

From LOS to VMT: Repurposing Impact Fee Programs Since Adoption of SB 743

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16. Abstract This white paper assesses how cities are modifying transportation impact fees in response to Senate Bill (SB) 743, adopted in 2013 to orient environmental review of transportation impacts of development projects and plans in California to support sustainable development. SB 743 and its implementing guidelines eliminated “level of service” (LOS) standards for automobile traffic delay as an environmental impact to be addressed under the California Environmental Quality Act (CEQA), recommending instead that localities and other lead agencies responsible for CEQA review analyze, and if possible, mitigate impacts on vehicle miles traveled (VMT) instead. As cities proceed to implement SB 743, some are going further than the minimum required to analyze and mitigate for VMT at the development project level. Instead, they are also pursuing “programmatic” approaches, including altering citywide impact fees imposed on developers, to support more systematic analysis and mitigation than is possible at the project level alone. Based on public documents research and interviews with consultants and planners, this paper identifies three basic approaches that cities are taking to design impact fees in conjunction with their policy approaches for addressing SB 743: first, to design impact fee programs that fund VMT-reducing projects, but without employing a VMT “nexus” (the nexus is the basis for identifying impacts to be addressed by the program); second, to employ a VMT nexus for identifying facilities need and cost allocation; and third, to design a fee program that links to systematic CEQA-reviewed VMT analysis in the General Plan and/or other related CEQA-reviewed citywide policy documents. In this latter approach, cities may or may not design their fee program to fund VMT-reducing projects; indeed, this approach may help facilitate a more traditional, LOS-based fee program. This outcome can happen if a city analyzes VMT systematically for the General Plan, and then adopts a “statement of overriding considerations” under CEQA, which allows for development projects to “tier” off the programmatic environmental review so as to avoid the need for conducting cumulative VMT impacts analysis. This approach may facilitate more systematic integration of VMT and LOS analysis at the citywide level, but it does not support SB 743 goals for supporting VMT-reducing projects and programs.			
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From LOS to VMT: Repurposing Impact Fee Programs Since Adoption of SB 743

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EXECUTIVE SUMMARY

Senate Bill (SB) 743, adopted in 2013, represents a watershed in re-orienting environmental review of development projects and plans in California towards support for more efficient development patterns. The law eliminated use of “level of service” (LOS) standards for automobile traffic delay as an environmental impact to be addressed under the California Environmental Quality Act (CEQA), calling for a different performance metric for assessing transportation impacts better suited to reducing greenhouse gases (GHGs), promoting infill development, and encouraging multimodal transport. CEQA requires development projects and plans to undergo environmental analysis, and, if feasible, mitigation of significant impacts. The SB 743 implementing guidelines recommend analysis of vehicle miles traveled (VMT) generated by development projects rather than analysis of traffic delay. Lead agencies responsible for implementing CEQA review were required to transition to the new approach by July 2020.

As California cities are proceeding to comply with SB 743, many of them are taking more than just the minimum steps recommended in the state’s implementing guidelines, namely to establish and apply “significance thresholds” for evaluating and mitigating VMT impacts of proposed development projects. Some cities are going further than this minimum step to also pursue more systematic plan- and policy-based “programmatic” approaches for addressing VMT, including redesigning their transportation impact fees to align with their methods of SB 743 compliance. Impact fees are a common tool used by local governments for funding capital improvements to public facilities, such as parks, sewers, and transportation. The fees are a one-time, non-recurring revenue source paid at the start of a development project, typically at building permit issuance. By using an impact fee, a city can facilitate more systematic, efficient, and effective program-based mitigation than is possible through ad hoc project-level impacts mitigation on its own.

About 70% of cities in California’s largest metropolitan areas have adopted impact fees for transportation, three-quarters of which fund not just roadways but other transportation modes. Many cities have relied on impact fees for supporting LOS standards, but since the adoption of SB 743, LOS-based impact fee programs can no longer serve as CEQA mitigation. SB 743 does not prohibit cities from employing LOS standards, but now they must do so on an “off-CEQA” basis, such as by retaining LOS standards among policy goals established in the city’s General Plan and then applying the standards as conditions for project approval during the entitlement review process. The cities investigated for this white paper all apply LOS standards as part of project entitlement review procedures, to address circulation impacts (San Francisco uses transit and pedestrian LOS standards).

Furthermore, even if they cannot do so for CEQA mitigation, cities can also still impose impact fees to improve/maintain LOS under provisions of the state’s Mitigation Fee Act (MFA), so long

as the fee program complies with requirements for demonstrating a “rational nexus” between the fee’s purpose, the need for the fee, the cost of facilities for addressing the need, and the allocation of the fee to new development based on its contribution to the demonstrated need. Four-fifths of cities in California’s four largest metropolitan areas indicated in 2019 that they intend to employ both VMT and LOS standards and metrics for development review, and about the same share of cities with transportation impact fees indicated they either already had or might in the future revise their fee program to align with SB 743. Thus, most California cities are attempting to straddle and combine VMT and LOS standards and metrics.

This white paper assesses how cities are proceeding to modify transportation impact fees in response to SB 743, and how and whether the new fee programs work to reduce VMT and/or to address traditional auto LOS. Based on public documents research and interviews with transportation consultants and planners, some basic approaches that cities are adopting to modify impact fees in response to SB 743 were identified. The research indicates that cities are pursuing a range of strategies that correspond to different city goals for addressing multimodal transport needs. The impact fee approaches vary, among other factors, based on the nexus adopted for the fee program, the metric used for measuring the nexus “burden,” the purpose for which fee revenue is to be spent (the project types to be funded), and whether or not the program is evaluated under CEQA and tied to official city goals and policies for reducing GHGs and VMT, thereby permitting “tiering” of project-level cumulative impacts assessment and mitigation. The strategies also vary in connection to how and whether a city addresses LOS standards in its General Plan, for its impact fee program, and for purposes of project-level entitlement review.

This white paper identifies three basic approaches that cities are taking to design impact fees in line with their policies adopted for addressing SB 743: first, to design impact fee programs that fund VMT-reducing projects, but without employing a VMT “nexus” (i.e. the basis for identifying impacts to be addressed by the program); second, to employ a VMT nexus for identifying facilities need and cost allocation; and third, to design a fee program that links systematically to CEQA-reviewed VMT analysis in the General Plan and/or other related CEQA-reviewed policy documents. In this latter approach, cities may or may not design their fee program to fund VMT-reducing projects; indeed, this approach may be taken to help facilitate a more traditional, LOS-based fee program, adopted under provisions of the Mitigation Fee Act. This outcome can happen if a city analyzes VMT systematically for the General Plan, and then adopts a “statement of overriding considerations” under CEQA, which allows for development projects to “tier” off the programmatic environmental review and thereby avoid the need for conducting cumulative VMT impacts analysis. This approach may facilitate a more systematic integration of VMT and LOS analysis at the citywide level, but it does not foster SB 743 goals for supporting VMT-reducing projects and programs.

Six case study cities were selected for deeper investigation, each of which has adopted an impact fee since passage of SB 743, and which serve to illustrate the different city approaches identified in this white paper. Challenges and opportunities for pursuing the different strategies are explored through the case study analysis. The typology presented here is not intended to be

exhaustive and indeed is preliminary in promoting understanding of how cities are responding to SB 743 in developing and revising their impact fees. VMT analysis and mitigation under CEQA is still a developing practice, and cities are still exploring how to address SB 743.

An important starting place in considering this typology of city approaches is to recognize that for many cities, SB 743 aligns with their current planning practice. SB 743 coincides “naturally” with a transition already underway in many mature, “built out” cities toward emphasizing multi-modal transport. In many of these cities, the traditional methods for addressing vehicular congestion, such as widening roadways, are no longer seen as viable mobility solutions. Instead, strategies to provide efficient mobility alternatives to driving alone, such as through improved transit, pedestrian, and bicycling facilities, are now being pursued.

For such “built-out” cities, the most logical approach for establishing the “nexus” basis for an impact fee intended to fund multimodal transport might appear to be to employ a VMT-based metric. However, some cities that have designed impact fee programs post-SB 743, with the aim of funding transit and active transport (AT) facilities (which are VMT-reducing, in general), did so without using VMT as the basis for assessing need. Two such cities investigated for this white paper are San Francisco and El Cerrito, both located in the Bay Area. Their fee programs are designed to comply with provisions of the state’s Mitigation Fee Act (MFA), and also to align with city strategies for SB 743 compliance. San Francisco’s nexus for its fee program is actually LOS-based, only applied to transit and pedestrian facilities rather than automobiles. The approach taken by these two cities indicates that to support the spirit of SB 743 for reducing VMT, it is not necessary to explicitly rely on a VMT metric for designing an impact fee program.

The second approach identified in this white paper for designing post-SB 743 impact fees has been to explicitly rely upon VMT-based metrics and measures of need. Two cities investigated that utilize this approach are Belmont, in San Mateo County, and Culver City, in Los Angeles County. Although based upon VMT metrics, the impact fee programs developed in these two cities rely upon MFA provisions rather than CEQA analysis as the basis for adoption. In this manner the fee programs operate similarly to other MFA-based fee programs, including traditional LOS-based impact fees, only with a different basis for determining need. The metric used for measuring proportionality of impact to need in Belmont and Culver City is VMT-focused (trip rates multiplied by trip lengths) rather than LOS-focused (traditionally based upon measuring numbers of trips only, and their impact on nearby roadways and intersections). As VMT-oriented programs, these impact fees fund VMT-reducing or VMT-neutral projects only, such as transit and AT, rather than roadway enhancements that could induce more driving.

On first glance, using VMT-based metrics and standards for an impact fee program to align with SB 743 might appear to be the best course for ensuring more effective and coordinated VMT analysis and mitigation at both the project and program-based levels. While this may be true, VMT-based nexus design can also pose challenges, explaining why some cities may choose other options. Traditionally, auto-LOS analysis and mitigation has focused on localized impacts of development upon nearby road segments and intersections, which simplifies the “burden” analysis for a fee program in establishing a tight nexus between needs, costs, and allocation of

costs. A benefit, but also a challenge, of VMT-focused analysis and mitigation is that by nature it encompasses a wider view; VMT metrics essentially capture “location efficiency” – the impact of land use and transportation patterns upon travel behavior in a given locale, which is affected not just by fine-grained localized factors but also by wider conditions. This aspect makes determining the “burden” of a VMT-based fee program more complicated, however. Over time, VMT impacts analysis and mitigation for CEQA purposes will be refined and tested, including through the courts. But as of now, practices are still being tested and tried out.

The third and final approach considered in this white paper that some cities are taking for addressing SB 743 is to conduct VMT analysis and mitigation at the level of the citywide General Plan or associated plans (such as Climate Action Plans). This programmatic approach can align project- and plan-level review and mitigation in a more systematic, efficient, and effective way than is possible through ad hoc project-level review and mitigation alone. In addition, this approach can facilitate “tiering” from a CEQA-certified plan or policy, enabling subsequent project proposals deemed consistent with the plan or policy to reduce or avoid at least some project-level CEQA review requirements. Transportation consultants interviewed for this white paper indicated that many cities are interested in pursuing this sort of programmatic approach, especially given the challenges of reducing VMT through project-level strategies alone.

Two cities investigated here that have pursued a programmatic approach are San Diego and Vacaville. Both integrated SB 743 compliance mechanisms into their General Plan and/or related citywide plans, in particular climate action plans. They did so to enable tiering of GHG and VMT impact assessment, so as to ease subsequent project-level review, especially for cumulative impacts. But in spite of this similarity, the two cities’ strategies are also markedly different, which can be seen by comparing their new transportation impact fees, included in their policy packages developed to address SB 743 compliance.

San Diego developed an innovative new impact fee to fund VMT-reducing infrastructure (bike facilities, pedestrian facilities, transit service, and micro-mobility) in location-efficient parts of the city, so as to reduce VMT as efficiently and cost-effectively as possible citywide. Development projects in high-VMT parts of the city are required to pay the fee, based on the project’s estimated VMT impacts and the per-VMT cost of reducing them to an acceptable level. This strategy is intended to allow new development in suburban parts of town to mitigate VMT impacts more efficiently and cost-effectively by funding multi-modal infrastructure in denser urban core areas, where it will be most effective. This strategy is being coupled with other city programs, such as density bonus programs offered to housing developers, that aim to induce more compact and affordable housing to be built in location-efficient parts of San Diego.

This approach contrasts sharply with how Vacaville designed its new transportation impact fee program, on a traditional auto LOS nexus basis for determining the need for new facilities, 93% of which will be roadway capacity-increasing projects. Vacaville’s impact fee is a traditional auto-LOS oriented program, being implemented on an “off-CEQA” basis under MFA provisions. The approach reflects, at least in part, Vacaville’s lower-density development pattern, compared to San Diego, and the high growth rates projected for undeveloped areas. The city’s

environmental impact analysis of its General Plan transportation element actually projects an overall reduction in VMT compared to a “no-project” scenario, because the large amount of new development slated to occur in the city is expected to improve jobs-housing balance and the new development will benefit from roadway capacity-increasing projects. However, this assessment does not factor in VMT reductions that might have been possible if the city’s new fee program provided more funding for non-auto mode alternatives to driving. Indeed, the city’s fee program supports the expansion of new auto-dependent development.

Furthermore, although Vacaville’s recent policy documents underscore the tiering benefits made possible by pegging project-level VMT and GHG analysis to the city’s CEQA-certified climate action plan and transportation element of the General Plan, the associated EIR deems cumulative VMT impacts citywide to be significant and unavoidable. In this fashion, the tiering benefit on offer for project-level review is not to piggyback project-level VMT analysis and mitigation onto a wider-scale program, as in San Diego, but rather to piggyback onto a statement of overriding consideration written to allow development to proceed in spite of significant and unavoidable VMT impacts.

Historically, CEQA review received some criticism for a perceived over-emphasis on myopic, project-level analysis and mitigation, rather than facilitating proactive, wider-scale programs and policies. In response, various provisions have been adopted to enable “tiering” of project-level CEQA review and mitigation from wider plan- and policy-level review. However, while a programmatic approach can enable more systematic analysis and mitigation of VMT impacts, the Vacaville example shows that this promise may not always result in a more concerted effort to reduce VMT pursuant to SB 743. Instead, an approach such as Vacaville’s that tiers from a statement of overriding consideration for mitigation of cumulative VMT impacts may simply ease impact assessment for high-VMT projects. In this fashion, a programmatic approach may be more systematic but without supporting systematic VMT reduction. State policymakers may want to consider how to address this aspect of tiering provisions, by enhancing benefits for programmatic approaches that do enhance mitigation to reduce VMT impacts.

Key take-away findings from this research include:

- Localities are pursuing a range of strategies to revise transportation policies to address SB 743, including revising impact fees and other city-level plans and policies
- Some cities are experimenting with how to employ a VMT-based nexus for impact fee programs, and facing some challenges in establishing and demonstrating a VMT “burden” for nexus purposes
- In revising their impact fees as part of the process to address SB 743 goals and requirements, cities are not all using a VMT nexus in designing their impact fee programs; other options are available
- Some cities are integrating CEQA-certified analysis of VMT impacts into their General Plan policies, but not necessarily so as to support programmatic VMT mitigation; in some cases, the process provides for CEQA streamlining benefits from tiering off of a statement of overriding considerations of significant and unavoidable VMT impacts

The table below summarizes some key information about the impact fee programs adopted in the six case study cities investigated for this white paper, organized according to the three approaches delineated.

