infrastructure.

RTPs and TIPs serve related but distinct purposes in the transportation planning process. Both RTPs and TIPs must comply with federal regulations as well as state rules. In California, RTPs are also a regional strategy for transportation and land use that together meet regional goals and decrease transportation-related GHG emissions per SB 375. A TIP is a spending plan—it budgets funds to specific projects and is meant to implement the RTP. A TIP tracks in detail the transportation investments made with federal and state funding sources or that are “regionally significant,” regardless of funding source. Thus, a TIP is expected to give a nearly comprehensive picture of the role of state and federal funds in attaining the goals of the RTP.

Our findings show (Figure 4) that among the five case study regions, **the state and federal—and in some cases, local—expenditures programmed in TIPs are generally less multimodal and more auto-centric than the investments outlined in MPOs’ long-range transportation plans.** The three largest MPOs program a larger share of funds for auto infrastructure and a smaller share of funds for transit than the planned expenditures in their respective RTP/SCSs. Auto infrastructure (for example, new capacity, road rehabilitation, operations) receives the majority of

Figure 4. Regional plan investments vs. programmed investments



planned and programmed funds in all regions, except the San Francisco Bay Area. New auto capacity (for example, new or wider roads, new auxiliary or toll lanes, new or wider interchanges and ramps) makes up a significant share of planned and programmed funding in all regions, particularly in the Central Valley and suburban areas of the Bay Area. Indeed, new auto capacity receives the plurality of programmed funds in two of the five case regions (SACOG and TCAG).

These results indicate that despite ambitious multimodal investment plans in some RTP/SCSs, the TIPs tend to frontload auto infrastructure and backload transit with their state and federal funding. This leaves local governments with the responsibility for using their local funds to develop the projects that will realize much of the GHG reduction envisioned in the RTP/SCSs. But local governments have their own priorities that might or might not align with the state and regional GHG reduction goals. This pattern of investment, particularly the near-term prioritization of VMT-inducing roadway expansion, contravenes California’s GHG reduction goals and hinders the decreased auto dependence that RTP/SCSs aim to achieve. **To implement the GHG reductions envisioned and budgeted in California’s regional plans, policy is needed that will redirect California’s core transportation funding programs, such as the STIP and SHOPP, and the local project development and prioritization processes away from auto-capacity projects and toward investments that reduce auto dependence, such as transit and active transportation.**

WP 4: Examination of Key Transportation Funding Programs in California and Their Context

This paper examines 11 key transportation funding programs, 5 of which are specified in AB 285. We evaluated the funding programs’ alignment with contemporary state goals for transportation as expressed in state law and the CTP 2050. We consider the historical context in which the 11 programs were developed and the contemporary context in which these 11 programs are placed, alongside many others in California’s complicated funding system. Our central question is: How well do California’s transportation funding programs support the state’s goals and climate agenda?

Much of California’s current transportation funding system was developed in response to major shifts in federal funding in the mid-20th century, which catalyzed a need for states and localities to develop state and local programs to become eligible for federal fund matches.” Much of the complexity in California’s current transportation system is rooted in the many political compromises that were necessary to develop highway funding programs in the 1940s and transit programs in the 1960s and ’70s. Even when there was agreement over the general need for such funding, legislators had to brook disagreements over how to pay for it and to bridge tensions over the disparate needs of different parts of the state. Later, concerns over “fiscal discipline” received much attention, and as a result, many transportation programs, especially transit-supportive ones, have complex conditions and eligibility criteria so strict that numerous exemptions were subsequently adopted to avoid transit shutdowns.

In the 1980s, in response to Proposition 13, localities, especially counties, started putting local option sales tax (LOST) measures on local ballots. Their popularity, pervasiveness, and sheer size means that LOSTs have outsized effects on transportation outcomes in the state. Popular with voters for their sunset clauses and specificity of projects, **LOSTs have become the largest source of transportation funding in California** (21.7% of the transportation funding considered for this report).

Research into patterns of transportation funding indicates that new and additional funding sources do not displace or replace existing already-programmed funds. LOSTs, therefore, add funding capacity, enabling localities to build projects that they otherwise would not. However, **the significant amount of funding from LOSTs has shifted the locus of influence away from MPOs, which are responsible for implementing the state’s vision for land use and transportation through Sustainable Communities Strategies, to counties that have no such obligations.**

The five AB 285 programs we looked at were the Affordable Housing and Sustainable Communities Program, the Low-Carbon Transit Operations Program, the Transformative Climate Communities Program, the Sustainable Transportation Planning Grant Program, and the Transit and Intercity Rail Capital Program. These programs primarily support transportation-related projects to meet state climate goals, with a key focus of achieving GHG emission reduction. Projects funded by these programs include sustainable transportation infrastructure, intermodal transit facility expansion, and shared mobility programs. All AB 285-identified programs were established recently and provide funding allocations for projects within or serving disadvantaged communities, low-income communities, and low-income households, as established by SB 535 and AB 1550.

The other six programs we reviewed were the State Highway Operations & Protection Program (SHOPP), Local Transportation Funds (LTF), Solutions for Congested Corridors (SCPP), the Interregional Transportation Improvement Program (ITIP), the Local Partnership Program (LPP), and the Active Transportation Program (ATP). Most have prescribed types of activities and projects. SHOPP and LTF are the biggest of the state transportation programs, with SHOPP accounting for almost 60 percent of the funding, and LTF for an additional 25–30 percent (the percentage varying somewhat by year).

Programs and funding sources with estimated percentages by expenditure category

Program Name	Appropriated*	Transit	Local Return & Discretionary	Highway	Streets & Roads	Other
Local Option Sales Tax	\$6,643,000	42.0%	14.5%	23.4%	14.1%	6.0%
State Highway Operation and Protection Program	\$4,540,000			100.0%		
State Highway Maintenance and Rehabilitation	\$1,900,000			50.0%	50.0%	
Local Transportation Fund	\$1,899,311	82.9%	0.0%		7.3%	9.9%
Transit Fares	\$1,798,045	100.0%				
Local General Funds	\$1,755,043				100.0%	
Local Streets and Roads Program	\$1,500,000				100.0%	
Toll Fees for Highways and Bridges	\$1,375,875	0.3%	24.2%	75.5%	0.0%	0.0%
Federal Transit Administration Formula Grants for Urbanized Areas	\$1,099,908	100.0%				
Federal Transit Administration Capital Investment Grants Program and State of Good Repair Program	\$936,647	100.0%				
Transit – General Funds and Property Taxes	\$901,883	100.0%				
State Transit Assistance	\$802,999	100.0%				
State Transportation Improvement Program [xiii] ^c	\$710,000	23.9%		76.1%		
Surface Transportation Block Grant Program	\$522,110			34.0%	33.0%	33.0%
Transit – Other Directly Generated	\$509,655	100.0%				
Transportation Infrastructure Finance and Innovation Act	\$508,449	1.7%		98.3%		
Developer Impact Fees	\$402,921				100.0%	
Congestion Mitigation and Air Quality Improvement Program	\$391,700	30.0%		50.0%		20.0%
Affordable Housing and Sustainable Communities	\$324,000	0.5%				99.5%
Trade Corridor Enhancement Program	\$300,000			87.3%	0.8%	12.0%
Highway Safety Improvement Program	\$277,600			100.0%		
Highway Bridge Program	\$270,626			100.0%		
Solutions for Congested Corridors Program	\$250,000	55.5%		44.5%		
Low Carbon Transit Operations Program	\$225,400	100.0%				
Local Partnership Program – Competitive	\$200,000	13.5%	0.0%	51.5%	25.6%	9.4%
Federal Transit Administration – Other	\$141,630	100.0%				
Active Transportation Program	\$122,971					100.0%
Intelligent Transportation Systems Program	\$53,965			50.0%	50.0%	
State Rail Assistance Program	\$51,600	100.0%				
Transformative Climate Communities [vii] ^{c, A}	\$41,700				100.0%	
Sustainable Transportation Planning Grants	\$34,000					100.0%
Federal Transit Administration Formula Grants for Rural Areas	\$28,568	100.0%				
Transit and Intercity Rail Capital Program	\$27,900	100.0%				
Clean Mobility Options	\$21,150	15.0%				85.0%
Sustainable Transportation Equity Project	\$19,500					100.0%

*Amount appropriated for reported fiscal year in million

Source: Data from various sources for FYs 2018–19 to 2020–21 (est.) depending on fund. Refer to white paper for details.