Table 1. Summary Information on the Case Study Impact Fee Programs Studied in this White Paper

City	Year adopted	Projected costs of eligible projects	Funding breakdown for eligible projects	Metric for assessing burden	Nexus (defined need)	Tiering from General Plan
Impact fees that fund VMT-reducing projects, but don't use a VMT-based metric for assessing need						
San Francisco	2015	\$2.2 billion	61% for transit capital maintenance, 34% for transit service expansion and reliability, 3% for bike/ped, 2% administration	Auto and transit trips generated	For new transit facilities, trip generation. For transit maintenance, transit LOS (ratio of revenue service hours to # of auto-plus-transit trips)	No EIR completed for the impact fee
El Cerrito	2018	\$31.3 million, \$9.5 million by fee	73% for bike/ped, 27% for "complete streets"	Trip generation rates	Maintain existing facility standard, i.e., proportionate expenditure	No EIR for the impact fee
Impact fees that use a VMT-based metric for assessing need						
Belmont	2020	\$60,546,300	All for complete streets projects	VMT	Maintain proportionate investment per VMT	No EIR for the impact fee
Culver City	2021	\$224,000,000	Transit 48%, bikeways 24%, signals/ITS 14%, road circulation 8%, ped projects 6%	VMT and VMT per capita	VMT and VMT per capita	No EIR completed for the impact fee
Impact fees in cities that tier VMT impacts assessment to General Plan policies and associated EIRs						
Vacaville	Nexus study April, 2022	\$563,390,812	93% for roadway capacity improvements, the rest for bike/ped, complete streets improvements	VMT	Auto LOS standards	Tiers off Gen'l Plan; VMT is significant, unavoidable
San Diego	2020	Not specified	Transit 50%, bicycle/micro-mobility 36%, pedestrian 14%	Cost-per-VMT for sample projects weighted by mode share goals	VMT	Tiers off CAP; EIR for fee program completed

Sources for SF: Spencer (2015) Tables C-2 through C-6, and City of SF (2015); for El Cerrito: City of El Cerrito (2018) Table 9; for Belmont: Kittelson & Associates (2020) Table 9; for Culver City: Fehr & Peers (2021) Figure 1 and Appendix A; for Vacaville: City of Vacaville (2022) Table 10; for San Diego: EFS Engineering, Inc. (2020) Table 3.

Introduction

Impact fees are a common funding source used by local governments throughout the United States for more than a century for capital improvement programs for public facilities such as parks, sewers, and transportation. The fees are a one-time, non-recurring revenue source paid at the start of a development project, typically at building permit issuance. By the 1990s, impact fees had become increasingly popular in California in response to declines in federal funding for infrastructure and rising public anti-tax sentiment. In this context, development impact fees have been viewed as a way to “make development pay for itself” – to add needed infrastructure without imposing a tax burden on existing community residents (Fulton and Shigley, 2012; Peters, 2012; Raetz et al, 2019).

About 70% of cities in California’s largest metropolitan areas have adopted impact fees for transportation, three-quarters of which fund not just roadways but other transportation modes (Barbour et al., 2021). In most cases, the impact fees have been used to maintain “level of service” (LOS) standards for vehicle throughput, which have been embedded in planning practice for decades. Nearly three-quarters of California cities having employed LOS-based policies in their General Plans (guiding documents for community development) (calculated from OPR, *2016 Annual Planning Survey Results*). Application of LOS standards was further reinforced by inclusion in state guidelines for conducting environmental review under the California Environmental Quality Act (CEQA), which requires evaluation and, if feasible, mitigation of significant negative environmental impacts of development projects and plans. CEQA promulgated the use of LOS since at least the 1990s (OPR, 2013).

After more than fifty years of employing automobile LOS, the practice came under increasing criticism for undermining development of multimodal transportation networks, infill development, and even optimization of the roadway network for motor vehicles – the very purpose for which LOS standards were meant to be used (OPR, 2013). Senate Bill (SB) 743 was adopted in 2013 to re-orient CEQA review to support more efficient development patterns. The law eliminated automobile delay (measured using LOS) as an environmental impact to be addressed under CEQA, and called for a performance metric for assessing transportation impacts better suited to reducing greenhouse gas emissions (GHGs), promoting infill development, and encouraging multimodal transportation.

In December 2018, the California Natural Resources Agency adopted guidelines for SB 743 implementation developed by the Governor’s Office of Planning and Research (OPR). The guidelines recommend analysis of vehicle miles traveled (VMT) generated by development projects rather than analysis of traffic delay. Local lead agencies responsible for implementing CEQA review (meaning local governments, for purposes of reviewing most development projects), were required to transition to the new approach by July 1, 2020. OPR provided technical advice on how lead agencies can carry out VMT analysis.¹

¹ The revised CEQA guidelines and OPR’s technical guidance can be found at <https://www.opr.ca.gov/ceqa/sb-743/>

In implementing SB 743, many cities have been mainly concerned with how to apply its provisions at the project level for analysis of individual development project proposals. However, some cities are going further, by using the transition to revisit their transportation policies more broadly, in particular, their transportation impact fees and Transportation Demand Management (TDM) policies, so as to integrate SB 743 requirements systematically with these other aspects of local policy. Adopting a systematic approach to reducing VMT, such as through improving multimodal network capacity in “location-efficient” areas (with compact, mixed-use development), can more effectively mitigate VMT than can ad hoc, project-level strategies (Fehr & Peers, 2020, 2021a). Especially in built-up urban areas where LOS-oriented strategies are increasingly ineffective for managing vehicle congestion, shifting the emphasis toward improving multi-modal transport efficiency and reducing VMT is a natural course.

However, most California cities also still seek to utilize LOS standards for planning and policymaking. More than half (53%) of cities surveyed in 2019 in California’s four largest metropolitan areas reported that they intended to employ both VMT and LOS standards and metrics for development review in the future, and another 27% said they would use VMT and LOS along with other metrics (Barbour et al, 2021). The survey findings also indicated that SB 743 is likely to affect development impact fees, with about one-third (36%) of respondent cities with impacts fees stating that their city either had revised or would revise its impact fees to align with SB 743, and another 43% stating they might do so (ibid). Thus, the majority of California cities are attempting to straddle and combine VMT and LOS standards and metrics at both the project and plan/policy level, moving forward.

Since the adoption of SB 743, LOS-based impact fee programs can no longer serve as CEQA mitigation. SB 743 does not prohibit cities from employing LOS standards, but it means that they must now do so on an “off-CEQA” basis, such as by retaining LOS standards among policy goals established in the city’s General Plan and then applying the standards as conditions for project approval during the city’s project entitlement review process. Furthermore, cities can also still impose impact fees to improve/maintain LOS or to achieve other officially established policy goals, under provisions of the state’s Mitigation Fee Act (MFA), so long as the fee program complies with requirements for demonstrating a “rational nexus” between the fee’s purpose, the need for the fee, the cost of facilities for addressing the need, and the allocation of the fee to new development based on its contribution to the demonstrated need.

How could or should localities that seek to retain use of auto LOS for citywide policy and/or project-level standards of review, do so while also employing VMT metrics and standards, pursuant to SB 743 – especially given the potential for conflict between LOS and VMT standards in terms of outcomes sought (with LOS-mitigating strategies aimed at *reducing* driving, often by supporting non-auto modes rather than easing automobile traffic, while auto LOS-mitigating strategies are focused on *easing* vehicular traffic, through strategies that often increase VMT and emissions)?

These complications in the transition to SB 743 compliance pose various questions for local planning practice, given that cities can and must devise their own methods for CEQA review and mitigation. In connection to impact fees, questions include:

- Will localities alter impact fees to align with and/or respond to SB 743? If so, how and why?
- Will they shift to employing a VMT basis for their impact fee programs, for measuring and addressing the need for new facilities? Or will they maintain LOS-based impact fee programs on an “off-CEQA” basis, under provisions of the MFA, even as they also apply VMT standards for CEQA review at the project level?
- Will localities revise their General Plans and/or associated policy documents, such as Climate Action Plans, to address VMT goals and policies for achieving them?
- If localities seek to utilize LOS standards at the plan and project levels, in addition to VMT standards, how will they reconcile them?

This white paper addresses these questions, assessing how cities are proceeding to modify transportation impact fees in response to SB 743, and how and whether the new fee programs work to reduce VMT and/or to address traditional auto LOS. Based on public documents research and interviews with transportation consultants, some basic strategies for revising impact fees in response to SB 743, and factors that distinguish them, were first identified. Six case study cities were selected for investigation and discussion, each of which has adopted a new impact fee for transportation since passage of SB 743, and which serve to illustrate the identified city approaches to redesigning impact fees in light of SB 743. The white paper considers some of the challenges and opportunities for pursuing the different strategies, as evidenced through the case study analysis.

The connection between impact fees and CEQA

Legal framework for imposing impact fees

The authority for California localities to impose impact fees derives from Article 11 of the California Constitution, which grants cities and counties “police power” to draft and enforce ordinances and regulations to maintain public health, safety, and welfare. For the first half of the 20th Century, fees went largely unchecked, but then the state legislature and courts began to apply more scrutiny, especially concerning the “rational nexus” between fees and their established purposes (Raetz et al, 2019). A “reasonable relationship” test was first required beginning in 1949 through *Ayres v. City of Los Angeles*, requiring that any exactions on development be reasonably related to the impact of the project on public infrastructure (ibid). The California Supreme Court expanded the interpretation of this test in 1971 through *Associated Homebuilders Inc. v. City of Walnut Creek*, ruling that development fees could also be used to mitigate indirect development impacts. The California Attorney General affirmed this ruling in 1976, asserting that a locality can impose exactions that are related to its general plan and which hold, at minimum, an indirect relationship with project impacts (ibid).

After passage of Proposition 13 in 1978 severely constrained local property tax revenue, the traditional primary funding source for cities and counties, localities increasingly turned to impact fees to pay for infrastructure needs (Raetz et al, 2019). The courts and state legislature then imposed more stringent requirements on impact fee policies during the 1980s and early 1990s. In 1987, the US Supreme Court set a key limitation on fees in *Nollan v. California Coastal Commission*, ruling that local agencies must demonstrate an “essential nexus” between the project impact and the fee charged. The US Supreme Court established a two-pronged test through *Dolan v. City of Tigard*. In 1994, first affirming the Nollan ruling that a nexus must be demonstrated between the state interest and the exaction itself, and second, stipulating that the exaction be “roughly proportional” to the project impact (ibid).

The California State Legislature established its own framework for exacting fees in 1987, through Assembly Bill 1600, enacted as the Mitigation Fee Act (MFA). The Act defined impact fees as applicable to projects so as to cover the costs of their impacts on public facilities, and required localities to demonstrate a reasonable relationship between a proposed fee and project impacts in the form of legislatively enacted findings. However, once a city or county approves a fee, a developer contesting it must prove to the court that the fee does not advance a legitimate state interest or that it precludes viable economic use of the land (Raetz et al, 2019). Impact fees are appropriately applied to fund construction or improvement of physical facilities needed to support new development, and may not be applied to address existing deficiencies or for maintenance and operations of public facilities.

Localities (cities or counties) that seek to impose a new impact fee typically satisfy the reasonable relationship standard by conducting a “nexus study” to quantify the impact of new development on local infrastructure and determine its cost, which constitutes the maximum legally defensible fee amount. Typically, localities hire consultants to complete their nexus studies (Raetz et al, 2019).

Per statute, nexus studies may reference a community’s General Plan, specific plans, or a capital improvement plan (CIP) to establish findings of a reasonable relationship (CA Gov. Code §66001 (a) (2)). Cities and counties often draft CIPs to align with their proposed fee programs, which spell out the construction and financing of public facilities within the jurisdiction (Gov. Code §65403) (Raetz et al, 2019). The MFA encourages, but until recently, did not require, the use of CIPs in connection to fee programs. Combining CIPs with nexus studies can bolster the required nexus findings for establishing or increasing a fee: identifying the fee’s purpose and use; determining a reasonable relationship between the fee’s use and the type of projects required to pay the fee; determining a reasonable relationship between the need for the public facility and the type of project required to pay the fee; and demonstrating a reasonable relationship between the amount of the fee and the costs of the facilities needed to cover developmental impacts (Gov. Code §66001(a) and (b)).

After drafting the fee ordinance, a locality must receive feedback via at least one public hearing before adoption (Gov. Code §66018). The locality must create separate funds to collect revenue from each impact fee, and must draft annual reports on the status of the funds (Gov. Code

§66006(a)). The locality must update findings on reasonableness, fee purpose, and fee collection every five years (Gov. Code §66001(d)).

In 2008 the state's Mitigation Fee Act was amended by AB 3005, which adapts transportation impact fees to encourage development near transit. AB 3005 requires fee policies to reduce rates for residential developments within half a mile's walk from transit stations, and within half a mile of retail. Qualifying developments can only provide limited parking for residents.

The MFA was further amended in 2021, with passage of Assembly Bill (AB) 602, which aims to improve transparency and accountability of fee policies. Concerned that nexus studies have been governed by "an opaque and informal patchwork of guidelines and common practices" (Gatzke Dillon & Ballance LLP, 2021, citing AB 602 Senate Floor Analysis from 8/31/21), AB 602 requires that: local agencies must adopt an impact fee nexus study before a development fee is adopted; the nexus study must include the "reasonable relationship" information that supports the agency's actions; the nexus study must identify the existing and proposed new level of service for each public facility, and explain why any new level of service is appropriate; and if the nexus study supports increasing an existing fee, the local agency must review the assumptions of the nexus study supporting the original fee and evaluate the amount of fees collected. Large jurisdictions (counties with populations of at least 250,000 or any city located therein) must adopt a capital improvement plan as part of their nexus study. Local agencies must update their nexus studies at least once every eight years.

AB 602 further establishes that housing projects with nexus studies adopted after July 1, 2022, must calculate the amount of fees based on square footage of proposed units of the development, unless the local agency demonstrates that another metric is more appropriate. This provision is intended to support more compact and multi-family housing, and ensure such developments are not charged disproportionate fees.

Common fee practices

California localities vary substantially in how they fund different basic services through impact fees and other mechanisms (Raetz et al, 2019). Impact fees are used to fund various types of public facilities, such as parks, sewers, and affordable housing, in addition to transportation.

Impact fees can be quite high in California, costing above \$20,000 for a single-family home in nearly 40% of localities, and above \$20,000 for multi-family units in 34% of localities (Mawhorter et al., 2018). An investigation of seven California localities found that impact fees added up to 6 to 18% of median house prices (ibid). However, it would be a mistake to assume the fees simply add to costs of development, automatically passed on to homebuyers and renters in every situation. Instead, if impact fees reflect the cost of providing valued facilities needed to serve new development, and especially if they offset other taxes that would otherwise be levied, the fees can represent savings to home purchasers. In that case, a higher observed home price could reflect capitalized value of adding capacity to existing public infrastructure (Burge and Ihlanfeldt, 2006a and b).

As noted previously, a 2019 survey of city planning directors in California’s four largest metropolitan areas found that among respondent cities, 70% had adopted development impact fees for transportation, three-quarters of which fund not just roadways but other transportation modes (Barbour et al, 2021). A small share of these surveyed cities (14%) exempted certain project types, and/or imposed a lower impact fee, in areas near transit, recognizing that TOD can reduce the need to drive relative to projects in less transit-friendly locations. This practice complies with AB 3005, described above, which requires that fee policies set reduced rates for residential development near transit. Whether to address AB 3005 or not, many localities develop geographically specific impact fees in order to account for variations in infrastructure needs and costs in different locations, especially across large-scale territory; in practice, this translates to many localities creating zone-based impact fee programs, such as through Specific Plans, with rates set to capture costs of development in specific neighborhoods (Raetz et al, 2019).

In developing their “stack” of fees for funding various public purposes, localities sometimes face difficult choices in balancing their desire to improve multi-modal transportation options with the need to construct more affordable housing. As the state government has increased pressure on localities to support housing production in recent years, many cities have increased inclusionary requirements and impact fees for affordable housing; many of these housing fees are imposed on commercial development, establishing a nexus rationale based on the need to provide workforce housing. Meanwhile, many cities have imposed relatively lower demands on developers to fund transportation facilities (Raetz et al, 2019; Barbour et al., 2021). This approach could backfire, as traffic congestion is one of the most salient complaints raised by neighborhood residents in opposing denser development.

While nexus studies establish a maximum permissible fee by location and project type, in practice, many localities set their fees well below the determined cap (ibid). As part of the nexus study process, cities routinely compare their fee levels to those in neighboring jurisdictions, because those other localities could serve as a proxy for assessing development feasibility, and because relatively high fees might inhibit market interest from developers, compared to other locales. However, basing fees on the levels found in other jurisdictions is, at best, a rough method for determining feasibility, because development markets are highly localized, and can differ dramatically between and even within localities.

CEQA basics

In California, the use of development impact fees has long been integrated with environmental review and mitigation requirements called for under the California Environmental Quality Act (CEQA). Many localities use impact fees on development as a form of mitigation to address significant environmental effects determined through CEQA review. This section explains the basics of CEQA review, before considering its connection to impact fees.

CEQA is one of the strongest environmental review laws in the nation. Since its adoption in 1970, CEQA has required analysis of negative environmental impacts of proposed development projects and plans, and, if feasible, mitigation (lessening) of significant impacts. The

government entities that hold authority to approve development permits are considered “lead agencies” under CEQA for purposes of conducting and approving environmental review for a given project; for land development projects, city and county governments generally serve as CEQA lead agencies.

The CEQA review process follows a series of steps. First, the lead agency determines if a project is subject to CEQA and no exemption applies. If so, then the lead agency prepares an Initial Study, providing a preliminary analysis to determine if there is a potential for significant impacts. To assist lead agencies in determining significant impacts, the state’s CEQA Guidelines Appendix G presents questions regarding a range of potential impacts that an agency may consider, on topics including biology, greenhouse gas emissions, air and water quality, traffic, views, and noise.

The determination whether environmental impacts are significant or less-than-significant is at the heart of CEQA compliance. The state’s CEQA Guidelines define a “threshold of significance” to mean “an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant” (CEQA Guidelines § 15064.7(a)). Agencies may adopt their own thresholds, or rely on thresholds recommended by other agencies, “provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (Id. at subd. (c).). Substantial evidence means “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached” (Id. at § 15384).

The Initial Study and further CEQA analysis must also consider a project’s potentially significant “cumulative impacts,” in relation to impacts from other projects and over time. Cumulative impacts are connected in CEQA law and practice to “program” based mitigation, such as through impact fees. Assessment of cumulative impacts is based on whether the “incremental effects of a project when viewed added to other closely related past, present, and reasonably foreseeable probable future projects” are considerable, or in other words, significant (Section 15355 of the State CEQA Guidelines). To conduct this assessment, a lead agency should develop either a list of past, present, and probable future projects producing related or cumulative impacts, or reference a summary of projections contained in an adopted plan or related document that evaluates conditions contributing to the cumulative effect (Association of Environmental Professionals, n.d.).

The CEQA Guidelines note that for some projects, mitigation for cumulative impacts may not be feasible on a project-by-project basis alone, and mitigation “may involve the adoption of ordinances or regulations” instead (Guidelines Section 15130). An EIR may determine that the project’s contribution to a significant cumulative impact will be rendered less than cumulatively considerable when it is required to implement or fund its “fair share” of a mitigation measure or measures designed to alleviate the cumulative impact. Or an EIR may determine that a “fair share” contribution only partially mitigates the cumulative effect, and a Statement of

Overriding Considerations may be adopted indicating that full mitigation through the program to a level of insignificance is deemed to be infeasible, but the program is approved anyway based upon specific findings that economic or other project benefits override the environmental impacts. On this basis, an EIR based on a previously approved land use plan may be referenced in connection with this approach and used for tiering, where the lead agency determines that areawide cumulative impacts of the project have already been adequately addressed or overridden in the certified EIR for that plan, and need not be further analyzed in the project EIR.

The lead agency uses the Initial Study for a project to determine whether further environmental review is warranted, and which of the following review documents to prepare next: 1) a Negative Declaration, if the lead agency determines that there is no substantial evidence, in light of the whole record, to support a fair argument that the project may have a significant impact on the environment, or 2) a Mitigated Negative Declaration, if potential significant impacts are identified and the lead agency adopts revisions to the project that either eliminate all significant impacts, or reduce them to less-than-significant levels, or 3) an Environmental Impact Report (EIR), if the Initial Study finds that there is a fair argument that substantial evidence indicates that significant effects may occur. An EIR must provide detailed information about a project's anticipated impact on the environment, consider feasible ways to mitigate significant adverse environmental effects, and examine project alternatives that could feasibly lessen the impacts.

In the case of a Negative Declaration or Mitigated Negative Declaration, the lead agency may approve the project once public comments have been received, and the lead agency finds no substantial evidence to support a fair argument that the project will have a significant effect on the environment. Otherwise, an EIR must be prepared. Subsequently, to approve a project, a lead agency must adopt measures that avoid or lessen, to the maximum extent feasible, all significant environmental impacts. If mitigation to a level of insignificance is deemed to be infeasible, the agency may approve the project only upon making a specific finding that economic or other project benefits override the environmental impacts. In this case, the lead agency must prepare a Statement of Overriding Considerations, which shows the agency's rationale in balancing competing public objectives.

Connection between impacts fees and CEQA

Although CEQA requires environmental review and mitigation, where feasible, to be conducted at the project level, effective mitigation measures can be difficult to apply at a localized scale and/or rendered more effective if they are organized in a more cohesive way at a wider-than-local scale. The concept of a "program" approach to impact mitigation is not new and has been applied to a variety of CEQA topics of interest, including air quality, greenhouse gases, and habitat, in addition to transportation (Fehr & Peers, 2021a).

Impact fee programs have frequently been used to help mitigate cumulative impacts (ibid). As noted above, CEQA requires assessment and mitigation not just of project-level impacts but also cumulative, over-time impacts considered in connection to other planned development in

a given jurisdiction. Properly administered impact fee programs can operate to streamline CEQA review of later development projects and provide “mitigation cover” to avoid a determination that a project impact may be cumulatively significant (Abbott and Bogue, 2006).

As noted earlier, for transportation purposes, the most common use of impact fees for CEQA mitigation traditionally has been to alleviate project impacts on vehicular delay, measured using “level-of-service” (LOS) standards (LOS standards and measurement are discussed in more detail below in the section on SB 743) (Peters, 2012). For decades, CEQA practice incorporated LOS impacts in guidance on evaluating transportation impacts of development. While large projects were often called upon to apply specific mitigations to ease traffic delay at nearby intersections, for ease of administration and legal defensibility, most jurisdictions also developed impact fees to fund a specified set of projects intended to mitigate future transportation demand (Peters, 2012). Generally, these mitigations have been defined as actions to maintain specific auto LOS standards at given intersections, with the desired LOS levels established in the locality’s General Plan. Localized mitigation strategies might involve installing traffic signals, adding turn lanes, or widening roads, while wider-scale strategies might include projects such as constructing HOV/express Lanes (Fehr & Peers, 2021a).

As discussed above, fee programs must determine the “fair share” contribution a given development project type should provide for funding the identified, needed improvements. The most common method for determining fair share fee levels for meeting LOS standards has been to estimate the number of vehicle trips a proposed development is likely to generate, based on its size and type (Peters, 2012). A common technique to determine trip generation rates has been to refer to the Institute of Transportation Engineers’ *Trip Generation* publications.

To operate effectively for purposes of CEQA mitigation, impact fee programs need to meet certain criteria. First, the fee programs are subject to the “reasonable relationship” requirements of AB 1600 (Raetz et al, 2019). Additionally, courts have ruled that paying a “fair-share fee,” such as through an impact fee program, is permissible as effective mitigation under CEQA only if the fee is “part of a reasonable plan of actual mitigation that the relevant agency commits itself to implementing” (cited by Abbott and Bogue, 2006, from the appellate court ruling in *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173). A fee program is permissible for mitigation as long as it specifies the fee amount and percentage of future improvements for which a given developer is held responsible, and the fee imposed constitutes a reasonable, enforceable part of an improvement plan that will actually mitigate the cumulative effects. The upshot of court rulings has been to emphasize that, to rely on a fee program for complete mitigation of a significant impact under CEQA, a lead agency must have reasonable evidence in the record to find that the program is sufficiently certain and will be implemented in its entirety so as to fully mitigate the impact (Abbott and Bogue, 2006).

Furthermore, California courts have ruled that in order for a fee program to serve as acceptable CEQA mitigation, the program itself must first be adopted as an ordinance and reviewed in an EIR (Fehr & Peers, 2021a). This conclusion is based on the ruling in *California Native Plant Society v. County of El Dorado* in which the court found that payment of fee does not

presumptively establish full mitigation of a discretionary project. A separate CEQA review of the program is necessary to satisfy the ‘duty to mitigate’ imposed by CEQA (*California Native Plant Society v. County of El Dorado*, 170 Cal.App.4th 1026, (Cal. Ct. App. 2009.)).

These stipulations mean that impact fees should also be consistent with development policies as laid out in a locality’s General Plan, which under California law, serves as the “constitution” to govern and integrate development goals and policies for the locality. In this fashion, impact fees can act in conjunction with “tiering” provisions provided in CEQA which allow for streamlined project-level review based on environmental documents prepared at the plan level (e.g., in General Plans and Specific Plans). Tiering provisions are discussed in more detail later in the white paper.

SB 743: Changing the equation for CEQA review of traffic impacts

The context for SB 743: Recent state policymaking to promote sustainable development

In recent years California has adopted multiple policies to support more efficient and sustainable development patterns, many of them aligning with the state’s ambitious climate policy goals. This section considers two relevant policies, both adopted in 2008, namely Senate Bill (SB) 375, California’s groundbreaking regional planning law, and the state’s Complete Streets Act. Understanding these two policies helps set the stage for evaluating why SB 743 was adopted and how California localities are approaching implementation.

With adoption of Assembly Bill (AB) 32 in 2006, California began implementing the most ambitious set of climate policies of any US state. AB 32 called for reducing greenhouse gas (GHG) emissions statewide to 1990 levels by 2020, a goal that was achieved ahead of schedule. Then in 2016, Senate Bill (SB) 32 extended the state’s GHG reduction target beyond 2020, codifying the goal of a 40% reduction by 2030. Executive Order S-3-05, signed in 2005 by Governor Arnold Schwarzenegger, puts the state on an even more ambitious trajectory to meet the goal by 2050 of reducing GHGs by 80%, to align with GHG reduction levels called for by international climate scientists from developed nations.

Tasked with overseeing implementation of the state’s climate policies, the California Air Resources Board (CARB) has produced “Scoping Plans” that outline implementation strategies across all sectors of the economy. For the transportation sector, responsible for 41% of the state’s GHG emissions (CARB, *Current California GHG Emission Inventory Data*, at <https://ww2.arb.ca.gov/ghg-inventory-data>), CARB has called for three main GHG reduction strategies, two of them technologically oriented, aimed at improving fuel and vehicle efficiency, and the third conservation-oriented, comprising “demand-side” strategies aimed at reducing VMT and vehicle use (reducing demand for driving) (CARB, 2009). This third component is deemed essential to ensure that projected growth in VMT does not overwhelm GHG benefits resulting from technology and system efficiency measures alone (CARB, 2018a).

In 2008, California’s legislature and governor adopted Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, to address the “demand-side” leg of the stool through promoting more efficient development patterns. SB 375 calls on Metropolitan Planning Organizations (MPOs) – federally mandated regional transportation planning agencies in urban areas –to develop their periodically updated long-range regional transportation plans (RTPs) so as to achieve state-mandated GHG reduction targets. MPOs have been called on to produce these plans since the 1960s, as a way to coordinate the multiple projects within a region receiving any federal funding; most transportation projects receive funding from multiple sources including federal, state, and local (Sciara and Handy, 2017).

Under SB 375, each MPO is required to develop a Sustainable Communities Strategy (SCS) in conjunction with its RTP; the SCS is a projected "development pattern ... [that, when] integrated with the transportation network, and other transportation measures and policies," is designed to achieve specific per capita GHG reduction targets set by CARB for passenger vehicles over the duration of the plan (California Government Code §65080 [b] [2] [B] [vii]). In order to achieve the GHG reduction targets, SB 375 endorses and calls on MPOs to consider a set of strategies found to be useful in reducing the need to drive, especially in combination, including expanding transit and active transportation facilities and service, adopting land use measures (e.g., zoning) to facilitate compact or infill development near transit, supporting carpooling and other transportation demand management (TDM) strategies, and adopting pricing techniques that make solo driving less competitive than other modes.

To support planning coordination, SB 375 also included procedural requirements to integrate regional and local transportation and land use planning. RTP/SCSs must be consistent with local government land use plans for accommodating housing at all income levels, applied through the state’s Regional Housing Needs Assessment (RHNA) process, the state’s so-called “fair share” law whereby each locality is assigned responsibility for accommodating projected regional housing need through associated zoning measures. SB 375 further supports compact growth by requiring that each RTP/SCS accommodate enough housing for all projected population and workforce growth over the plan’s duration within the region (a “no-spillover” provision) (California Government Code §65080[b][2][B][ii, iii]).

In 2010, CARB adopted official GHG reduction targets under SB 375 for each MPO region to achieve by 2035; for the four largest MPO regions (the Los Angeles, San Francisco Bay, San Diego, and Sacramento areas), the targets were set at approximately 15% per capita reductions. In 2018, CARB updated the MPO targets to support the stiffer statewide GHG reduction goals that had been codified in SB 32; for the four largest MPOs, CARB now calls for 19% per capita reductions by 2035.

However, even as CARB was imposing these tougher requirements on MPOs under SB 375, the agency also raised concerns about lack of progress under the law in achieving its goals. CARB produced a progress report in 2018 which noted that “California is not on track to meet greenhouse gas reductions expected under SB 375” (CARB, 2018b, p. 3). This conclusion was based on multiple indicators, of which the most concerning was a recent rise in VMT and GHGs

per capita starting after 2013. The report identified various barriers to SB 375 success, one being local zoning and permitting practices that constrain housing production and/or make it more expensive.

Lack of adequate progress in reducing VMT/GHG under SB 375 can be traced to multiple causes, many of them built into the law itself. In particular, SB 375 has suffered from an “implementation deficit” asking for MPOs to determine how passenger vehicle GHGs *could be* reduced over the duration of the regional agencies’ long-range plans, without providing for adequate and effective mechanisms to ensure short-term implementation of plan goals by the state government and localities – the entities that actually control most transportation funding and land use decisions (Barbour and Sciara, forthcoming). Localities are not required to conform their land use policies to be consistent with RTP/SCSs, and meanwhile MPOs control few resources autonomously to induce desired outcomes. The situation means that achievement of state goals for efficient development is in jeopardy, and more concerted action is needed at the state, regional, and local levels to produce better outcomes.

In addition to adopting SB 375, in 2008, California adopted a Complete Streets Act (AB 1358) which requires that local government General Plans (comprehensive plans) be updated to “plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways” (Government Code §65302(b)(2)(A)). Complete streets call for “context-sensitive” solutions in which trade-offs among needs of users of multiple modes are to be considered and balanced (Slotterback and Zerger, 2013). As of 2017, more than two-thirds of California cities had an adopted, in-progress, or planned bicycle master plan, and more than half had an adopted, in-progress, or planned complete streets plan (calculated from OPR, *2017 Annual Planning Survey Results*).

Complete streets planning can help localities address state goals for promoting multimodal transport, and thereby help them seek funding made available for the purpose. Complete streets planning also helps localities address current mobility challenges arising in contexts where traditional, conventional strategies, oriented to automobiles, are increasingly ineffective.