Our review of the selected state transportation funding programs and their appropriations suggests that the **influence of the five AB 285 programs on state policy outcomes is limited by their small share of the state’s transportation funding**: the five AB 285 programs account for only 2.13 percent of the state’s annual transportation funding reviewed for this research. The six additional programs we reviewed, which are older on average, have fewer and more focused goals, primarily aiming to improve mobility across California. Many lack a statutory funding commitment to environmental protection or disadvantaged communities and instead, only consider the impact of projects within the project evaluation processes.

To assess funding alignment with articulated state goals, we first identified the goals articulated in the 2024 Caltrans Strategic Plan, CTP 2050, and numerous state bills. We identified 33 goals. Because many of these goals were overlapping, although expressed in varied language, we placed the 33 goals into seven broad categories: environmental protection/emissions reduction; improved transportation equity and access; increased safety and resilience; prioritized maintenance of transportation assets (“fix it first”); promotion of non-auto modes; reduced VMT; and support for vibrant communities and economy. We then determined the amounts appropriated for each funding program and reviewed each fund’s eligibility requirements and restrictions as well as its references to relevant legislation—keywords or phrases that aligned with each state goal category. Finally, we counted the number of state goal categories with which each program aligned. This process allowed us to evaluate the extent to which the transportation funding considered here is directed toward state goal attainment. The analysis found that **the programs with the largest funding address few of the state goals in their statutory description, criteria, or wording, whereas several of the programs that address the most state goals are among the least-funded programs** (of those we studied).

In essence, the state’s older programs have greater funding, fewer goals, and fewer goals aligned with contemporary state objectives. In contrast, the state’s newer programs have comparatively less funding, more goals attached, and more goals aligned with the state’s targets for reducing GHG emissions, reducing VMT, increasing non-auto mode share, and improving transportation equity and access. This suggests that the state’s transportation spending is not well aligned with many of its goals.

Why this misalignment in goals and spending occurs is unclear, but a possible reason is that increased funding for transportation has been hard-fought. Road building in the 1950s and ’60s created a massive network of streets and highways, and their increasing need for maintenance and rehabilitation, coupled with general inflation and increases in construction costs, meant that programs like SHOPP and local streets and roads required more resources for “fix-it-first.” In addition, the state’s contemporary commitments to values such as environmental sustainability and social justice have attached more goals to the more recently enacted programs without necessarily providing more funding or by providing only modest amounts.

The funding analysis suggests that it might be time for a comprehensive reevaluation of program funding levels and eligibility criteria. While federal law and state constitutional provisions create limitations on how some transportation funds can be spent, based on our review, there appears to be room for administrative reforms that would increase and accelerate state goal attainment.

WP 5: Flexibility in California Transportation Funding Programs and Implications for More Climate-Aligned Spending

Funding is in short supply for many of the transportation measures that Caltrans, California, and MPOs have included in their plans and programs for a climate-friendly future. Transit, bike, and pedestrian facilities and services and new mobility options for passengers and goods movement are included as key measures in the CTP 2050 and in MPOs' Sustainable Communities Strategies. However, the accounts that pay for these types of projects are oversubscribed. Currently, most transportation spending in California goes to highway construction and maintenance, and some of this funding is being used for projects that are likely to increase VMT and emissions. Sound asset management practices require investments in maintenance and rehabilitation, and longstanding goals of safety and economic prosperity clearly remain important. Whether there is flexibility to reallocate or otherwise manage transportation funds to increase expenditures on projects that will better comport with state climate goals—and also goals for clean air, environmental protection, and equity—is a question that is increasingly being asked.

In white paper 5, a combination of legal research and a small sample of interviews with key informants was used to address the following questions.

- How much flexibility exists under various transportation programs for transportation agencies to choose the type of project that best addresses their goals? What options are available for directing funding toward active transportation and transit projects?
- If flexibility exists, what methods can be used to reallocate funding, modify prior commitments, or change project priorities? Where is there flexibility in spending transportation project funds on GHG-reducing projects rather than auto-oriented projects?
- What are the implications under the California Environmental Quality Act (CEQA) of policy or analytical developments that arise after the original CEQA review? If decision-makers do modify transportation plans or projects in response to new policies or new information, would those modifications trigger or reopen a CEQA analysis?

Six key findings emerged from the research.

1. There is little consistency in how much flexibility is available under various transportation funding sources, and efforts to direct expenditures toward state goal attainment would need to address the specifics of each funding source.

Transportation projects are funded with federal, state, and local dollars, and the rules for expenditures depend on the specific funding source and program.

Some federal programs are fairly flexible. For example, Congestion Management and Air Quality funds can be spent on bike and pedestrian projects, transit services, or highway operations improvements, but not on routine maintenance or traffic lanes for single-occupancy vehicles. Other funding programs are more narrowly focused on a particular mode (for example, highways or transit) or problem, such as highway safety. In addition, some funds are allocated to designated recipients by formulas established in law, while other funding programs are discretionary and competitive, and eligible applicants must apply for them.

In California, expenditures from the Highway Trust Fund are governed by Article XIX of the California Constitution and Streets & Highways Code section 2101. These laws specify that allowable uses of gas tax funds are for public streets and highways, public mass transit guideways, and their related public facilities. From the perspective of advocates for a more balanced transportation system, a major limitation has been that gas taxes cannot be spent on acquisition of buses or other mass transit vehicles, on passenger facilities, such as bus benches, shelters, and bus stop signs, or on operating and maintenance costs of mass transit. However, SB 1 (Beall, 2017) increased the California gas tax and also added programs that support a diverse set of projects, including funding for transit, active transportation, and multimodal projects in congested corridors.

2. Strategies for reallocating funding include project substitutions, programming priority changes, and project modifications. However, such strategies require time and could trigger additional reviews. Furthermore, officials can seek greater flexibility in spending in some cases and greater strictures on expenditures in other cases.

Programming processes generally contain the flexibility for officials to delete some projects and substitute others as long as the projects are consistent with the applicable state or regional plan. However, in areas that are nonattainment for National Ambient Air Quality Standards, this could trigger a conformity review. Officials also can choose to reprioritize projects, expediting those with desired impacts and postponing those whose impacts raise concerns. Finally, under many programs, officials can modify proposed projects to mitigate potentially adverse effects, such as increased VMT and emissions, although this could trigger additional environmental reviews.

Project substitutions and changes in project designs, mitigation measures, timing, and so on could run the risk of losing funds due to funding eligibility issues or deadlines for project completion. This often reduces willingness to modify plans or programs. Also, while officials sometimes want added flexibility in funding use, others would prefer to constrain flexibility, developing policies under which projects that advance specified goals receive priority for funding. California's Climate Action Plan for Transportation Infrastructure (CAPTI) is in this vein.

3. With some exceptions, state law affords transportation agencies the authority to craft fairly flexible transportation spending measures, in particular through categorical or priority-based (rather than project-specific) approaches and built-in processes for agency adaptation to new circumstances.

A substantial share of California's transportation funding comes from local sources, and in particular from local option sales taxes (LOST) approved by voters. Under the constitutional and legal provisions derived from Propositions 13, 62, and 218, local governments are fairly circumscribed in how they can authorize new revenue-raising measures that could fund transportation investment; "special" taxes to fund specific priorities require the approval of two-thirds of the voters. However, state law generally allows local governments to build flexibility into the plans that voters approve. Specifically, transportation LOSTS can describe the project priorities or project types to be funded rather than the specific projects to be funded, allowing transportation leaders to craft spending plans according to local preferences. They can include detailed processes, such as supermajority board votes, for agency modification of spending plans under specified circumstances.

4. In some cases, state agencies can improve the flexibility to direct funds toward projects aligned with state priorities by modifying interpretations of a statute rather than by initiating changes to the statute itself.

State agencies often can prioritize desired types of transportation projects through the interpretation of statutory criteria and modifications of administrative guidance. For example, bike and pedestrian improvements could be treated as required elements of street rehabilitation projects, unless proven infeasible, rather than encouraged where feasible.

Changing agencies' implementation guidance (where permitted by statute and grounded in state laws or executive orders) often can be done faster and put into effect more easily than changes to the law itself.

However, changing statutory language might be appropriate in certain cases. For example, if a particular fund's uses are limited by explicit provisions of the law, but a wider set of uses would be salutary, a legislative change would be necessary. Legislative intervention might also be needed when there is disagreement between agencies about legislative intent or when the agencies' policies are in conflict, if an interagency agreement cannot be reached.

5. Political barriers to changes in local projects and sales tax measures can be more challenging than legal barriers.

A substantial amount of political inertia characterizes transportation planning and funding processes, making it difficult to chart a new course for a project after it is set in motion. Even where flexibility could exist from a legal perspective, entities can encounter multiple impediments to more proactive funding redistribution at the local and regional levels, particularly where the public has approved a program via a tax measure. Transportation planning is a multiyear process. By the time a project is considered for funding, it has gained substantial political support, including from powerful political constituencies.

Projects included in RTPs 20 years ago, or even 10 years ago, might now be out of sync with the latest technologies, demographic needs, and environmental realities. Still, there could be tension between state VMT and GHG reduction goals and community investment preferences, and it might be politically infeasible to overturn these priorities at the local level. Officials responsible for decision-making under an RTP might face competing priorities. Indeed, most MPO board members are local officials with obligations to represent their constituents at the same time that they are being asked to address broader regional concerns.

In many cases, it is easier to reprioritize a controversial or problematic project, that is, delay its implementation rather than delete it altogether or redesign it.

6. CEQA does not typically require agencies to undertake new review based on post-certification analysis or policy changes. However, transportation agencies seeking to revise projects for funding in a manner that goes beyond the terms of their original spending program or plan typically need to undergo supplemental or subsequent CEQA review.

As a key mechanism for incorporating environmental considerations into transportation projects, CEQA comes up when strategies for improving transportation projects' performance are under consideration. At the same time, agencies often resist opening up CEQA reviews because of their costs in time and dollars.

Transportation projects that have been in the pipeline for many years might not have undergone the same level of analysis for issues, such as induced travel, GHG emissions, or environmental justice, that newer projects undergo. However, under CEQA, subsequent environmental analysis or issuance of guidance, or amendments to CEQA itself, generally do not require an agency to take additional action, even if they would have affected the environmental review had they been in place at the time it was being done. After a project has obtained certification of its environmental review, the lead agency typically is not required to conduct further environmental review unless the agency makes a subsequent discretionary decision to modify the project.

However, if a lead agency elects to undertake a discretionary action and update the environmental review, it will likely be required to prepare a subsequent or supplemental environmental impact report on the new impacts and project modifications, including full public review and comment processes. As a result, time- or funding-constrained agencies will likely be hesitant to reprioritize projects in this manner.

6. Putting It All Together: Key Findings

Here we present findings that cut across all the white papers. Overall, we find that California is not on track to meet its GHG reduction targets and is likely to fall short of attainment of other important goals – a finding that underscores those of CARB and Caltrans. Without additional action, the CTP 2050 shows that VMT could increase by 13 to 35 percent, and delay could also increase.

The reasons for the likely gap between goals and attainment are several. They include a long history of highway investment and far smaller commitments to transit and other alternatives, leading to auto dependence and difficulty in changing directions despite public policy mandates for multimodal, environmentally friendly transportation. In addition, the institutional structure that California has established gives considerable responsibility to local government and limits the ability of regional or state agencies to effectuate a change in direction. **Unless there is faster action on ZEVs, massive new infusions of funding for transportation, and land use investments that reduce GHG emissions and improve equity, or a reprioritization of funding commitments, the state will not meet its climate goals, equity will suffer, and the state might also fall short on other, more traditional goals, such as providing reliable, efficient movement of people and goods.**

Finding 1: We arrived at the transportation system we have today by focusing on highway construction for the 20th better part of the 20th century.

During the 19th century, canals and railroads spurred westward expansions, and urban rail and trolley lines shaped many cities. But automobiles and trucks, with their ability to go anywhere where there were roads, quickly captured the public imagination in the first two decades of the 20th century. As mass production made automobiles affordable to many, roadway improvements began to be a priority. With federal aid starting in 1916, the states improved roads throughout the first half of the 20th century and developed engineering organizations, system plans, and design standards to assure their quality. Gas taxes and other user fees were instituted to help fund the building boom, although general revenues continued to be used as well in many states, and local streets and roads were often built and funded through property taxes and developer exactions.

During the 1950s and '60s, the federal government and the states funded and built an extensive network of highways designed for fast, safe mobility, including the Interstate Highway System. Gas taxes, motor vehicle fees, general funds, sales and property taxes, and developer exactions and impact fees provided the revenues for transportation projects. Highway trust funds were instituted to protect revenues generated by motor vehicle users from being diverted to non-highway purposes, and they provided a steady flow of funding for new facilities. California was an enthusiastic participant in the highway building boom, and in 1959, adopted a 12,241-mile freeway plan, nearly one-third the length of the entire Interstate system, and proposed a urban grid of superhighways spaced about 4 miles apart.

While motor vehicles proliferated and car driving became the norm for most trips urban freeway construction projects were not universally popular. In the 1960s, a number of cities experienced anti-freeway protests and calls for a better

balanced transportation system. The private enterprises that had built and operated transit systems had struggled financially for decades, but during the post war years, many faced collapse. Public takeovers, consolidations, and new investments ensued. Pressed by urban interests, the federal government stepped in with funding for public transit agencies, although support was at a fraction of the funding levels provided for roads.

During the same period, civil rights laws and environmental concerns began to gain traction, and expectations for community involvement in transportation decisions grew. These political and cultural changes resulted in institutional reforms, including the institution of metropolitan-wide transportation planning overseen by local elected officials and requirements for public participation. Many highway departments became transportation agencies and their responsibilities broadened to encompass multiple modes and multiple objectives: transit and rail systems as well as highways, social and environmental considerations as well as engineering and economic values.

By the 1980s, many transportation facilities built in earlier decades were showing their age. Maintenance and repair activities took on an increasingly prominent role in many state DOTs. Anti-tax movements and the sense that highway building was reaching its limits made federal and state officials slow to raise gas taxes, and when gas taxes were raised, they did not always keep up with inflation. One result was a decline in the condition of the street and highway system and directives to turn attention to maintenance and rehabilitation instead of construction.