Basics of SB 743

Senate Bill (SB) 743, adopted in 2013, represents a watershed in re-orienting CEQA review to support more efficient development patterns in California. As noted earlier, the law eliminated automobile delay as an environmental impact to be addressed under CEQA, and called for a performance metric for assessing transportation impacts better suited to reducing greenhouse gas emissions (GHGs), promoting infill development, and encouraging multimodal transportation. SB 743 explicitly aims to support goals of SB 375 and the state’s climate policies. This section describes basics of SB 743 and then the following section considers how it affects planning considerations for different types of communities.

SB 743 specifically eliminated use of “level of service” (LOS) standards for automobile traffic delay as an impact to be addressed under CEQA. As noted previously, LOS standards have long been ingrained for use in measuring potential transportation impacts of development projects

and community plans. Starting in the 1960s, LOS standards were readily adopted by cities across the nation following development and publication of measurement techniques by the national Highway Research Board and Bureau of Public Roads (later the Federal Highway Administration) (Roess and Prassas, 2014).

In practice, LOS is most commonly determined using a quantitative measure of average delay per vehicle at intersections, usually for the weekday AM and PM peak hours, with delay defined as the difference between the actual travel time a vehicle experiences and the time it would experience if no other vehicles or traffic control devices were present at the intersection (ibid). Typical analysis divides LOS into six categories ranging from LOS A to LOS F, like a report card, with LOS A representing free-flow travel for motor vehicles, and LOS F representing over-capacity, forced flow conditions. LOS is widely accepted professionally because it is relatively straightforward to produce the measurements.

CEQA promulgated the use of LOS for decades, as noted earlier. The LOS metric was explicitly included in CEQA guidance “since at least the late 1990’s, when the sample environmental checklist in the CEQA Guidelines asked whether a project would exceed LOS standards” (OPR, 2013, p. 3). LOS standards were further embedded in local policymaking through their use in local General Plans, with nearly three-quarters of California cities having employed LOS-based policies in their General Plans (calculated from OPR, *2016 Annual Planning Survey Results*).

After more than fifty years of employing automobile LOS, the practice came under increasing criticism for undermining development of multimodal transportation networks, infill development, and even optimization of the roadway network for motor vehicles – the very purpose for which LOS standards were meant to be used (OPR, 2013). At the most basic level, LOS is criticized for focusing on the movement of vehicles, not people – or i.e., focusing on mobility rather than accessibility. Traditional LOS treats delay to a single automobile as equivalent to delay to a full bus, for example. LOS mitigations can work against environmentally friendly multimodal transport, as for LOS purposes, pedestrians and bikers are considered impediments to car movement. Sometimes, for example, required LOS mitigations have sought to reduce the timeframe in which pedestrians are allowed to cross a street, or to force them to climb stairs and cross a walkway to avoid hampering traffic flows (Karlin-Resnick, 2016). Similarly, LOS standards have hampered infill development, because the projects held accountable for poor LOS scores are those which push congestion over a significance threshold, meaning the “last one in must pay.” Infill development projects that downgrade an intersection’s LOS to an unacceptable score can be required to provide costly mitigation measures, although preceding projects were not similarly penalized.

Meanwhile, LOS tends to reinforce the very problem it was intended to solve. Mitigations to reduce auto delay create a self-fulfilling prophecy, if widening of roads and intersections makes walking, biking or taking transit more difficult, and driving easier, and if roadway widening induces more traffic. The problem is compounded by pegging LOS standards to peak-period delay, and evaluating delay only at the localized, intersection scale. High-traffic areas, especially at peak periods, signal economic vitality, yet under LOS they receive failing grades. The

cumulative impact of LOS standards is to encourage dispersal, through an artificially enhanced demand for mobility (higher speeds) (Whitelegg, 1993, cited in Henderson, 2011). LOS standards ensure that more space is dedicated to roadways, and more activities are dispersed to greenfield areas where localized traffic congestion is minimal. Meanwhile, walking and cycling are made more dangerous, and transit more impractical.

Frustrated with LOS standards, some urban planners and activists in California began pressuring policymakers to address their concerns, before passage of SB 743. For example, San Francisco planners and bicycle advocates grew frustrated when proposals for new crosswalks and bike lanes were discouraged by city traffic engineers because they would contribute to auto delay (Henderson, 2011), and similarly, when proposals to introduce exclusive bus lanes were resisted because they might divert traffic, causing a decline in LOS on side streets.

Such concerns led state legislators to adopt SB 743 in 2013. Then it took until December 2018, for the Governor's Office of Planning and Research (OPR) to develop, and for the California Natural Resources Agency to adopt, guidelines for SB 743 implementation. The guidelines recommend analysis of vehicle miles traveled (VMT) generated by development projects rather than analysis of traffic delay.² Local lead agencies responsible for CEQA review were required to transition to the new approach by July 1, 2020.

OPR provided technical advice on how lead agencies can carry out VMT analysis. Although this sort of technical guidance is only advisory, many local lead agencies follow it to help ensure that their review procedures are legally defensible. OPR's technical advice recommends threshold levels of VMT to use in analyzing impacts of development projects, above which each project's VMT impact should be considered significant enough to warrant mitigation under CEQA. For residential projects, OPR recommends a significance threshold set at 85% of either regional or city-wide average VMT per capita, whichever is higher. OPR's recommendations also address transit access. Residential projects located within a half-mile of high-quality transit access can be "normally" considered to have a less-than-significant impact on VMT. OPR advocates the use of screening maps to distinguish geographic areas by their average VMT per capita, in comparison to the significance threshold, as a way to identify areas where more or less detailed environmental review may be necessary. OPR also recommends various mitigation measures including improving transit service and providing sidewalks and bicycle lanes.

OPR's guidance is not a strict prescription for SB 743 implementation, as lead agencies still must make their own decisions about metrics, methods, thresholds, and mitigation. According to Fehr & Peers, a transportation consulting firm that assists many localities in conducting transportation analysis and policy evaluation, the four critical questions that localities need to address are: what form of VMT metrics to use; what calculation methods to use for estimating and forecasting VMT; what VMT impact significance thresholds to establish for the locality for both projects and plans under baseline and cumulative conditions; and what feasible VMT reduction mitigation strategies should be endorsed and implemented (Fehr & Peers, 2020).

² The revised CEQA guidelines and OPR's technical guidance can be found at <https://www.opr.ca.gov/ceqa/sb-743>.

Localities have the discretion and responsibility for all these aspects of VMT analysis and mitigation under CEQA, and for ensuring that their basis is grounded in substantial evidence. It is beyond the purview of this white paper to consider all these questions in detail; readers are referred to Fehr & Peers (2020; 2021a) for more discussion.

OPR's guidance is primarily tied to statewide goals for GHG reduction, and does not attempt to balance or resolve potential conflicts between various local goals expressed in General Plans or other local plans and policies (ibid). So, for example, a locality may want to continue to use LOS standards for various purposes, and SB 743 does not prevent it from doing so. SB 743 ensures that as a lead agency under CEQA, a locality may no longer consider automobile delay as described by LOS to be a significant impact on the environment for purposes of CEQA. However, on an off-CEQA basis, a locality may continue to analyze LOS as part of plans, such as General Plans or Specific Plans, and for fee programs subject to requirements of AB 1600, or for transport network monitoring. Indeed, lead agencies may even still utilize vehicle LOS standards at the specific-project level, outside of CEQA, when applying criteria for approval as part of the project entitlement process.

As noted previously, most cities surveyed in 2019 in California's four largest metropolitan areas reported that they intended to employ both VMT and LOS standards and metrics for development review, going forward; more than half (53%) of respondents said they intend to employ both VMT and LOS standards and another 27% said they would use VMT, LOS, along with other metrics (Barbour et al, 2021). The study also indicated that SB 743 is likely to affect locally approved development impact fees. About one-third (36%) of respondents stated that their city either had revised or would revise its impact fees to align with SB 743, while 43% stated they might do so (ibid). Thus, the majority of California cities are attempting to straddle and combine VMT and LOS standards and metrics at both the project and plan/policy level, moving forward.

Considering VMT analysis and mitigation in different community types

In one sense, conducting VMT analysis represents an easy transition compared to past LOS practice. Communities are already familiar with technical methods for estimating trip rates for projects of various types for traditional LOS analysis. Estimating VMT, at the most basic level, simply entails adding an additional step to the trip rate estimation procedure, namely by multiplying the estimated trip rates by estimated trip lengths, information which communities can derive from regional and sub-regional travel demand models. Furthermore, communities are already familiar with estimating VMT as an input for conducting CEQA analysis for air quality, GHG, and energy impacts (Fehr & Peers, 2020).

However, in other ways VMT analysis and mitigation represents a watershed in transportation planning, with implications that are only beginning to play out. Lead agencies making the transition to VMT are "realizing the challenges of using the new metric especially when it comes to mitigating significant VMT impacts," according to Fehr & Peers (2021a).

Reducing VMT is anticipated to produce multiple benefits, from lower GHGs to improved transport and energy efficiency, air and water quality, public health and safety, livability of neighborhoods, and open space conservation (Fang and Volker, 2017). However, such VMT-reducing strategies can also entail costs when considered locally, such as for upgrading infrastructure and addressing public concerns about altering the built environment. These costs and benefits apply differently across different communities. Compared to LOS, applying the VMT metric reverses the calculus for determining which project and location types are most likely to generate significant transportation impacts under CEQA. Low-VMT areas, often containing compact development, mixed uses (such as housing, commercial, and office uses), and better transit, walking, and biking access than other areas, can now gain CEQA review streamlining benefits, as detailed in OPR’s technical advisory, while high-VMT areas, often with lower densities and greater car dependence, will require more analysis and possibly mitigation.

VMT analysis draws attention to how the built environment influences accessibility (i.e., access to places and people) for a given project location (Fehr & Peers, 2020). Strategies for improving accessibility include improving multimodal transportation networks and density and diversity of land uses, which, especially in combination, can reduce the need to drive. VMT analysis also re-directs attention from traffic congestion considered on a per-vehicle basis to considering person-throughput instead; for example, VMT can be reduced by increasing transit ridership to move travelers more efficiently than in single occupant vehicles. Increasing vehicle speeds and reducing delays requires improvements in seat utilization (in both private vehicles and public transit) compared to existing conditions – an outcome that also reduces VMT (ibid).

Because of these attributes, VMT analysis and mitigation align with needs and priorities of many urban communities, where limits of auto-mobility strategies, such as roadway widening, traffic signaling, changing the allocation of turn lanes, and synchronizing intersection phasing already have been reached (Peters, 2012). In these communities, mobility challenges are being re-framed as accessibility challenges, in order to make further progress in addressing travel needs. Some of our case studies for this white paper underscore this point, showing that, to address mobility needs, some communities now are relying on improvements to transit and active transport, instead of roadway enhancements.

But strategies to reduce VMT can seem more daunting in rural and low-density suburban areas where the built environment and transportation network are more dispersed and where modes are typically limited to personal vehicles (Fehr & Peers, 2020). The feasibility and effectiveness of VMT reduction strategies varies by location, and depends on wider-than-local factors. Fehr & Peers notes that challenges of VMT reduction arise especially when mitigation is considered only on a project-by-project basis, and that “much of this difficulty arises from the regional nature of VMT impacts, as well as the complexity of underlying factors influencing VMT generation.” The Western Riverside Council of Governments pointed to the same concern, noting that, “In theory, the mitigation process [for VMT] would be similar to how typical LOS mitigation measures are implemented. However, that is rarely the case...The main issue is that VMT is ultimately a regional, not local, concern. VMT is a function of the intensity of use, type of use, and location” (WRCOG, 2021).

At an individual project level, the primary VMT reduction method has been to implement Transportation Demand Management (TDM) programs such as subsidy and marketing programs for transit or other non-drive-alone modes, installation of bicycle racks, development of ride-sharing programs for building residents, and improvement of pedestrian facilities, to change travel behavior of tenants and visitors (Fehr & Peers, 2020, 2021a). But available research indicates that the effectiveness of such project-level TDM measures varies substantially depending on context, with TDM tending to be more effective in urban areas where built environment factors, such as proximity to transit and land use mix, are already conducive to supporting vehicle trip reduction. In areas where such contextual factors are missing, project-level TDM may not be adequate to reduce VMT to an acceptable level (ibid).

Site-specific TDM strategies, regardless of location, tend to be less effective for reducing VMT than community-wide strategies and investments that lessen the need to drive (ibid). Fehr & Peers notes that absent community-wide program-level mitigation approaches, “rural and suburban lead agencies will have limited feasible mitigation options for project sites” (ibid). Without feasible mitigation, significant VMT impacts would need to be determined significant and unavoidable. Under these circumstances, projects would need to prepare environmental impact reports (EIRs) and issue Statements of Overriding Consideration, adding time and cost to environmental review. Furthermore, VMT reduction goals of SB 743 would be thwarted.

Community-wide and regional VMT reduction strategies, such as supporting land use diversity and density, adopting parking pricing and parking supply limits, and providing multi-modal facilities, are best approached on a plan- and program-level basis than through ad hoc, project-by-project analysis and mitigation. For this reason, SB 743 is likely to have the effect of encouraging many communities to consider VMT reduction strategies through a plan- and program-level lens, and not just to comply with the law at the project level for conducting environmental analysis and mitigation.

How VMT reduction goals can be addressed through impact fee programs

For reasons noted above, a programmatic approach to mitigation using an impact fee may be very appealing to localities for compliance with SB 743. First, impact fees are a well-established mechanism for CEQA mitigation, with procedural expectations already hashed out in the courts. Second, even more so than for auto LOS, abating VMT at a community-wide scale may be more effective than at a localized project-level scale, for reasons discussed above, meaning that localities can comply more easily, efficiently, and effectively with SB 743 through a programmatic approach.

To pass muster for purposes of CEQA mitigation, a VMT impact fee needs to adhere to certain expectations. The fee program would be subject to requirements of AB 1600 and to other provisions described earlier that apply to CEQA mitigation specifically, including the court rulings that emphasized that to rely on a fee program for complete mitigation of a significant impact under CEQA, a lead agency must find that the program is sufficiently certain and will be implemented in its entirety over time so as to fully mitigate the impact, and that the program is adopted as an ordinance and reviewed in an EIR.

Neil Peacock of Caltrans corroborates these points, noting that:

If properly developed and administered, regional [also jurisdiction-wide] transportation impact mitigation fee programs could provide an effective and efficient implementation mechanism for mitigation measures needed to address cumulative VMT impacts. If successfully carried out, these programs could help streamline ad hoc environmental reviews and provide an umbrella framework to support a wide variety of the VMT-reducing mitigation strategies that have been identified through...published research...Specifically, the impact analysis outlined in these programs' nexus plans, their capital/service improvements, and the fiduciary/delivery information presented in their annual reports and five-year updates provide the substantial evidence needed under CEQA to demonstrate that these mitigations can be successfully assured. It is important that the relationship between VMT impacts and mitigations must be quantifiably demonstrated by technically defensible analysis in order to pass muster under both CEQA and the Mitigation Fee Act" (Peacock, 2017).

Mitigation analysis for VMT is not the same as for LOS, and lead agencies are still working on practical steps for doing so. Fehr & Peers notes that, "In order for the fee to be used as a VMT mitigation program the city would need to demonstrate that implementation of the complete set of improvements in the fee program would result in a specific numerical VMT reduction" (Fehr & Peers, 2021a). To ensure consistency between project- and program-level analysis, and between baseline (current) project-level conditions and future cumulative conditions, "the nexus for the fee program would be a VMT reduction goal consistent with the CEQA threshold established by a lead agency for SB 743 purposes" (Fehr & Peers, 2020). These stipulations mean that a lead agency needs to consider carefully how to establish the CEQA threshold for project-level review so as to align with analytical methods used for evaluating cumulative conditions and with policy goals established in community plans (i.e., the General Plan and other relevant plans such as Specific Plans) and associated capital improvement programs, all of which should be consistent.