Meanwhile, the highways built over the previous decades had helped reshape metropolitan United States, and suburban development dependent on high levels of motor vehicle ownership became the dominant land use pattern. Local control over land use operated as a conservative force, for the most part protecting single-family, owner-occupied housing and limiting densities. Exclusionary zoning resulted in higher housing prices and reinforced racial and economic segregation. Suburban housing was followed by suburbanization of jobs as well, as shopping centers and office parks located along the interstates and beltways where cheaper land was available and a workforce and customer base was nearby. The resulting sprawl development pattern was difficult and costly to serve by transit and often entailed travel distances too far to walk or bike. Traffic congestion followed, and suburban officials responded with road widenings in some areas, transit investments in others.

While it was recognized that efforts to moderate auto dependence and travel were dependent not just on transportation options but also on available land uses, local controls and public suspicions of urbanization were a barrier to the infill, higher densities, mixed uses, and compact growth that planners advocated. Still, studies illustrating the social, economic, and environmental costs of sprawl and auto dependence led to periodic efforts to change planning approaches. Pedestrian pockets, transit-oriented development, inclusive housing programs, traffic-calmed street designs, and jobs-housing balance strategies are just a few of the initiatives that have been tested from the 1970s onward.

Finding 2: The goals for transportation have expanded significantly over time, but their implementation has been uneven.

Over the years, goals for transportation have expanded from building networks of facilities that support economic development to include asset maintenance and management, safety and security, multimodal mobility and access, social equity, environmental protection and enhancement, climate protection, and quality of life. This has greatly increased the obligations of transportation agencies. However, institutional resistance to change and a lack of alignment of goals and funding have slowed implementation.

The need for investment in maintenance and rehabilitation was recognized from the start of the highway program but, in most cases, it was not until facilities had significantly deteriorated that action was taken. Air pollution from motor

vehicles was recognized as a public health hazard in the 1950s, and federal and state laws have set health standards for pollution levels for over 50 years, but much of California still has not attained those standards. Civil rights laws offered hope of equality, but disparate impacts have continued to this day. The threat of climate change is one where delay would likely have catastrophic consequences. California has recognized this, provided leadership, and taken action, but efforts to date are falling short of needed accomplishments. Finding ways to move from policy enunciation to policy implementation is now imperative.

A factor slowing implementation is that priorities are not fully articulated and, at times, goals seem to be in conflict—for example, directives to facilitate freight movements but also to reduce pollution exposures in the communities near ports and highways. The addition of policy directives without clear priorities can lead to decisions that overlook tradeoffs between competing modes and miss other options, as in the freight example, by switching shipments to rail and electrifying port equipment and trucks and using advanced logistics to lower traffic levels. Finding ways to harmonize goals and setting priorities for their implementation is an important but currently missing piece.

Finding 3: The gap between the climate-friendly state vision for transportation and the investments at the state and regional levels that continue to emphasize automobility might prevent the state from meeting its climate goals and other goals as well.

To respond to the climate change threat and to other state goals, California's state transportation plans call for a widely deployed, well-maintained transportation system that reduces climate impacts (as measured by reductions in GHG and per capita VMT), strengthens equity and public health, and increases safety while supporting economic competitiveness and preserving past investments. But there is a gap between the vision for transportation articulated in these documents and the reality that the transportation investments being made do not sufficiently achieve climate and equity goals. This gap has persisted despite the establishment of new state programs that explicitly elevate climate and equity goals in scoring criteria and project outcomes.

The CTP 2050 assumes aggressive implementation of ZEVs and connected automated vehicles, road pricing, telecommuting, transit expansion, and infill development meeting affordable housing goals—an ambitious program for change. The plan assumes technology changes and funding increases that could be hard to achieve. Even with these assumptions, however, scenario analyses done to support the development of the plan show that, with state and regional plans implemented as currently proposed, the state climate goals will be hard to attain, especially if population growth remains high.

A reason for the gap between the vision and its likely accomplishments is that funds devoted to new directions are limited. A review of legislative and regulatory mandates against articulated contemporary goals shows that many major funding programs only partially address goals, such as combatting climate change or avoiding and remedying equity problems. The state's Active Transportation Program and its transit program, important sources of funding for actions that would support climate goals, are oversubscribed. The Transformative Climate Communities, Affordable Housing and Sustainable Communities, Low Carbon Transit Operations, Transit and Intercity Rail Capacity Programs, and the Sustainable Transportation Planning Grant, five state programs with a high degree of alignment with climate and equity goals, account for only 2 percent of statewide transportation spending. Without an aggressive effort to change the funding available, strategies for mode shift seem hard to achieve.

In addition, regional and local transportation plans and funding programs appear to be frontloading highway capacity projects, many of which will increase VMT and emissions. Given the long timeline of transportation projects from planning to implementation, many transportation projects in the pipeline do not fully address goals that have only

recently come to be emphasized, such as climate protection and equity environmental concerns. The state plan assumes that regional and local plans will proceed as stated, even though they include projects that the state believes will make climate goals harder to attain. The political impetus to keep past promises and emphasize project delivery can make it difficult to reconsider projects and delete, delay, or modify them, but such projects, unmodified, could impede attainment of the broader social and environmental goals that the state is pursuing today.

Local control over land use and the key role of county sales taxes for transportation with voter-endorsed programs and projects, reduce state or MPO authority to implement the plans that they are responsible for creating. The multiplicity of policies, channels of communication, and layers of review further cloud decision-making.

The state, through CAPTI, and some of the MPOs are taking steps to incentivize projects that meet state goals and create best practice examples. Monitoring the performance of these policies and guidelines will be important in determining their efficacy and sufficiency.

Finding 4: The institutional structure for designing and delivering transportation is highly decentralized, with responsibilities dispersed across many organizations at different levels of government. In California, the institutional structure is more decentralized than most. One result is a highly complex process for transportation decision-making.

Over the years, many transportation organizations and their staff have been slow to fully respond to changes in technology, policy, and community values, clinging to preferences for building projects over managing systems, and treating community and environmental mandates as constraints or secondary issues rather than as causes for new approaches. One result has been for legislators to limit state DOTs' authorities, mandating shared decision-making with regional and local agencies and, in some cases, assigning oversight to other organizations, as is the case for transportation-air quality programs.

To a greater extent than in other states, the assignments of responsibility for planning and delivering transportation projects in California are dispersed among many actors (CalSTA, CTC, Caltrans HQ, Caltrans districts, MPOs, RTPAs, county transportation commissions, counties, cities, transit agencies, and other special districts and authorities). The State DOT, Caltrans, prepares a state transportation plan and programs interregional projects, but notes that it fills the gaps between the regional plans and does not mandate policy changes or specific actions at the regional level.

Caltrans reports to CalSTA, a cabinet-level transportation agency, but also responds to the California Transportation Commission, which develops funding estimates and approves programming. The CTC has responsibility for preparing funding estimates and program guidelines, but the Legislature has limited the CTC's authority to modify Regional Transportation Improvement Programs. As part of a recent gas tax increase devised by the Legislature and approved by voters, the state has established a separate audit function. Together with Caltrans' highly decentralized organization, where many decisions are devolved to the district office, it can be very difficult to steer investments in a different direction and even more difficult to change transportation agencies' culture—their views of what needs to be done. Indeed, it can be difficult to identify who is responsible for the transportation program or its various aspects.

California's decentralized structure provides many opportunities for public engagement and context-specific responses in a state that is diverse socially and geographically. It provides checks and balances against overreach and protections against misuse of funds. However, it also creates a lack of clarity on ultimate responsibility for achieving statewide goals and leads to multiple communication channels and "noise," which can impede the implementation of new policies and practices.

Shared funding and approvals by federal, state, regional, and local actors are typically needed to bring projects through to fruition. Accomplishing this requires a high degree of collaboration and collective action among stakeholders at different levels of government. Collaboration and collective action are also needed for the attainment of state and regional transportation policy goals, but the policy directives and incentives for state agency-led or regional agency-led action are only partly in place.

Finding 5: While the CTP 2050 sets an aspirational vision for transportation in California, its impact on investment decisions is modest because its assumptions are unconstrained and its scope is limited.

The CTP 2050 sets an aspirational vision for transportation in California, offers direction to Caltrans, and offers inspiration and encouragement to other transportation agencies in the state. However, the plan does not have a major impact on investment decisions, for three reasons.

First, because the plan is unconstrained financially and its goals are broad, it does not specify how projects will be prioritized, nor does it explicitly discuss tradeoffs. At the present time, when the financial element is in draft form and the implementation element is not yet released, the plan does not offer clear direction as to how to invest the funds that actually are available. The Climate Action Plan for Transportation Investments (CAPTI) partially addresses this concern with respect to discretionary state investments and climate considerations, but it does not resolve the issues for other state plans and goals.

Second, because the plan spans 30 years and anticipates transformational changes during that time, it necessarily contains substantial uncertainty. However, because the plan assumes that ZEVs, connected automated vehicles, increases in auto operating costs, and telecommuting can solve many transportation system's safety, emissions, climate impact, and congestion problems, it leaves most of the responsibility for solving these problems to other agencies (especially CARB), the private sector (trucking companies, railroads, shippers, businesses), and consumer choices (households, businesses).

Third, the plan states that its intent is to fill gaps after the regional plans (produced by MPOs) are implemented and not to mandate changes to those plans, thus relying on the state's many RTPs to establish much of the direction for the next 30 years. State policy is to assume that the county and regional projects will proceed as planned and programmed. Thus, much of the responsibility for goal attainment depends on what the regional plans can accomplish. However, while MPO plans are supposed to be fiscally constrained, they too make numerous assumptions about technology, expanded transit services and bike and pedestrian infrastructure, road pricing, mobility innovations, and smart growth policies, which will be difficult to achieve absent additional funds, grants of authority, and collaboration with state agencies. In addition, as the plan itself notes, continued capacity increases being programmed at the local and regional levels are likely to increase VMT and emissions and spread out development, and it does not appear that these increases have been fully mitigated with countervailing investments elsewhere in the system.

By not specifically tackling the thorny issue of what can be done with existing funding, the plan leaves itself open to criticism that it doesn't offer meaningful direction. As a result, other agencies reported to us that they do not see the CTP as direction for their plans and decisions.

Other state plans receive mixed reviews as to efficacy. State plans that explicitly set forth priorities for investment and other actions (even further study), such as CAPTI and the State Rail Plan, are widely seen as plans of action that point the state in the right direction. However, an issue raised by a number of those we interviewed was that the sheer number and total page length of the state's plans were a barrier to understanding them or participating substantively in their development.

Finding 6: California MPOs have more responsibility than comparable MPOs in other states but that added responsibility has not been matched with sufficient new resources or authority, and their plans remain aspirational.

MPOs are federally mandated regional transportation agencies and are responsible for planning and programming transportation investments. The establishment of MPOs traces back to the 1962 Federal Aid Highway Act, which called for “a continuing, comprehensive transportation planning process carried on cooperatively by States and local communities.” This 3-C process was strengthened over the next three decades by successive federal legislation and regulations assigning MPOs responsibility for planning and programming for their jurisdictions and for analyzing transportation control measures for air quality improvement and, in the 1990s, by strengthening MPO programming authority and providing them funds for congestion relief and air quality management projects. Today, MPOs establish the vision for their region in periodically updated long-range (20+ year) RTPs and coordinate the multiple projects funded by federal, state, and

California has established 18 MPOs, and the state assigns more responsibility to its MPOs than most other US states. Through SB 45, adopted in 1997, California MPOs were made responsible for programming state transportation funds allocated to the urban regions (75 percent of all these funds statewide). Additionally, since 2008, MPOs must ensure that their long-range transportation plans achieve state-mandated targets for reducing GHG emissions, under SB 375.

But California has given MPOs neither the resources nor the authority to match their widened responsibilities. They are expected to incorporate County Transportation Authority programs over which the MPOs have little say. MPOs and have been assigned responsibility for implementing Sustainable Communities Strategies, but they lack the authority to require localities to implement them. While MPOs do have some funds that can be used to incentivize local action, MPOs directly control only a small portion of the total funding represented in RTPs.

The MPOs’ plans reflect a vision for a transportation system that, coupled with land use changes, could meet climate and other state and regional goals. However, as is the case with state transportation plans, MPO plans make assumptions about large-scale policy and behavioral developments that depend on federal, state, private sector, and individual action, such as the rate of telecommuting, the implementation of road pricing, and the speed of uptake of electric vehicles. MPOs also face roadblocks in implementing their plans because a substantial portion of their funds are already committed to projects that have been planned for many years, to maintenance of existing facilities, and to voter-approved transportation spending measures. In addition, local governments’ willingness to conform to regional plans’ land use proposals has been spotty.

While the MPOs can use incentives as a way to achieve their goals and can require proposed transportation projects and project packages to meet rigorous cost-benefit and social equity analysis and ranking, most of them have concluded that stiffer GHG reduction targets for future years (for example, 2035) would be infeasible absent state policies for road and parking pricing, more funds dedicated to multimodal transport, and more “direct support” for local infill development.

Finding 7: At the regional level, most MPOs continue to devote the bulk of their total spending toward auto investments, including capacity expansion and road operations and maintenance. The ability to redirect programs toward new goals is limited by the need to “fix it first” and respect commitments to projects in the pipeline, and the small amount of funding available for new directions.

Expenditures programmed in Transportation Improvement Program (TIP) plans are less multimodal than expenditures planned in RTP/SCSs. A review of a sample of programming documents shows that most MPO plans allocate more funds

toward roadways, especially maintenance, rehabilitation, and operations than toward transit or active transportation. This is due to the pressures (from federal directives as well as state policies) to return the extensive highway system to a state of good repair. It also reflects a desire to keep moving forward with projects that were committed to in previous years.

The breakdown of transportation spending varies considerably across MPOs. For example, Central Valley and northern MPOs are more likely to direct funds to roadways than coastal MPOs, and the “big four” MPOs allocate higher funding shares to transit than other MPOs, on average. However, the sampled MPOs’ transportation improvement programs showed that significant funding is still going to highway capacity expansion, and these projects are being frontloaded in the MPOs’ spending programs.

Finding 8: Local option, voter-approved sales taxes and have become a major source of funding for transportation in California, reducing the ability of state and regional agencies to steer investments and outcomes.

The shift to local funding of transportation projects has meant that state and regional agencies have less say about which projects and programs are funded. The shift has been dramatic. The Interstate Highway program was funded with the federal government picking up 90 percent of the tab, and for many decades, federal funds covered 50–80 percent of the costs of most other federally assisted transportation projects. However, high levels of inflation during the 1970s eroded the buying power of cents-per-gallon fuel taxes. At the same time, concerns about energy supply and price led to motor vehicle fuel efficiency standards, and revenues per mile driven began to decline. With highway building winding down and anti-tax sentiments on the rise, interest in paying for increasingly costly transportation facilities was on the wane. Many states raised their gas taxes, including California, but not by enough to make up for higher costs. Deferred maintenance became a problem.

In California, in response to Proposition 13 tax cuts and shrinking state funding for transportation, localities, especially counties, started putting local option sales tax measures (LOSTs) on the ballot. With LOSTs, voters can choose to tax themselves for specific programs and projects at a specified rate for a specified period. Local option sales taxes agreed to by voters and implemented at the county level (and later, in some regions) became a major funding source for California transportation projects.