Fehr & Peers explains that, "An in-lieu fee or impact fee could be standards-based (cost to reduce 1 VMT) or plan-based, to fund a specified set of projects" (Fehr & Peers, cited in Cook, 2021). The latter approach is well-grounded in historical precedent, as it is the most common approach taken for fee programs developed to address LOS deficiencies. Fehr & Peers explains that, "the main difference from a fee program based on a metric such as vehicle level of service (LOS) is that the VMT reduction nexus results in a capital improvement program (CIP) consisting largely of transit, bicycle, and pedestrian projects" (Fehr & Peers, 2020).

SB 743 and related state guidance recognizes support for transit and active transport (pedestrian and bicycling) facilities as VMT-mitigating measures, and so the funding of such facilities at a local level also could be considered VMT-mitigating. But given the newness of VMT analysis and mitigation for CEQA purposes, Fehr & Peers point to some "uncertainty about feasibility and strength of the nexus relationship between VMT and pedestrian, bicycle, and transit projects (especially in suburban/rural jurisdictions)" (Fehr & Peers, 2020). Meanwhile, roadway expansion and other common strategies used to address auto LOS deficiencies are

unlikely to pass muster in a VMT mitigation fee program. A key question for lead agencies to consider will be whether projects can be expected to induce more vehicle travel, which in turn would generate new VMT and emissions (ibid).

Coordinating impact analysis and programmatic mitigation at the community plan level provides practical advantages through “tiering” opportunities, described earlier. UC Berkeley scholars described this opportunity:

Agencies could also take advantage of the CEQA “tiering” process for [programmatic] mitigation projects. Tiering, which is expressly permitted under CEQA, allows for the creation of program-level EIRs that undertake a single assessment of a group of geographically or substantively related actions. Developers of individual projects can then reference the master programmatic EIR and demonstrate their consistency with that master by showing that the projects are in the same scope and area of the overall program. As long as the reviewing agency evaluates the impacts in sufficient detail in the initial EIR and no substantial differences in types or locations of impacts exists, agencies can use this process to prepare a programmatic CEQA analysis of potential mitigation projects and then tier the individual projects off of the program EIR, thereby expediting their environmental reviews” (Elkind et al., 2018)

Fehr & Peers (2021a) provides further useful information on requirements and benefits of tiering:

Rather than analyzing VMT for each proposed land use project individually, a jurisdiction may choose to complete VMT impact analysis as part of its General Plan EIR and make specific use of CEQA Statute & Guidelines Section 15183. Setting a threshold for the General Plan itself and analyzing VMT impacts in the General Plan EIR could exempt projects consistent with the General Plan from further VMT impact analysis. The jurisdiction may adopt a threshold that is based on substantial evidence, use it in the General Plan EIR, determine if VMT impacts are significant, mitigate to the extent feasible, and adopt a statement of overriding consideration if determined to be appropriate. The lead agency can then tier from the General Plan EIR for projects that are consistent with the General Plan without doing additional VMT impact analysis.

Note that although tiering eases subsequent project-level review, on its own it provides no guarantee of more effective mitigation; indeed, if a locality deems in the EIR for its General Plan, or for an associated plan or policy, such as a Climate Action Plan, that mitigation to adequately reduce VMT to less-than-significant levels is infeasible, and issues a statement of overriding considerations to that effect, then the tiering provisions may be used to “cover” inadequate mitigation at the project level. In that case, incorporating VMT analysis at the plan level may not work to secure VMT reduction to less-than-significant levels.

Integrating VMT and LOS analysis and mitigation

What about localities that want to continue to apply LOS standards, and to use impact fees to fund facilities to maintain those standards? As noted above, most California localities intend to

continue using LOS for project review, based on recent surveys. As discussed earlier, SB 743 does not prohibit them from doing so, but the practice now must be “off-CEQA,” relying on AB 1600 for establishing impact fees and on stipulated local conditions of permit approval applied at the project level. How could or should localities approach this sort of parallel practice – using both auto LOS and VMT metrics and standards – especially given the potential for conflict between them in terms of outcomes sought (with LOS-mitigating strategies aimed at *reducing* driving, often by supporting non-auto modes rather than easing automobile traffic, while auto LOS-mitigating strategies are focused on *easing* vehicular traffic, through strategies that often increase VMT and emissions)?

Reconciling LOS and VMT goals and strategies may provide another reason for localities to address policy goals in a programmatic and community-wide basis. If both VMT and LOS mitigation goals are approached only on an ad hoc basis at the project level, then mitigation strategies could work in a contradictory fashion which could become confusing. But if mitigation is approached in a more systematic and coordinated way at the scale of the entire community, then alignment may be easier.

This alignment may be possible practically speaking if multimodal transport and ridesharing strategies (e.g., to promote transit use or carpooling) shift travelers to more efficient modes, thereby alleviating vehicular congestion on a per traveler basis. More efficient transportation and land use, focused on enhancing accessibility, can enhance mobility as well in congested urban areas. In this fashion, focusing on VMT can help localities address root causes, rather than just symptoms, of traffic congestion, by addressing poor “seat utilization” caused by ineffective past management of travel demand (Fehr & Peers, 2021a). In other words, by working to improve “person throughput” rather than vehicle throughput, localities can potentially develop much more productive strategies for achieving mobility as well as environmental goals.

Accomplishing this optimal outcome requires a systemwide perspective rather than an ad hoc project-level approach. The sort of evaluation needed to determine how best to coordinate transportation network enhancements with supportive land use strategies, so as to enhance overall accessibility, requires sophisticated travel demand modeling at a regional and sub-regional scale. The good news is that most localities already conduct this sort of travel demand modeling in conjunction with developing and updating their General Plans, such as for developing the transportation (circulation), land use, housing, and air quality chapters (called “elements”) of the plan.

Thus, for a locality seeking to coordinate LOS and VMT strategies, it makes sense to do so through the General Plan process for analytical reasons. UC Berkeley scholars drew a similar conclusion in considering how counties might align compliance with SB 743 with their responsibilities for completing and implementing Congestion Management Plans (CMPs) that establish LOS standards. Noting that the dual requirements imposed at the project level “could effectively force agencies to accomplish both pre- and post-SB 743 goals” which could conflict, the scholars argue that “the most straightforward solution for compliance with both CMP and

the goals of VMT mitigation...could be to evaluate LOS on the same geographical scale on which VMT mitigation is permitted. Since a VMT mitigation [programmatic strategy] would reduce vehicle miles traveled, LOS should not be negatively impacted—**and in fact may be improved** [emphasis added]—in the covered region. If the scale of LOS evaluation is expanded from assessing localized impacts at the intersection level to assessing impacts on larger segments or the region, then the VMT mitigation should coincide with LOS goals under the CMP” (Elkind et al., 2018).

Coordinating LOS and VMT-reducing strategies at the General Plan level can help a locality not just analytically, but practically and politically in terms of establishing and balancing policy goals. Fehr & Peers notes that, “Addressing transportation VMT impacts in the city General Plan EIR could be useful in understanding how VMT reduction should be balanced against other community values when it comes to setting new VMT impact thresholds for SB 743” (Fehr & Peers, 2021a). Fehr & Peers discusses an option for pursuing such an approach, in a lengthy paper developed for the City of Cupertino, in which the locality would “set [a] jurisdiction-specific VMT threshold based on substantial evidence. VMT is a composite metric that is created as an output of combining a community’s long-term population and growth projections with its long-term transportation network (i.e., the General Plan)...As such, each jurisdiction already has a VMT growth budget. This is the amount of VMT that is forecast to be generated from the jurisdiction’s General Plan and the jurisdiction’s buildout scenario assumptions combined with other travel behavior inputs for the region as captured in the travel forecasting model. This VMT growth has [implicitly] already been planned for and determined to be “acceptable” by the jurisdiction...This level of VMT could serve as the basis of a VMT threshold expressed as a VMT growth budget or as a VMT efficiency metric based on the future year VMT per capita, VMT per employee, or VMT per service population” (ibid).

This option for establishing a VMT threshold could aid in aligning VMT and LOS, at both the plan and project levels, based on systematic assessment of cumulative conditions as determined in a locality’s “build-out scenario” (ibid). In seeking to balance competing policy goals, localities could override feasibility of meeting state-recommended VMT (or other) significance thresholds by issuing statements of overriding consideration. However, while this option might be valuable for coordinating local policy goals for development, it could also be subject to challenge if localities do not work to achieve VMT reduction goals in line with state-level findings and recommendations for doing so.

Indeed, Fehr & Peers did not ultimately recommend this course of action, for that reason. Instead, Fehr & Peers recommended that the City of Cupertino establish its baseline (current) VMT significance threshold for land use projects and plans based on long-term statewide goals and expectations for improving air quality and GHG emissions. For cumulative conditions, Fehr & Peers (2021a) recommended “analyz[ing] the project’s effect on land supply and VMT using an appropriately valid travel model... consider[ing] all available substantial evidence including [on]...state climate goals...and current research on the long-term effects of transportation network companies (TNCs), new mobility options, and autonomous vehicles (AVs).” A cumulative threshold at the project level might be pegged as significant if the project increases

total (boundary-wide) VMT compared to cumulative conditions without the project, and plan-level impacts might be considered significant if all planned-for growth boundary-wide (in the plan area) increases total VMT compared to cumulative no-project conditions (ibid).

Crucially, Fehr & Peers did not stop at recommending VMT analysis procedures as a way to comply with SB 743; instead, the consultants proposed a comprehensive approach to managing and improving multimodal accessibility, using both “on-CEQA” and “off-CEQA” techniques to coordinate project- and plan-level review, and to align VMT and LOS goals. This recommended approach includes a multimodal impact fee as an element.

Fehr & Peers (2021a) recommends the following steps for “implementation of a citywide balanced transportation system addressing both CEQA and non-CEQA aspects of transportation analysis”:

1. Develop a CEQA analysis approach

Adopt, by resolution, baseline and cumulative VMT thresholds for land use projects, land use plans, and transportation projects. Take advantage of the potential for CEQA streamlining through use of the citywide cumulative VMT threshold.

2. Develop a non-CEQA analysis approach

Implement a “layered network,” building upon Complete Streets principles, by providing modal preferences for each street type while ensuring that all modes are addressed in the larger system. This approach would prioritize certain modes on certain streets, providing continuity for the chosen mode while accommodating others on parallel networks. Use the network analysis to target and provide selected treatments for prioritized modes on selected streets to improve efficiency while ensuring safety for all modes. At the project level, develop and apply quantitative and qualitative performance measures for multimodal connectedness and associated design features of land use and transportation projects. Assess travel time for each mode between the project and surrounding land uses to evaluate and address accessibility.

Apply tiered vehicle LOS and person delay metrics and standards at hot-spot locations or on congested corridors, with careful consideration to how this analysis is used in transit priority corridor areas. Use performance measures such as person delay to more accurately evaluate person mobility at specific locations.

3. Develop a multimodal impact fee

Reflecting community values, update the city’s impact fee project list to include mostly pedestrian, bicycle, and transit capital improvements that help reduce VMT (rather than vehicle capacity improvements that focus on vehicle mobility) and address attributes for each street and functional classification as part of the multimodal network.

4. Update guidelines and programs

Update and align city plans and policies (e.g., design criteria, transportation impact analysis guidelines for use in conducting project permit approvals) to reflect the layered

network. The guidelines should include performance measures and thresholds for identifying impacts and mitigation measures that reflect General Plan objectives, including for person mobility, VMT reduction, and the development of a balanced transportation network for all modes.

5. Adopt a Transportation Demand Management (TDM) program

The program should guide and manage project-level efforts to reduce vehicle trips and enhance multimodal transportation options. Encourage firms to use flexible work hours (flex-time) and other trip reduction strategies (e.g., employee incentives, shared parking facilities). Encourage residential developers to design and build TDM project elements such as car-share and bike-share facilities, neighborhood electric vehicle (NEV) operation, transit stop amenities, and neighborhood transportation centers

6. Seek community input

Gain local input and address local priorities and concerns in the decision process.

These recommendations aim to help a city reconcile mobility and environmental goals, not by issuing a statement of overriding considerations to determine that VMT reductions are infeasible. Instead, this approach aims to achieve mobility goals and VMT reduction simultaneously, by planning carefully for a multimodal network that serves both purposes.

Conclusion

All California cities, as CEQA lead agencies, were required to implement the new SB 743 approach for transportation impacts analysis by July 1, 2020. In doing so, many cities have been mainly concerned with how to implement the new approach for analysis of individual development project proposals. However, some cities have gone further, by using the transition to revisit their transportation policies more broadly, in particular, their transportation impact fees and TDM requirements, so as to integrate SB 743 requirements systematically with these other aspects of local policy. Our case study research, presented in the next chapter, describes some of these efforts.

Adopting a systematic, plan-level approach to VMT analysis and mitigation can support multimodal network capacity-building, as opposed to just project-specific mitigations for reducing VMT. On a practical level, a programmatic approach can be more effective and efficient than ad hoc project level analysis and mitigation, and this applies especially for VMT and holds across all community types.

A programmatic approach can also be useful for political reasons in aligning community goals. Policies to improve accessibility can also improve mobility, even for automobiles, enabling communities to reconcile VMT and LOS through mutually beneficial strategies. By helping connect the dots, cities can, through CEQA, link land use and transportation to achieve more sustainable development patterns.

Unfortunately, a plan-level approach to addressing VMT impacts can also be used to reconcile community goals in a fashion not conducive to VMT reduction, if a community uses a General Plan EIR as “cover” for issuing a Statement of Overriding Considerations determining that full mitigation of significant VMT impacts is infeasible.

The next section considers some of the most common ways that California cities are integrating transportation impact fees into their policy approach for addressing SB 743 requirements.

Case studies on post-SB 743 impact fees

Summary of case study findings

This white paper assesses how cities are proceeding to modify transportation impact fees in response to SB 743, and how and whether the new fee programs work to reduce VMT and/or to address traditional auto LOS. Based on public documents research and interviews with transportation consultants, some primary methods that cities are adopting to modify impact fees in response to SB 743 were identified, and case study examples were investigated which illustrate these strategies.

The research indicates that cities are pursuing a range of strategies that vary, among other factors, based on the nexus adopted for the fee program, the metric used for measuring the nexus “burden,” the purpose for which fee revenue is to be spent (the project types to be funded), and whether or not the program is evaluated under CEQA and tied to official city goals and policies for reducing GHGs and VMT, thereby permitting “tiering” of cumulative impacts assessment and mitigation options and requirements. Three basic categories of city strategies are delineated, in relation to these criteria. The first group includes fee programs that aim to reduce VMT but which do not employ a VMT nexus; the second group of fee programs does employ a VMT nexus for identifying facilities needed and to be funded; and the third group includes fee programs that are integrated with VMT and LOS goals and strategies adopted systematically in the General Plan and/or other EIR-certified policy documents. In this latter case, the fee program may or may not be aimed at reducing VMT.

Six case study cities were selected for deeper investigation, each of which has adopted a new impact fee since passage of SB 743, and which serve to illustrate the city approaches identified here for redesigning impact fees in light of SB 743. The white paper considers some of the challenges and opportunities for pursuing the different strategies, as evidenced through the case study analysis. The typology presented here is not intended to be exhaustive and indeed should be considered preliminary in promoting understanding of how cities are revising their impact fees in response to SB 743. VMT analysis and mitigation under CEQA is still a developing practice, and cities are still exploring methods for addressing SB 743. An important starting place in considering city approaches to designing post-SB 743 impact fees is to recognize that for many cities, SB 743 aligns with their current planning practice. In these cities, SB 743 coincides “naturally” with a transition already underway toward emphasizing multi-modal transport. As urban areas have matured and become “built out,” the traditional methods for addressing vehicular congestion, such as widening roadways, are no longer seen as viable

mobility solutions for many cities. Instead, these cities have increasingly focused on providing efficient mobility alternatives to driving alone, such as by improving transit facilities and service, and pedestrian and bicycling facilities.

For “built-out” cities, the most logical approach for establishing the “nexus” basis for an impact fee intended to fund multimodal transport might appear to be to employ a VMT-based metric. However, some cities that have designed impact fee programs post-SB 743, with the aim of funding transit and AT facilities (which are VMT-reducing, in general), did so without using VMT as the basis for assessing need. Two cities investigated for this white paper that have followed this path are San Francisco and El Cerrito, both located in the Bay Area. Their fee programs are designed to comply with provisions of the state’s Mitigation Fee Act (MFA), and also to align with city strategies for SB 743 compliance. San Francisco’s nexus for its fee program is actually LOS-based, but applied to transit and pedestrian LOS rather than automobiles. The approach taken by these two cities indicates that to support the spirit of SB 743 for reducing VMT, it is not necessary to explicitly rely on a VMT metric for designing an impact fee program.

The second approach identified in this white paper for designing post-SB 743 impact fees has been to explicitly rely upon VMT-based metrics and measures of need. Two cities investigated that utilize this approach are Belmont, in San Mateo County, and Culver City, in Los Angeles County. Although based upon VMT metrics, the impact fee programs developed in these two cities rely upon MFA provisions, operating in similar fashion to other traditional MFA-based fee programs, including for LOS mitigation, only with a different basis for determining and measuring need. The metric used for measuring proportionality of impact to need for the new facilities is VMT-focused (trip rates multiplied by trip lengths) rather than LOS-focused (traditionally based upon measuring numbers of trips only, and their impact on nearby roadways and intersections). As VMT-oriented fee programs, these impact fees fund VMT-reducing projects, such as transit and AT, rather than roadway enhancements that could induce more driving.

On first glance, using VMT-based metrics for an impact fee program to align with SB 743 might appear to be the best course for ensuring more effective VMT analysis and mitigation at both the project and program-based levels. While this may be true, VMT-based nexus design can also pose challenges, explaining why some cities may choose other options. Traditionally, auto-LOS analysis and mitigation focused on localized impacts of development upon nearby road segments and intersections, which simplified the “burden” analysis for a fee program in establishing a tight nexus between needs, costs, and allocation of costs. A benefit, but also a challenge, of VMT-focused analysis and mitigation is that by nature it encompasses a wider view; VMT metrics essentially capture “location efficiency” – the impact of land use and transportation patterns upon travel behavior in a given locale, which is affected not just by fine-grained localized factors but also by wider conditions. This aspect makes determining the “burden” of a VMT-based fee program more complicated. Over time, methods for assessing and mitigating VMT impacts for CEQA purposes will be refined and tested, including through the courts. But as of now, practices are still being tried out.

Possibly for this reason, a third and final approach considered in this white paper that some cities are taking for addressing SB 743 is to conduct VMT analysis and mitigation at the level of the citywide General Plan or associated plans (such as Climate Action Plans), certified through an EIR. This programmatic approach can align project- and plan-level review and mitigation in a more systematic, efficient, and effective way than is possible through ad hoc project-level review alone. In addition, this approach can facilitate “tiering” from a CEQA-certified plan or policy, enabling subsequent project proposals deemed consistent with the plan or policy to reduce or avoid at least some project-level CEQA review requirements. Professional transportation consultants interviewed for this white paper indicated that many cities are interested in pursuing this sort of programmatic approach, especially given the challenges of reducing VMT through project-level strategies alone in low-density, auto-dependent locations.

Two cities investigated here have pursued a programmatic approach, San Diego and Vacaville. Both integrated SB 743 compliance mechanisms into their General Plan and/or related citywide plans, in particular their climate action plans. They did so to enable tiering of GHG and VMT impact assessment, so as to ease subsequent project-level review, especially for cumulative impacts. But in spite of this similarity, the two cities’ strategies are also markedly different, which can be seen by comparing their new transportation impact fees, included in their policy packages developed to address SB 743 compliance.

San Diego developed an innovative new impact fee to fund VMT-reducing infrastructure (bike facilities, pedestrian facilities, transit service, and micro-mobility) in location-efficient parts of the city, with the intended purpose of reducing VMT as efficiently and cost-effectively as possible citywide. Development projects in suburban, location-inefficient parts of the city are required to pay the fee, based on the project’s projected VMT impacts and the per-VMT assessed cost of reducing them to an acceptable level. This strategy allows new suburban-area development to mitigate VMT impacts by funding multi-modal infrastructure in denser urban core areas, where it is projected to be more effective. The program aims thereby to lower overall mitigation costs by targeting infrastructure where it will be most effective for reducing VMT. This strategy is being coupled with other city programs, such as density bonus programs offered to housing developers, that aim to induce more compact and affordable housing to be built in location-efficient parts of San Diego.

This approach contrasts sharply with how Vacaville designed its new transportation impact fee program, on a traditional auto LOS nexus basis for determining the need for new facilities, 95% of which will be roadway capacity-increasing projects. Vacaville’s impact fee is a traditional auto-LOS oriented program, being implemented on an “off-CEQA” basis under provisions of the state’s Mitigation Fee Act. This approach reflects, at least in part, Vacaville’s lower-density development pattern, compared to San Diego, and the high growth rates projected for undeveloped areas. The city’s environmental impact analysis of its General Plan transportation element actually projects an overall reduction in VMT compared to a “no-project” scenario, because the large amount of new development slated to occur in the city is expected to improve its jobs-housing balance and the new development will benefit from roadway capacity-increasing projects. However, this assessment does not factor in VMT reductions that might

have been possible if the fee program directed funding to non-auto mode alternatives to driving. Indeed, the city's fee program supports the expansion of new auto-dependent development.

Furthermore, although Vacaville's recent policy documents underscore the tiering benefits made possible by pegging project-level VMT and GHG analysis to the city's CEQA-certified climate action plan and transportation element of the General Plan, the associated EIR deems cumulative VMT impacts citywide to be significant and unavoidable. In this fashion, the tiering benefit on offer for project-level review is not to piggyback project-level VMT analysis and mitigation onto a wider-scale program, as in San Diego's case, but rather to piggyback onto a statement of overriding consideration written to allow development to proceed in spite of significant and unavoidable VMT impacts.

Historically, CEQA received criticism from some quarters for focusing too much on myopic project-level analysis and mitigation, rather than facilitating proactive, wider-scale programs and policies (Olshansky, 1996a and b). Many CEQA provisions have subsequently been introduced in statute to enable "tiering" of project-level review from wider plan- and policy-level review, in order to encourage more coordinated strategies. However, while a programmatic approach can enable more systematic analysis and mitigation of VMT impacts, the Vacaville example shows that this promise may not always result in a more concerted effort to reduce VMT. Instead, a programmatic approach such as Vacaville's that tiers from a statement of overriding consideration for evaluation and mitigation of cumulative VMT impacts may simply ease impact assessment for high-VMT projects. In this fashion, a programmatic approach may provide more systematic analysis and mitigation, but without supporting the goals of SB 743 for reducing VMT.

The Executive Summary includes a table summarizing some pertinent information about the impact fee programs adopted in the six case study cities investigated for this white paper. The three basic approaches identified here are used to categorize the city programs based on whether they used a VMT metric in designing the impact fee, and whether the fee program was developed in conjunction with revision of General Plan-connected policies and programs, such that VMT analysis can be "tiered" from the EIR completed for the plan or program. The case study sections that follow provide more information on each city's strategy.

San Francisco

San Francisco was among the first cities to transition to SB 743 compliance, even before the law went into full effect. LOS analysis and mitigation had been criticized by planners and activities for many years in San Francisco for failing to capture important environmental effects of development, for contradicting the city's "transit first" policy, for requiring costly, time-consuming, and unpredictable review for project sponsors, for leading to infeasible and ineffective mitigations, creating implementation burdens for the planning department, and for discouraging infill development due to a "last-in" bias, meaning that infill was required to bear the burden of existing cumulative traffic problems (Chang, 2012). As much of the city is already built out, new development is mainly infill, which could trigger a bad LOS score. The LOS metric

was a key tool utilized in the courts by city residents to hinder the implementation of transit-first strategies, exemplified in lawsuits over its bike plan and environmental review for bus-rapid transit (Henderson, 2011; Bialick, 2013).

The passage of SB 743 in 2013 provided a useful means for addressing conflicts between the LOS metric and many of San Francisco's growth policies and goals. San Francisco went further than just adopting VMT standards for project-level CEQA review, as called for under the law, by also adopting complementary, inter-connected strategies to maximize VMT reductions, in particular, by updating the city's transportation impact fee and TDM policies. Between 2015 and 2017, the city adopted a Transportation Sustainability Program (TSP), which included the replacement of LOS with a VMT metric for CEQA traffic analysis, linked to a new Sustainable Transportation Fee and a Transportation Demand Management (TDM) Ordinance; the city dubbed these three parts of its Transportation Sustainability Program "align," "invest," and "shift" (TSP website at <https://sfplanning.org/transportation-sustainability-program>).

For the "align" component, the city adopted OPR's recommended significance thresholds for assessing VMT impacts, set at 15% below regional average VMT per capita or per worker. The city used its threshold as a basis for simplifying and streamlining CEQA review of traffic impacts, by applying location-based screening criteria to determine whether projects fall below the VMT significance threshold, based on types, characteristics, and/or locations of projects (SF Planning Department, March 3, 2016; Wietgreffe, 2017). If a project meets the screening criteria, then VMT impacts are presumed to be less than significant and a detailed VMT analysis is not required. According to the city's analysis, "Most land use and transportation projects proposed in San Francisco over the last several years would meet the screening criteria...and would not require a detailed VMT analysis" (SF Planning Department, March 3, 2016).

This approach allowed San Francisco to "solve" a decade-long debate about how to link a new CEQA metric for traffic impacts to the city's mitigation fee and TDM ordinance, by de-linking them. The city's revised Transportation Sustainability Fee (the "invest" component of the TSP) was developed to comply with requirements of the state's Mitigation Fee Act, and not with CEQA stipulations for VMT analysis and mitigation.

The Board of Supervisors adopted the Transportation Sustainability Fee (TSF) in November 2015, as a citywide impact fee for both residential and non-residential development, to replace the existing Transit Impact Development Fee (TIDF), first adopted in 1981, which had applied only to non-residential development (Spencer, 2015). The city uses the impact fee to address capital and maintenance needs for managing travel demand through transit and non-auto modes, noting that, "As a dense and built-out urban environment, the City does not have the option of physically expanding its roadways to accommodate more automobiles. Instead, the City's Transit First policy directs investments to transit, bike, and pedestrian modes of travel to improve transportation services within the City and shift travel away from the use of single-occupant autos. The policy thus benefits all travel modes... when [commuters] choose to drive, they benefit from the reduction in automobile congestion that would exist without these improvements" (Spencer, 2015).

In setting the fee, the impact of development is measured in relation to increases in both transit and auto trips, with the rationale of reducing impacts on transit lines. Roadway congestion from growth in auto trips necessitates increased transit services and facilities to offset associated increases in transit travel times. The fair share cost of planned transit facilities is allocated based on trip generation for new projects as a percent of total trip generation served by planned transport facilities (including existing development and other development not subject to the fee) (ibid). The fee varies in direct proportion to the amount of trip generation of each development project type.

The fee also funds transit capital maintenance, based on the same methodology used for the previous TIDF, namely to maintain the existing transit level of service (transit LOS) as growth occurs. The existing transit LOS is the current ratio of the supply of transit services (measured by transit revenue service hours) to the level of transportation demand (measured by number of auto-plus-transit trips). Similarly, the impact of development on the need for enhanced and expanded pedestrian and other streetscape infrastructure is based on achieving the pedestrian level of service (pedestrian LOS) recommended in the city's nexus analysis completed in March 2014, in which pedestrian LOS is based on sidewalk space per capita.

Funds raised from the fee are dedicated to a specified set of transit and active transport projects, with 61% of funds directed to transit capital maintenance, 34% for transit service expansion and reliability improvements, and 3% for complete streets (bike and pedestrian) improvements (2% is for administration).

The specifics of the fee were controversial and debated for a number of years, in particular about the level of the fee and the sorts of development to be exempted. The fee ultimately adopted was set at only about one quarter of the full level identified in the required nexus study to cover mitigation needs, an outcome viewed by some observers as a victory for developers in the debate (Spencer, 2015).

The Transportation Demand Management Program—the third so-called “shift” component of the Transportation Sustainability Program—was adopted in 2017 to re-frame project mitigation away from roadway enhancements, as under LOS-based review, to instead favor mitigations aimed at reducing VMT. The TDM Program, an ordinance which amended the city's planning code, requires developers to provide on-site amenities to reduce car travel and support trip-making by sustainable modes, such as by providing bicycle amenities and subsidized transit passes (TDM Ordinance on-line FAQ). Development projects must incorporate TDM amenities early in the design phase to meet a targeted number of mitigation points depending on the type of land use and the number of parking spaces the project is proposing. The more parking proposed for a project, the higher the number of points the development must achieve. The city created an online tool to help developers calculate their project's required points and forecast different ways to meet the requirement through different TDM measures.

San Francisco's three-pronged Transportation Sustainability Program has enabled the city to align CEQA reform under SB 743 with planning for multimodal transport. Notably, San Francisco was able to weave the elements of the TSP together more easily than many other cities may be

able to do, because most territory in the city falls below OPR's recommended threshold for significant VMT, allowing for regulatory streamlining and cost savings for reduced environmental review, and because the city runs its own transit service, making collaboration among city- and county-level agencies and functions easier than in many other cities which lack the same institutional coherence between land use and transport functions.

El Cerrito

El Cerrito in the East Bay Area has pursued an exemplary approach for promoting infill development tied to transport facilities improvements, in its Specific Plan for San Pablo Avenue (SPASP), adopted in 2014. San Pablo Avenue, an important regional commercial corridor, constitutes El Cerrito's "main street," encompassing 2.5 roadway miles and roughly 200 developable or re-developable acres, ripe for infill development (Stephens, 2019).

The SPASP provides a model for how communities can combine extraction of community benefits with permit streamlining based on a Program EIR (PEIR), while still permitting flexible negotiations (Stephens, 2019). The programmatic EIR conducted for the SPASP obviates the need for CEQA review for each subsequent project deemed consistent with the plan, providing important benefits to developers, while the planning process also facilitated public input. In this fashion, the SPASP married flexibility with clear expectations to achieve a "sweet spot" between streamlining approvals and retaining ability to negotiate with developers and residents.

The first phase of the SPASP was a great success, with developers allotted space to build roughly 1,800 housing units (Stephens, 2019). The success has been attributed to the SPASP's program design, in particular the permit approval streamlining process, facilitated through the PEIR prepared for the plan, and the use of a form-based code to regulate development approvals. Through this process, developers gain flexibility within stipulated design requirements related to building height, parking, open space, and other attributes (ibid). The approach minimizes discretionary review, establishing nearly a by-right process (ibid). At the same time, an extensive outreach process with city residents, undertaken when developing the plan, helped ensure that local needs and priorities are respected.

In 2018, the city adopted a transportation impact fee to accommodate needs from development projected in the SPASP PEIR. Fee revenue is directed for projects to manage vehicle impacts and encourage a shift to other transportation modes, because, as the nexus study notes, "Shifting demand to alternative modes is common in cities like El Cerrito that are largely built out. As vehicle congestion increases, improving infrastructure for other modes...is a more cost-effective approach to accommodating increased demand and reducing congestion, and therefore becomes a higher, more strategic, priority" (Ortiz and Mintz, 2018).