Though they have voter appeal, LOSTs are not necessarily the most efficient or most effective funding solution. While both fuel taxes and sales taxes are regressive, higher fuel taxes encourage the adoption of more fuel-efficient (or electric) vehicles or the use of alternative modes, whereas general sales taxes affect travel behavior only through their (generally modest) effect on income. In addition, because LOST-funded programs can cover decades and do not necessarily comport with state priorities, LOSTs’ popularity, pervasiveness, and sheer size means that they can have outsized and sometimes contrarian effects on transportation outcomes in the state.

Because California policy is for regional agencies to incorporate county transportation plans into their TIPs and for state agencies to similarly incorporate regional TIPs into the state transportation improvement program, LOSTs are an important element in the state’s transportation spending. Concern about keeping past promises in transportation programs is not limited to LOSTs, but their voter approval can make officials especially reluctant to depart from what was proposed in a LOST expenditure plan. However, given the long timeline from planning to implementation, many transportation projects in the pipeline reflect priorities from earlier years and do not include elements that reflect the full set of California’s current goals and priorities, especially VMT and GHG mitigation. Under status quo priority assignment, road projects that increase VMT and emissions will continue to be implemented.

Finding 9: Existing funding programs have the flexibility to adjust spending to meet changed policy priorities, although this can be politically difficult.

CAPTI is an example of the state prioritizing its discretionary funding to meet state climate goals. The programming process of the Metropolitan Transportation Commission (the Bay Area's MPO) is an example of prioritizing discretionary funding at the regional level to support the implementation of its Sustainable Communities Strategy and improve transportation equity. Both examples illustrate the feasibility of using existing authorities and funding programs to prioritize state and regional goals. SB 743, which prioritized VMT as an impact of concern over delay, is an example of state law that changes evaluation priorities.

From a legal perspective, there are several pathways to modify decision criteria and reprioritize investments to give more attention to current policy imperatives. At the project level, changes are clearly easier to implement if the project is new and has not yet been fully fleshed out. However, changes also can be made to projects that have been moving forward for many years. Legacy projects could be paired with other projects so that the combined net effect is positive. Alternatively, the project design or scope could be modified. In some cases, an effective strategy might be for a project to be delayed until a time when its impacts are less critical, as might be the case with VMT-increasing projects after ZEVs are in widespread use.

It is recognized that changing investment plans poses special challenges and complexities. Depending on the specific project changes being sought, amendments to regional plans and programs might be needed. Some types of project changes would trigger additional environmental reviews. Taking these steps can be politically difficult but could also advance important policy goals.

Finding 10: California has the capacity to accomplish its goals.

While the challenges might seem daunting, California has the resources and the will to achieve its ambitious goals and lead by example. The state has a track record of accomplishment. California has on-the-ground, successful examples to show that it has led the way in designing and funding new transit systems and intercity rail services, led research and development on automation and other advanced technologies, mandated clean fuels and vehicles, invented better operations strategies, made effective use of demand management measures, and coordinated transportation and land use planning. The state is working hard to address its housing shortages and the high costs of housing, and it continues to be a major locus of innovation and creativity. It has met its first targets for GHG reduction and has developed tools to enable more difficult goals to be met. A resolve to carry policies through to implementation will clear the path to success.

7. Recommendations

Like the findings, the recommendations presented here cut across the white papers produced for this project. The recommendations are intended for further consideration and refinement with stakeholders. Implementation could proceed in a variety of ways: by agencies working together to resolve problems and overcome barriers, by the Governor issuing executive orders, or by the Legislature revising existing law or developing new legislation.

Our overarching recommendation is to take action to review and align the state's goals, taking steps to resolve conflicts, and then to review the state funding programs to bring them into alignment with policies and needed actions. To get all

agencies—state, regional, and local—on the same page regarding implementation of the state goals, we further recommend a review of the institutional relationships and assignments of responsibility and authority across all levels of government in California to make sure that the resources, mandates, and incentives are in place to ensure success. The recommendations outline steps to take to accomplish this.

Recommendation 1: Review and align state goals.

State agencies have been directed to establish and maintain a high-quality, resilient, multimodal transportation system that provides mobility and accessibility for all users and to see that the transportation system is safe and secure, meets GHG emission reduction targets, eliminates burdens for disadvantaged groups, supports economic development, protects the environment, and enhances public health and vibrant communities. These goals are listed in the CTP 2050. They are also established in legislation and executive orders and have been expressed in regulations and guidance documents. However, the language varies and so does the emphasis given to different goals. Some goals are more specific than others, and some include specific performance deadlines. Various laws and programs list some of the goals but not others.

While there is general agreement that all the goals are relevant, there appears to be less agreement on how to handle situations where proposed actions advance one goal but are in apparent conflict with others. This has been identified, for example, when a project that improves mobility also increases emissions. One reading is that legislative and executive directives have prioritized tackling climate change and environmental justice issues. But others interpret the goals as not having any particular priority or view priorities as applying in limited ways (for example, applying to plans but not to specific projects, or applying to the agencies directed to implement particular policies but not to other agencies, or applying only prospectively and not requiring changes in previous decisions). Some stakeholders interpret the law as prioritizing goals in proportion to budget levels.

Several strategies are available for clarifying policy and better aligning state goals. This could be done by the stakeholder agencies getting together and agreeing on priorities and conflict resolution processes, by the Governor issuing direction to the state agencies by means of an executive order, by a stakeholder process coordinated by an independent advisory committee, or by the Legislature clarifying intent through additional legislation or revisions to existing law. The outcome could take several directions: flagging some goals as higher priority than others, identifying goals to be achieved in the short run and others over a longer time period, requiring that overall plans and programs meet all goals and performance targets in each planning or programming period, even if particular projects do not do so (requiring compensatory action to make up for noncompliant projects), or identifying strategies for harmonizing the goals, such as by focusing on measures that can achieve multiple goals without setting any back.

Recommendation 2: Identify current policies, programs, and projects that could conflict with priority goals, and seek ways to resolve conflicts and harmonize policies and actions.

Just as goals deserve review, so do current policies, proposals, and actions, some of which might be undermining goal attainment. Current debates over added capacity and its ability to reduce congestion or induce travel are emblematic of what happens when potential conflicts in policy are not explicitly acknowledged and dealt with. Reviewing policies and practices to identify conflicts and impediments and removing them is a global best practice and should be instituted in California.

Today, climate change has reached the point where, without substantial intervention in the next two decades, severe damage will be unavoidable. In addition, past harms and continuing inequities in transportation and urban development

practices are finally being recognized, demanding change. To meet these obligations for action, it is necessary to focus expenditures on climate and equity to a greater extent than has happened to date. Policies that work counter to these objectives should be reconsidered. Programs that raise concerns about policy conflicts could be redesigned, and problem projects could be mitigated, restructured, delayed, or discontinued.

A particular issue that could be discussed is how to deal with projects that were initiated before contemporary goals, such as climate protection or environmental justice. Implementation processes for large capital projects often take a decade, or even several, from their initial proposal through planning and design to reach readiness for construction. As a result, some projects currently being considered for implementation were conceived before planning goals, such as GHG reduction or protection of disadvantaged communities, had risen to prominence. Older projects might also have been proposed before the availability of new designs and technologies that offer alternative solutions or cost-effective mitigation options.

Unless explicitly directed otherwise, many transportation agencies continue to pursue implementation of older projects; project sponsors and other supporters become committed to seeing the projects through to fruition, and agency staff come to see the projects as obligations. The projects might be intended to improve traffic flow, reduce travel times, or increase safety—all important goals. Yet these projects also could induce travel, which in turn could reduce the anticipated benefits and undermine the achievement of other urgently important goals. A review of projects in the pipeline could determine whether they will still be effective in delivering long-term benefits and whether alternative approaches could achieve the desired results at lower economic, social, or environmental cost. Such a review could also involve identifying best practices for goal achievement and avoidance or mitigation of adverse effects. Possible approaches include preparing integrated packages of measures programmed together rather than individual projects as a way to achieve multiple objectives, identifying actions that achieve multiple objectives without detracting from others, and new ways of addressing impacts of concern, such as mitigation banks.