The fee nexus between new development and the need for citywide transportation infrastructure is established based on maintaining the city's existing facility standard as the city grows (Ortiz and Mintz, 2018). The facility standard to be achieved is based on the existing level of investment in that infrastructure. An inventory of the components of the city's existing

multimodal transportation network was conducted, which determined that the city has invested approximately \$33,000 per equivalent dwelling unit (EDU) in its current transportation infrastructure (EDUs provide a metric, similar to trip generation rates, adjusted to reflect the reallocation of a share of commercial trip ends to residential land uses, and expressed such that one EDU reflects demand from one single family dwelling unit). The maximum justified transportation impact fee was based on new development maintaining the same level of investment represented by this existing facility standard. The nexus analysis uses person trip generation rates by land use category to reflect variations in multimodal travel demand among land uses (ibid).

The capital improvement projects to be funded through the fee derive from prior planning studies that assessed the impact of growth on the city's transportation system, and on its climate action and active transportation goals. The identified improvements focus on San Pablo Avenue, on projects identified in a complete streets plan developed in conjunction with the Specific Plan. Three quarters (73%) of the identified projects will enhance bicycle and pedestrian facilities, and 27% are "complete streets" enhancements to support "all modes" (see Table 9 in the nexus study, included in Ortiz and Mintz, 2018). The complete streets program is designed to enhance the pedestrian realm while mitigating the impacts of population growth on mobility within the plan area.

The overall cost of the TIF project list is estimated at approximately \$31.3 million, for which the city anticipates raising \$21.8 million in funding from other sources, leaving \$9.5 million in unfunded costs to be funded by the transportation impact fee.

Belmont

The City of Belmont, located in San Mateo County, adopted a VMT-based transportation impact fee in November 2020. The fee "creates a flexible mechanism where fees are collected in a consistent manner across the City and are prioritized to create a more robust city transportation network" (Kittelson & Associates, 2020). The fee program was not subjected to CEQA review and instead was adopted under provisions of the Mitigation Fee Act (AB 1600) (City of Belmont, 2020).

The fee is intended to help implement the Belmont Village Specific Plan, which was adopted in 2017 to provide "a vision for a more dense and vibrant downtown" (Clark, 2020). "We want to make sure we're capturing and charging fees to the new development in the pipeline now and not miss out on that opportunity to have new development pay its fair share of the city's infrastructure needs," said an author of the nexus study for the fee program, completed for the city (ibid).

The nexus for the fee program mitigates the impacts of new development so as to maintain the existing proportionate level of investment in the city's transportation infrastructure (Kittelson & Associates, 2020). Fees were determined by assessing the total value of the existing citywide transportation infrastructure, and dividing it by the total existing daily VMT, assessed for three residential and four nonresidential development types. The trip generation estimate for each

land use type was based on information from the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition, a standard national reference for estimating the amounts of vehicle trips generated by different land uses, using averages from vehicle counts for numerous land use categories throughout the United States. Average trip lengths for each land use were based on the San Mateo County regional transportation model maintained by the City/County Association of Governments (C/CAG). The transportation model includes estimates of trips for various purposes based on surveys of travel behavior.

Using this method, the nexus study determined the maximum defensible fee for each land use type, based on the estimated VMT generated. The fee levels adopted by the city council were set at only about one-third of the maximum justifiable fee amounts calculated in the nexus study, however. Revenue from the impact fee is intended to augment other sources of funding for the designated projects (Kittelsohn & Associates, 2020).

A list of specific projects eligible for funding is included in the nexus study, all of which could be termed complete streets projects, mainly addressing pedestrian and bicycling comfort and safety. Eligible projects are included in the city's General Plan, the Belmont Village Specific Plan, and the city's Pedestrian and Bicycle Plan, among other policy documents. Noting that "Belmont is a relatively small and densely built community," the nexus study explains that funded projects will "accommodate increased multi-modal travel...due to the limited right-of-way for road expansion...projects funded through the impact fee are unlikely to increase vehicle capacity...instead, funding will likely be used to improve the transportation network's ability to safely accommodate increased trip activity using a variety of transportation modes...[such as by] fund[ing] new connections that allow more direct travel or pursu[ing] projects that encourage increased use of transit, biking, and walking...capital improvements that improve roadway efficiency such as roundabouts or coordinated traffic signals are other examples" (Kittelsohn & Associates, 2020). However, the nexus study further indicates that, "The City may choose to prioritize other projects not identified" (ibid).

The city's new impact fee will complement its policy for CEQA impact analysis adopted to comply with SB 743, even though the fee is not being used specifically to mitigate project-level impacts through an EIR-certified program under CEQA. Belmont established a significance threshold for determining VMT impacts under CEQA at 15% below the countywide average for VMT (resolution), a step that city staff indicated would "facilitate the buildout of the General Plan...and expedite new development in suitable areas, most of which are in the Belmont Village Specific Plan (BVSP) Area, near transit, mixed-use neighborhoods, and other amenities" (Brown, 2021).

Meanwhile, the City of Belmont continues to utilize auto LOS in its *Guidelines for Traffic Impact Studies* for assessing conditions of approval for development project proposals. A city staff report indicated that LOS remains "a viable metric to determine some portions of localized impacts for new development to determine Conditions of Approval, for mobility and safety improvements, but does so apart from the CEQA process" (Brown, 2021).

Culver City

Culver City, in the Los Angeles area, adopted a Mobility Impact Fee program in 2021, as part of coordinated effort by the Community Development, Public Works, and Transportation Departments to address SB 743 compliance. Components of the strategy included building a travel demand forecast model, updating VMT screening, impact thresholds, and mitigation options to align with SB 743, designing a project-level VMT estimation tool, updating the city's *Transportation Study Criteria and Guidelines*, and establishing a VMT-based mobility fee program (Culver City Travel Demand Forecast Model Project website, at <https://www.culvercity.org/Services/Parking-Streets-Transportation/Travel-Demand-Forecast-Model-Project>).

The nexus for the impact fee program is based on VMT and VMT per capita as performance measures (Fehr & Peers, 2021b). Anticipated growth to 2045 in Culver City was input into the travel demand model, and the number of new PM peak hour vehicle trips calculated. A portion (approximately 30%) of total costs of the designated project list to be funded through the fee (and other sources) was then divided by the total estimated number of new trips generated by land uses within Culver City to determine the cost per PM peak hour trip. Growth in vehicle trips from existing conditions to future conditions was estimated at 30% of the future year vehicle trips in the PM peak hour. Finally, the estimated percent of new trips generated by various land use types, and associated trip length characteristics, were used to calculate the appropriate fee levels by land use type.

The projects designated for funding through the fee program are intended to reduce VMT and VMT per capita (Fehr & Peers, 2021b). Most identified projects will improve transit (at 48% of projected total costs), while bikeway improvements are slated to receive 24% of total costs, “signals and ITS upgrades” slated to receive 14%, roadway circulation projects another 8%, and pedestrian projects 6% of total costs. The nexus study notes that, “Culver City will rely on the strategy of leveraging the collected developer fees to secure outside transportation sources to help pay for the remaining costs” (ibid).

Because the projects designated for funding through the fee program are intended to reduce VMT and VMT per capita, their impacts were analyzed for this purpose. When possible, VMT impacts of projects were estimated using the city's travel demand model, but some types of projects could not be captured using the model, and their potential reductions in VMT and VMT per capita were quantified based on research documented in the California Air Pollution Control Officers Association's *Quantifying Greenhouse Gas Mitigation Measures*. For example, elasticities for mode shift and associated VMT changes from introduction of new bicycle and pedestrian facilities in the city were derived from research. “Roadway circulation projects” focused on traffic calming or median re-configuration were deemed in the nexus study as “not aimed at increasing roadway capacity, with limited impact on VMT” (Fehr & Peers, 2021b). The VMT impact of some innovative project types, including development of transit and micromobility hubs, was described as difficult to calculate because research on their overall effectiveness is still limited. The VMT impact of “signals and ITS projects” was deemed ambiguous, with the nexus study noting that, “While there are often emissions reductions

associated with these types of projects as running time per mile decreases, there are no associated VMT reductions and in some cases, these projects can induce additional VMT by lowering the cost and delay of traveling by vehicle” (ibid). The impact of induced VMT from these projects is not estimated in the nexus study, however. Nor is the impact of providing charging stations for electric vehicles assessed, although a small portion of funds (less than 1%) will be provided through the fee program for this purpose.

The impact of the fee program on citywide VMT is estimated to be only marginal. VMT per capita and per employee for the 2045 “with project” scenario is projected to decrease by only 2.1% and 1.1%, respectively, compared to the 2045 “without project” scenario.

Meanwhile, the city also updated its *Transportation Study and Criteria Guidelines*, to coincide with its other related efforts to address SB 743, noted above (Culver City, 2020). For VMT analysis and mitigation, the city established a significance threshold at 15% below citywide home-based per capita and per employee VMT (for residential and office projects, respectively). For proposed projects exceeding the threshold, TDM measures are recommended for mitigation purposes. The impact fee is not incorporated into CEQA mitigation, however; indeed, the fee program was adopted as exempt from CEQA review.

The guidelines also devote lengthy attention to traditional auto LOS analysis requirements, now to be conducted “off-CEQA” as part of “supplemental analysis” required during the city’s project approval process. Projects that generate more than 250 daily trips are required to assess and mitigate impacts on intersection and driveway LOS, transit, bicycles, pedestrians, driveways, parking, and safety.

Vacaville

Vacaville is a city of close to 100,000 residents located in Solano County about halfway between Sacramento and San Francisco. It provides an example of how a traditionally low-density city that is anticipating substantial growth has integrated a new transportation impact fee subsequent to the adoption of SB 743.

Coinciding with an update to the city’s General Plan in 2015, Vacaville adopted an Energy and Conservation Action Strategy (ECAS) to provide a long-range strategy for reducing GHGs “to align with the State’s goal of reducing statewide GHG emissions” (City of Vacaville Planning Commission, 2021, January 5; City of Vacaville, 2021, March-a). The General Plan EIR determined that planned development in the city will generate a significant increase in GHG emissions, and the ECAS was intended to identify mitigation measures to address the impacts.

Then in 2020, the city updated the ECAS along with the Transportation Element of the General Plan to support policy measures adopted to comply with SB 743 (ibid). The associated Supplemental Environmental Impact Report (SEIR) analyzed the environmental effects of the policy changes (such as establishing the city’s VMT significance threshold), incorporated new VMT policies and actions, and provided a basis for tiering for project level impacts (City of Vacaville, July 2021). In addressing these policy elements simultaneously, the city set the basis

for tiering off the General Plan’s determination of significant and unavoidable GHG impacts for transportation, as described below.

Regarding the tiering opportunity, the ECAS update explains that:

This Energy and Conservation Action Strategy will support ambitious GHG emission reduction targets adopted by the State and will ensure that Vacaville is eligible for transportation and land use grant funding...This Energy and Conservation Action Strategy will also be utilized for tiering and streamlining future development within Vacaville, pursuant to California Environmental Quality Act (CEQA) Guideline Sections 15152 and 15183.5. It serves as the CEQA threshold of significance within the city for GHG emissions, by which all applicable developments within the city will be reviewed.

Projects that are consistent with the General Plan land use, incorporate the applicable ECAS reduction measures, and otherwise do not conflict with implementation of the ECAS would be considered to not conflict with the ECAS Update. CEQA Guidelines Section 15183.5 allows the GHG impacts of future projects to be evaluated using an adopted GHG emissions reduction plan, like the ECAS Update, provided that the plan meets specific requirements. Specifically, Section 15183.5(a) and (b) state: (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR [Environmental Impact Report] containing a programmatic analysis of GHG emissions. (b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

The six requirements specified in the State CEQA Guidelines for GHG reduction plan elements are listed below, as well as the ECAS Update’s compliance:

(1) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area. The ECAS Update includes a baseline (existing) inventory for 2019, which builds off the previous 2008 inventory; a BAU inventory for 2035; and an adjusted business-as-usual (ABAU) GHG inventory for 2035...

(2) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable. The ECAS Update establishes a GHG emissions target ...[which] aligns with the Statewide GHG emissions target of 40% below 1990 levels by 2030 per SB 32 and demonstrates substantial progress towards meeting the EO S-3-05 target of 80% below 1990 levels by 2050.

(3) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area. The ECAS Update identifies and analyzes GHG emissions from various emission source sectors relevant to the City...

(4) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level. The ECAS Update includes specific measures to achieve the overall communitywide reduction target...

(5) Establish a mechanism to monitor the plan's progress...and to require amendment if the plan is not achieving specified levels. The ECAS Update includes periodic implementation and monitoring direction...

(6) Be adopted in a public process following environmental review. The Supplemental EIR for the Transportation Element and ECAS Update Project serves as the environmental review for the ECAS Update. The adoption process for the Supplemental EIR includes a public process (City of Vacaville, 2021, March-a).

The ECAS update projects future GHG emissions for 2035, estimated for a “business as usual” (BAU) scenario that showed how emissions would change with no action taken at the federal, state, or local level to reduce them, and then also for an adjusted BAU (ABAU) scenario, which assumed implementation of adopted federal- and state-mandated GHG emission reduction measures. Under the ABAU scenario, communitywide GHG emissions are projected to decrease 10% below the 2019 baseline. With the ECAS update GHG reduction target set so as to meet the state’s 2030 GHG reduction target of 40% below 1990 levels by 2030, and to demonstrate substantial progress towards meeting the state’s 2050 GHG reduction target of 80% below 1990 levels by 2050, the additional reductions determined necessary at the local level to address the gap were estimated to be approximately 285,333 MT CO₂e by 2035, or a decrease of 38%. For transportation, estimated to be producing the largest share of emissions, at two-thirds of GHGs citywide in 2035, the primary proposed strategy for emissions reductions is the adoption of electric vehicles (see Tables 25 and 26 in the ECAS Update).

The city’s General Plan contemplates extensive growth between 2019 and 2035, with residential growth of approximately 40 percent predicted, and more than triple the amount of industrial and office space. About one-fifth of residential growth is planned for two “priority development areas” located near transit, to incorporate denser mixed-use development and pedestrian and biking improvements (Winlow, 2013). One of the targeted areas is downtown Vacaville, where efforts are underway to add specific development projects and infrastructure upgrades, and to develop a Connectivity and Streetscape Design Plan and a Specific Plan to define a long-term community vision for the area (City of Vacaville, n.d.). The Specific Plan is intended to include adequate detail for the city to certify an environmental document that allows streamlined project-specific approvals for subsequent projects consistent with the plan. Zoning designations and land use development standards will be developed.

In spite of these efforts to support location-efficient development in the two targeted growth zones, the city does not predict that it can reduce VMT sufficiently to meet its significance

threshold newly adopted for purposes of CEQA review. The city adopted a VMT significance threshold for proposed land use projects set at 15 percent below citywide average baseline conditions per dwelling unit (for residential, specific to unit type) or per thousand square feet (KSF) (for non-residential, specific to use type). The SEIR then found that implementation of the city's General Plan would generate average VMT per dwelling unit and per of KSF of non-residential space that exceeds the significance threshold. Additional reductions ranging from 3 to 17 percent would be needed for different land use categories to reach the applicable VMT threshold (City of Vacaville, July 2021).

The SEIR deems this VMT impact of planned development to be significant and unavoidable, noting that, "The City at this time cannot guarantee that VMT will be reduced to the degree that it meets state goals related to VMT reduction. Some projects have development agreements, and the City cannot unilaterally change land use and transportation frameworks of them to focus on reducing vehicular travel demand" (ibid).

The SEIR explains how subsequent projects can tier off of this finding of significant and unavoidable impacts, noting that:

CEQA Guidelines Section 15183 specifies that projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. In this instance, the impacts of all land use projects contemplated in the City's General Plan have been analyzed to determine their effect on VMT, which is the preferred metric for analyzing the transportation system per CEQA Guidelines 15064.3.