Finding a balance between keeping past promises and advancing current objectives could be complex but might also be the only way to successfully address today's pressing goals in a timely fashion while equitably addressing longstanding problems

Recommendation 3: Review and revise transportation funding programs in light of California policy goals and the newly increased federal support for transportation.

While flagging policy conflicts is a valuable first step, a more comprehensive reevaluation of program funding levels and eligibility criteria in light of state goals is in order. To implement the GHG reductions envisioned, policy is needed that will redirect California's core transportation funding, including the STIP, SHOPP, and local and regional funds, away from auto-capacity projects and toward investments that reduce auto dependence, such as transit and active transportation.

The new federal infrastructure bill includes billions of dollars of transportation funding for California. Federal infrastructure funds will substantially increase California's ability to repair, maintain, and improve its transportation systems, and early policy guidance from the Federal Highway Administration and the Federal Transit Administration is well aligned with the state's goals. Thus, the state has a major opportunity to deliver better transportation at a faster pace and accelerate goal achievement.

In this context, the state should consider how to best utilize the new federal funds as well as its own transportation funds to maximize benefits. Recent studies show that the federal bill can advance new policies or simply continue business as usual, depending on the decisions that the states and US DOT make on projects. The CTP 2050 showed that

goal attainment is best achieved through a balance of investments coordinated with land use plans and including “stretch” programs for ZEVs, greatly expanded transit and nonmotorized travel options, and road pricing. Directing expenditures of federal dollars to meet state goals could accelerate their attainment and also could free up state and local funds, allowing greater spending on much-needed projects that improve environmental performance and social justice. Accomplishing this could require administrative moves within the existing legislative framework as well as moves that would require additional legislation.

As part of this effort, the state should consider increases in funding for its small, innovative programs. California has created a number of programs that improve equity and address pressing community needs, implement progressive projects in priority development areas, and test new ideas in transportation and housing. However, competition for funding from these programs is heavy, indicating that interest and need exceed currently available funding levels. An increase in funding would be beneficial.

Still, upping the funding for the state’s small “AB 285” programs should not be mistaken as a fix for current funding issues. Even increases that expand these programs’ funding multifold won’t solve the problem if the state’s biggest programs remain unaligned with state goals.

A simple way to improve the performance of the small funding programs would be to simplify their requirements. As a first step, the state should consider a one-stop application process for these programs. At present, each program has different applicant qualifications, criteria for evaluation, and deadlines. This increases administration costs and, for those with limited resources, can be a barrier to applying. A one-stop process for application submittal and review could reduce costs for all and increase access to these programs. Review processes could be collaborative, with multiple agencies participating or seconding staff to an organization that would organize the review process and handle administration.

Recommendation 4: Review and update the roles of transportation organizations at the state, regional, and local levels.

Institutions (legal frameworks, organizations, practices) reflect the issues and opportunities extant at the time of their establishment. For example, building safe, efficient transportation systems and supporting economic development have been basic objectives of transportation institutions for centuries. Over the past 50 years, objectives have broadened, and transportation agencies are expected to incorporate environmental values and social equity into their basic practices. Today, transportation agencies are increasingly expected to take on additional responsibilities, planning together with communities, the private sector, and officials from all levels of government to deliver investments that support a vibrant economy and a high quality of life for all. A review of the roles of transportation organizations might identify a need to update missions, organizational structure, staffing plans, and more to effectively meet current expectations.

California’s complex, decentralized current institutional arrangements make it difficult to understand who is responsible for action and what levers are available to accomplish goals. This in turn makes it hard to hold any particular agency responsible for goal achievement. A review of transportation institutions and the assignments of responsibility, authority, and resources available to them could lead to identifying reforms that would produce improvements in transparency and efficacy. At the state level, this review would involve examining and possibly revising CalSTA, Caltrans, and CTC roles and responsibilities for establishing the state transportation vision and for implementation actions, including the selection of projects to make that vision a reality. The review could also extend to other state agencies that set policies and deliver projects and programs that affect transportation, including CARB, OPR, and the SGC.

Because regional plans are major inputs to state plans, a review of the state-regional relationship would also be in order. The review could examine the consistency of regional plans with state policy goals and the effects of assignments of responsibility and criteria for planning and project selection and prioritization. The results could include recommendations for changes to organizational responsibilities and authority to act as well as recommendations on funding and staffing for the agencies to make sure that they are adequately equipped to carry out the assignments they are given and deliver as expected.

At the regional level, MPO geographic scope, cross-border relations, board composition, voting rules, assignments of responsibility, and financial capacity could also be reviewed, with the aim of assuring that the MPOs have the organizational structure, legal authority, political support, and resources they need to effectively accomplish what is expected of them. This review would take into consideration the role of key inputs to regional plans and programs, including city and county land use and transportation plans and county transportation programs.

A forum on the role of MPOs could involve exploring opportunities to provide them with additional authority to make decisions about the transportation plans and programs within their jurisdictions, for example, to require local plan and program consistency with the SGSs as a condition of matching funds, or could identify ways to incentivize greater cooperation across the region and with state agencies on critical issues, such as freight corridors, interregional passenger connections, transit pricing and funding, housing and labor markets, and the resulting jobs-housing balance and affordability. The MPO discussion could also cover evaluation methods and performance measurement and reporting, matters that could improve both the agencies' own ability to assess outcomes and the ability of state agencies to put it all together into a statewide assessment of performance.

Reviews could extend to local transportation planning and expenditure issues. Such reviews could include the role of city and county plans and expenditure programs and their performance with respect to state goals. Other possible topics for discussion are local funding needs, for example, for active transportation, complete streets, and transit and paratransit operations, economic development strategies for improving jobs-housing balance, and reducing traffic problems. Local agencies and stakeholders are also likely to have recommendations on transportation-related social equity problems within their jurisdictions, and their identification of needed actions could help state agencies turn statements acknowledging the need for environmental justice into action plans.

Recommendation 5: Give MPOs additional authority to accomplish the goals that California expects of them.

California MPOs are expected, through their Sustainable Communities Strategies, to find ways to reduce VMT and to enable housing construction in sufficient quantities to meet the needs of the population and the economy. Yet they lack authority over the local transportation and land use plans that largely shape regional development patterns and the travel that stems from them.

California planning institutions have been designed to give localities considerable control over transportation and land use decisions. This approach can be responsive to local context and can provide meaningful opportunities for public engagement. The drawbacks are that many important planning considerations, from labor sheds to commuting patterns, cover more ground than the locality. Another drawback is that the local perspective is sometimes parochial. MPOs cover economic regions and are governed by a representative board of local officials. They engage with stakeholders from a variety of communities and businesses and cooperate with state and federal officials. Since the passage of SB 375, they have gained experience in negotiating coordinated transportation, land use, and environmental policies and strategies. This positioning should enable them to balance purely local interests with broader interests of the region, state, and beyond and to offer leadership on multimodal, integrated urban and regional planning.

In this context, MPOs should be given additional authority to approve transportation plans and programs within their region, ranging from policies on transportation pricing to local and regional street design standards. In addition, county and local plans should be required to be consistent with regional plans to be eligible for matching funds from state and regional sources. Some MPOs are already moving in this direction in their use of discretionary funds and programming authority; others should be encouraged and enabled to do so. Consideration should also be given to exploring opportunities to increase the funding available to the MPOs, either by shifting funds within current programs or by increasing funding of MPO programs that help the state meet multiple goals.

Recommendation 6: Redesign California’s transportation plans to increase their impact.

While the CTP 2050 addresses many goals and sets forth an aspirational vision for the state’s transportation system, its impact is reduced by its lack of detail on implementation, including who would need to take action and what authority and funding levels would be required. As a fiscally unconstrained exploration of transportation possibilities, it offers a view of a possible future, but does not show the way to get there. There are literally thousands of pages of additional state plans, including six modal plans and plans that address concerns such as traffic safety, but they provide only partial clarification on policies, priorities, and planned investments. Their timing and content is disjointed. Also, the state plan directly shapes only a portion of investments, because many key decisions rest with local and regional authorities.

The CTP’s impact would be improved if, in addition to an aspirational, unconstrained vision, it included an alternative that showed what it could expect to accomplish with current authority and funding. Comparing a “constrained” scenario to the unconstrained vision would allow decision-makers to gauge which changes might be desirable. In addition, describing who was expected to take action, when, and with which resources would allow plan efficacy to be tracked and evaluated. Rethinking how to better “nest” the modal plans with the CTP and develop them in logical sequence could lead to shorter, more usable documents and clearer linkages among them.

In the context of investigating alternative planning strategies, it would also be useful to consider whether the current policy of assuming that the regional plans are “givens” makes sense, and whether regional and local project proposals should have to comply with state goals to be consistent with state and regional plans and included in state and regional funding programs.

Recommendation 7: Institute and independently evaluate demonstration programs and projects that can serve as test beds for innovations that would advance state goals and, when successful, can help establish best practices for contemporary goals.

Monitoring, evaluation, and revisions as needed are important for all programs and projects but are especially needed for those that are trying out new ideas. Innovations are occurring in many parts of the California transportation system and also in land use planning and projects. Considerable learning can occur by evaluating the effects of such innovations. Self-evaluation is useful to some extent, but it can also be limited by fear of admitting shortcomings. Instituting programs for independent monitoring and reporting on demonstration projects is a proven technique for speeding social learning and should be instituted more systematically in California.

8. Additional Recommendations on Plans, Funding, and Legal Issues

The white papers contain additional recommendations that add detail to the previous general recommendations. These additional recommendations are summarized here. The white papers provide additional discussion.

State Transportation Plans

- 1) Streamline the state transportation plans and the modal plans to make them more digestible and easier to review. Present background information in abbreviated form, use the same background information for all plans, and focus on policies and actions.
- 2) Require the CTP to evaluate an alternative that could be implemented under existing authority and funding levels as well as an unconstrained plan that is aspirational.
- 3) In each plan, summarize the major actions and proposals being made by the sponsor as well as the major actions and proposal being made by other agencies on which the state plan is relying. This should include planned actions by the MPOs and other relevant transportation organizations, such as railroads and port authorities, as well as anticipated funding and other actions from federal transportation agencies.
- 4) Incorporate a financial element in each plan (including the CTP) rather than in a separate document. Document the amount of money spent in the last planning period on each mode and the amounts estimated to be available over the next planning period, being explicit about uncertainties and identifying which funds are flexible. (This approach requires a consistent project classification and reporting system.) Identify the accounts of the funds and who has final decision authority over their expenditure.
- 5) Track accomplishments and flag problems. Require each plan to evaluate the progress made toward goal attainment under the previous plan, document what has changed since the last plan in terms of policy direction and priority, and set objectives for goal attainment for future years (requires criteria). Identify which organizations are responsible for implementing each policy in the plan.
- 6) Incorporate an implementation element in each plan. Identify the lead agency, partnerships, funding, and other resources necessary to implement planned actions. Include a timeline for action.
- 7) Develop a modal plan for streets and highways that provides guidance and direction on how California will balance fix-it-first, environmental quality, and equity issues. (Streets and highways are the only mode over which state agencies have considerable authority but which does not have a formal modal plan, although there are many documents dealing with operation and maintenance, safety, and so on that present details on highway investments.)
- 8) Add a section to the CTP that explicitly discusses how the modal plans will work together to produce an integrated multimodal system. Discuss steps to be taken to assure that California's investments will result in cost-effective, convenient transportation options that meet state goals and make effective use of federal, state, and private investments in transportation.
- 9) Add a section to the CTP that explicitly discusses the assumptions being made about new technologies, assesses the uncertainty and risk associated with those assumptions, and discusses contingency plans should the assumptions not pan out.
- 10) Require requests for matching funds over which state agencies have discretion to show compliance (conformity) with state policies.

MPO Plans

- 1) Improve data reporting by mandating that MPOs use the same classifications for funding allocations, such as for categorizing projects by mode (roadways vs. transit vs. active transport) and by purpose (new facilities vs. M&O and rehab). This facilitates comparing funding allocations across MPOs.
- 2) Provide stronger mandates and incentives for local performance in response to SB 375, and link receipt of state- and MPO-directed funds for transportation, housing, and associated planning efforts to local SB 375–supportive actions, such as upzoning, parking deregulation, and RHNA and RTP/SCS conformity.
- 3) Align state transportation funding with goals for reducing GHGs and VMT and improving access and mobility for disadvantaged communities by prioritizing and spending state transportation dollars for projects that are demonstrated to reduce GHGs and VMT and advance equity.
- 4) Improve performance tracking for RTP/SCS progress, with consequences for getting off track. Do more than just monitor regional development indicators, such as VMT, mode choice, and housing density and type, and instead identify and regularly monitor interim RTP/SCS performance progress along the plan trajectory, and impose consequences for getting off track, similar to air quality conformity requirements, for which control measures are imposed when needed.
- 5) Require MPOs to monitor SCS compliance and to publicly identify localities whose land use policies do not conform to SCS performance goals, such as increased density and parking deregulation.

Funding

- 1) Align funding with program goals so that programs that advance high-priority state goals receive more funding.
- 2) Revise program evaluation criteria to introduce more flexibility so that the overly restrictive, burdensome, or narrow criteria are not precluding worthy projects from pursuing funding that would advance progress on the state’s climate goals.
- 3) Investigate the possibility of a staffed clearinghouse to assist interested applicants to identify and match to appropriate funding sources so that small projects and smaller agencies are better able to pursue projects.
- 4) Increase funding and improve allotments for disadvantaged communities, including reserving a percentage of program funds specifically for disadvantaged communities, as the Greenhouse Gas Reductions Fund currently does.
- 5) Increase the involvement of, and funding through, MPOs to leverage their institutional knowledge of state goals as reflected in their development of SCSs, enabling more regional and strategic coordination of transportation funding than is attained through LOSTs at the county level.
- 6) Pursue opportunities to steer regional Congestion Mitigation and Air Quality program investments toward meeting multiple state goals with projects such as bicycle and pedestrian facilities and programs, travel demand management, car sharing, electric vehicle infrastructure, and bike sharing.
- 7) Improve the consistency and availability of data on state and local transportation investments.
- 8) Investigate the process by which applicant agencies develop and apply for projects to better understand how program criteria and application processes shape project designs and how state funding might influence which types of climate advantageous projects are pursued and why.

Legal Issues

- 1) Leverage existing funding flexibility in updates to state-level program guidance to prioritize projects that reduce VMT, reduce or avoid GHG emissions, and improve social equity.
- 2) Build flexibility into the language of newly created funding programs, but not so much flexibility that the program loses its ability to target a particular need or goal.
- 3) Direct state discretionary funding to MPOs and local entities for equity projects and projects that reduce VMT and GHG emissions.
- 4) Condition new funding programs on regional and local transportation agencies affirmatively meeting state goals and using metrics to select projects for funding based on VMT- and GHG-reduction performance, among other factors.

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