Future projects consistent with the General Plan will not require further VMT analysis pursuant to CEQA. However, those projects would be subject to [mitigation requirements] unless it can be demonstrated that the project's specific land use type and location is in a "VMT efficient" location...These streamlining provisions do not alleviate the need for evaluation of project impacts related to other components of the transportation system, such as pedestrian/bicycle facilities, transit facilities and services, hazards, emergency access, construction, etc. (City of Vacaville, July, 2021).

The tiering provisions ease CEQA analysis, but, as noted, do not relieve project applicants from considering "reasonable and feasible" mitigation if VMT impacts are projected to be significant. The city's entitlement approval guidelines require all proposed development projects with a potentially significant VMT impact to consider "reasonable and feasible" modifications during project design and environmental review in order to reduce VMT; potential measures listed for consideration include: improving access to transit; increasing access to groceries, schools, and daycare; incorporating affordable housing into residential and mixed-use development; orienting the project toward transit, bicycle and pedestrian facilities; and improving pedestrian or bicycle networks, or transit service (City of Vacaville, July 2021).

The General Plan also contemplates a number of roadway widening/expansion and interchange projects, and the SEIR evaluated the implications for VMT, in accordance with the city's newly adopted CEQA threshold, ultimately providing a similar finding as for land use, namely that impacts will be significant and unavoidable. The evaluation indicated that most proposed roadway projects would decrease VMT, because planned development is expected to produce an improved jobs-housing balance, so that a lower proportion of commute trips will be taken by city residents outside the city for work purposes. The planned roadway projects are projected to ease local traffic that would otherwise be diverted to longer routes. The SEIR calls for roadway projects that could induce VMT to consider reasonable and feasible project modifications including amending street design requirements to incorporate complete streets improvements; expanding the transit system; implementing or funding off-site travel demand management; and/or implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes.

Thus, the city's SEIR provides a means for tiering off of the assessment of VMT impacts, deemed significant and unavoidable, that are projected for land use and transportation projects in the General Plan and its modifications. Meanwhile, the new updated Transportation Element of the General Plan includes policies to maintain automobile LOS at C level, at all intersections and interchanges, to "facilitate the safe and efficient movement of people, goods, and services" (City of Vacaville, 2021, March-b). To allow for infill and higher density development at transit centers, the Transportation Element establishes LOS D as the threshold goal for signalized and all-way stop control intersections in the Downtown Urban High Density Residential Overlay District and other priority development areas designated by the city.

The Transportation Element further specifies that roadway improvements implemented using the city's Development Impact Fee Program or other funding sources shall be designed based on the prescribed level of service standards operating goals. The General Plan update "triggered the need for a major update of the City's development impact fees for transportation improvements" (City of Vacaville, 2022). A nexus study for a new fee was completed in April 2022, based on a needs analysis developed using a new travel demand model and updated travel demand forecasts (ibid).

The nexus used for defining the required roadway and intersection improvements needed, to be funded through the TIF program, is vehicle level of service (LOS) assessed for existing conditions and with projected travel demand for build-out conditions as per the General Plan. For a roadway or intersection currently operating at an acceptable LOS but that would operate at unacceptable LOS under build-out conditions, the cost of the capacity improvement was allocated to the TIF Program. For existing deficiencies (roadways or intersections that currently operate at an unacceptable LOS), a portion of the cost of the improvement was allocated to the TIF program, equal to the percent of total future traffic volume on that facility projected to be generated by new development. The allocation of costs was assigned to various types of developments, normalized to an "equivalent dwelling unit" rate measuring VMT for each land use type compared to the VMT for a single-family residential unit.

Almost all (93%) of the costs of funding the projects identified for the fee program are designated for roadway improvements, and only about 1% for bicycle and pedestrian improvements specifically. No funds are directed for transit improvements specifically. The fee is imposed at a reduced level in the city's two "transit center" areas.

Thus, Vacaville, like the other case study cities investigated for this white paper, has updated its transportation impact fee as part of a combination of integrated strategies prompted by passage of SB 743. Vacaville went further than the first four cities investigated in integrating VMT evaluation into its General Plan, as a way to tier from the plan-level analysis to ease project-level analysis of VMT. The tiering is not meant to be used in conjunction with a programmatic mitigation strategy, however, and indeed, the city's new transportation impact fee is entirely traditional in its orientation toward LOS standards and roadway funding. Vacaville has made a determination that creating a VMT-specific mitigation program through its impact fee was not feasible, although other jurisdictions have established such programs.

San Diego

With the adoption of its 2008 General Plan, the City of San Diego established the principle of a "city of villages" to guide future development. The City of Villages strategy was deemed essential for helping reduce greenhouse gases and promoting multi-modal transport, through efforts to "focus growth into mixed-use activity centers that are pedestrian-friendly, centers of community, and linked to the regional transit system," with a village defined as "the mixed-use heart of a community where residential, commercial, employment, and civic uses are all present and integrated" (San Diego Planning Department, 2008).

San Diego relies on community plans to establish zoning and design standards in the city's diverse neighborhoods; 52 distinct areas have been designated for plan development (Keatts, 2017a). However, by the mid-2010s, many community plans were decades old, forming the basis for some disjointed policymaking, such as for wide discrepancies in application of impact fees by neighborhood (Keatts, 2015). The pace of updating community plans in San Diego picked up in the late 2010s, with fourteen completed by 2020 (<https://www.sandiego.gov/planning/community/profiles>). However, most of the new plans increased housing densities only modestly, if at all, with residents often contesting city proposals to increase densities near transit stops, and city officials often backing down in response (Keatts, 2017a; Keatts, 2018a).

With city officials growing increasingly concerned about housing and transportation policy, a "bipartisan consensus" emerged among San Diego city leaders by 2017 "to largely admit defeat in neighborhood-level density fights and instead, just pass citywide policies that make it easier to build within the existing density" (Keatts, 2017b). San Diego officials had come to a reckoning about the need to increase development near transit, because the city's ambitious, legally binding Climate Action Plan, adopted in 2015, calls for half of city residents living near transit by 2035 to walk, bike or take transit to work (Keatts, 2017b; Keatts, 2018b). Although before then, city leaders had "shown little interest in taking the unpopular positions required to hit that

target,” the city’s own analysis showed that the recently adopted community plans would not come close to shifting commuting behavior enough to hit the targets (ibid).

Instead of working to increase density one community at a time, city officials began to advocate policies to ease development citywide, but without directly challenging official height limits in place. The new approach would emphasize citywide regulations to make it cheaper, easier and faster to build housing allowed under existing densities, such as by reducing parking requirements for developers, and by charging development impact fees by the square foot, instead of per unit, so as to encourage building of more, smaller units (ibid).

In 2016, San Diego created the state’s strongest density bonus policy, the Affordable Homes Bonus Program (AHBP), which built upon the state’s existing Density Bonus Law. The state law ensured that developers could receive a 35% density bonus when they built 11% of their initial zoning capacity as affordable homes. The new San Diego program allows for up to 50% capacity bonus and five additional incentives if a project provides up to 15% of zoning capacity as affordable homes (City of San Diego, Municipal Code Ch. 14. Art. 3. Div. 7). The bonus can be achieved through an increase in floor area ratio (FAR), a greater building height, decreased minimum unit size, or loosened setback requirements (National Multifamily Housing Council, 2019). In 2020, the state adopted AB 2345, which applied San Diego’s AHBP program approach statewide starting in 2021.³

Analysis indicates that the AHBP has been very successful. Comparing 20 months of entitlement data under the AHBP to 12 years of production under the city’s previous implementation of the California Density Bonus Law, researchers found a nearly five-fold increase in the number of projects applying to use the program, and an even greater increase in the number of deed-restricted affordable homes entitled (Parent and Rosas, 2020).

Other deregulatory measures to promote housing, taken during the same period, included easing development of “granny flats,” a.k.a., accessory dwelling units (ADUs). Unlimited ADUs were permitted for properties in single-family zones located within transit priority areas, if the owner agrees to make at least one of the flats rent-restricted for low-income residents (Garrick, 2020; Keatts, 2020a). Parking requirements were also eliminated. Granny flats exploded in the city as a result of these changes (Keatts, 2020a).

Under the rubric of “Complete Communities,” a series of additional policies was adopted for both housing and transportation starting in 2019. Minimum parking requirements were removed in 2019 for new housing developments in “transit priority areas,” defined as areas within one half-mile of a current or planned transit stop (Keatts, 2020a, b). For downtown

³ AB 2345 provided that starting in 2021, projects with on-site affordable housing can get a density bonus of up to 50%, if they provide higher affordable unit shares; specifically, 15% very low income, 24% low income, or 44% moderate income units allow for the full 50% bonus. Qualifying developers can, as of right, obtain parking requirements of 1 space for studio and 1-bedroom units, and 1.5 spaces for 2- and 3-bedroom homes. 100% affordable housing projects located within ½ mile from an accessible major transit stop shall have no enforced parking requirements.

housing developments, parking spaces were capped at one per unit (Curry, 2019). In July 2019, additional density bonus incentives were provided for housing development, stipulating that if a housing project maximizes the existing density bonus of 50% by providing low-income units, it can then use a new moderate-income program to obtain an additional 25% density bonus as long as 10% of pre-density units are deed-restricted at 120% of area median income (AMI) or lower (City of San Diego, 2019). In 2020, further incentives were provided for development on land zoned for apartments or condos, and located near transit, in exchange for developers setting aside 40% of the units allowed under normal zoning rules as affordable to low- and moderate-income households. Qualifying projects are not limited in height or density, but rather by floor-area ratio. Permit approvals are to be expedited for qualifying projects (Keatts, 2019, 2020b; Bowen, 2020).

Thus, in the latter half of the 2010s, San Diego established a series of incentives for promoting housing development within existing density limits. Through these policy measures, San Diego is aiming to provide actionable incentives for new housing development near transit to produce better success on the ground than previously experienced in protracted neighborhood-by-neighborhood fights over increasing densities. Implicit in the new approach is a compromise, however, to preserve areas zoned for single-family housing. Although over half the land located within a half-mile of transit in the city, in which it is legal to build housing, is zoned only for single-family homes, the Complete Communities programs never attempted to disrupt that privilege (Keatts, 2020a). Furthermore, although the city has adopted new incentives for TOD, it has been less successful in raising funds for subsidized units. Although a tax measure for the purpose was placed on the ballot in 2020, it was not passed by city voters (Keatts, 2020a).

San Diego developed its approach to SB 743 compliance and re-formulated its transportation impact fee under the same “Complete Communities” policy rubric described above. For the fee, the aim was not just to align with SB 743, but also to resolve some long-standing concerns about how transportation impact fees had been imposed in the city in the past. Previously, the city had assessed fees per housing unit, with funds locked into special accounts for each of the city’s 50-odd community planning areas, creating inequities (Keatts, 2020a). More suburban parts of the city could assess up to 100% of the cost of new facilities to serve development, meaning they generally held much higher fund reserves than older, more urbanized areas served by transit (Elmer, 2020). By 2020, the city’s planning department was seeking to create a more systematic, sustainable, and equitable approach by setting one flat developer fee citywide that could provide more funding to the neediest neighborhoods (Elmer, 2020).

The city adopted inter-related measures in 2020 to address SB 743, including a new Active Transportation In-lieu Fee, VMT metrics for use in CEQA analysis, revisions to the city’s land development and transportation evaluation manuals, and a VMT calculator for assessing project-level impacts, all under the rubric of the “Mobility Choices Initiative,” part of the larger Complete Communities policy package (City of San Diego Complete Communities website at <https://www.sandiego.gov/complete-communities>).

With transportation the largest source of GHGs in the city, the new impact fee program helps implement the city's Climate Action Plan (CAP) by supporting infill development and investments in walking, biking, and public transit, according to the nexus study for the impact fee (EFS Engineering, Inc. (2020)). The significance threshold set by the city for VMT analysis under CEQA is 85% of regional average VMT per capita or per employee. In an innovative approach, the city used this adopted VMT threshold not just for screening purposes for project-level CEQA review, but also in designing its impact fee program.

The nexus or "burden" identified as the basis for the fee program is the generation of VMT (EFS Engineering, Inc., 2020). VMT-reducing infrastructure was identified, and a range of eligible projects assessed for VMT-reduction potential and cost. Factors employed for project screening included: whether the infrastructure type could be linked to published, peer-reviewed research demonstrating quantifiable VMT reductions; whether the infrastructure is suitable for implementation in VMT-efficient areas of the city; whether the infrastructure is implementable at a community-wide level (excluding improvements only suitable at a project or parcel level); and whether the infrastructure is implementable by the City of San Diego.

Following the screening process, a list of program-eligible infrastructure types was finalized, including bikeways and pedestrian enhancements, transit-only lanes and signal prioritization, and support for "SMART corridors" and "mobility hubs," which are also emphasized in the San Diego area MPO's latest regional plan. A SMART corridor, according to the nexus study, is a "major arterial roadway that provides access to or between at least two freeways, whereby mobility improvements are made for transit and other congestion-reducing mobility forms through the repurposing of roadway space...to create facilities with general purpose lanes plus flexible lanes...to provide dedicated space for efficient transit and other pooled services" among other benefits (ibid). A "mobility hub" is a "place of connectivity where different modes of travel – walking, biking, transit and shared mobility – converge"...providing "an integrated suite of mobility services, amenities, and technologies to bridge the distance between high-frequency transit and an individual's place of origin or destination" (ibid).

Based on available research and other quantification resources, a VMT reduction range and program costs was assigned to a sample of eligible projects across different modes and facility types. From this information, a unit cost expressed in terms of cost per VMT reduced was calculated for each project type. Then, an average unit cost was calculated by mobility mode, and an average overall cost-per-VMT of \$1400 was calculated for the entire fee program, based on weighting the unit costs by mode to match the city's target mode share allocations. The nexus study notes that, "The target mode share allocations were based on several factors, including the mode share goals of the City's CAP, reasonable community investment patterns, and overall VMT-reducing efficiency" (EFS Engineering, Inc., 2020). The PEIR explains that, "The CAP's overall transportation goal was to reduce the vehicular mode share to 50 percent...The Mobility Choices Fee identifies the cost to reduce a mile of vehicular travel within the City based on the construction and implementation of active transportation and transit facilities, with the intent of shifting trips away from vehicular travel to other modes" (City of San Diego, 2020a).

San Diego's innovation in connecting its impact fee to the city's adopted significance threshold for VMT is in how the city chose to apply the fee geographically. As the PEIR explains, "Each development project located within the non-urban areas...will be required to participate in the fee program to offset [[its] VMT impacts by paying [its] fair share to reduce the City's overall VMT" (City of San Diego, 2020a). The nexus study further explains that the proposed maximum fee rate of \$1400 per one-VMT reduction "assumes that the identified improvements will be implemented in VMT-efficient areas of the City" (ibid). "This assumption is both fair and reasonable...The fee will be used to fund a variety of multi-modal improvements [to] be implemented in the areas of the City that will result in greater VMT reduction potential (VMT-efficient areas) than areas of the City where the measures would yield lower VMT reductions (VMT-inefficient areas)...The cumulative effects of future development will impact the City's mobility network and...such impacts are difficult to mitigate on a project-by-project basis. This fee will benefit future development...in a fiscally prudent and cost-effective manner, consistent with the City's CAP" (ibid).

In applying the fee, the city is broken out into four mobility zones, designated based on the VMT-reducing potential of new development, in line with the adopted significance threshold. Mobility Zones 1, 2, and 3 are deemed to be VMT-efficient, with the average number of vehicle miles traveled per capita or per employee less than 85% of the regional average (below the established significance threshold). Mobility Zone 4 is VMT-inefficient, with average VMT per capita or per employee greater than 85% of the region's average.

The new in-lieu fee, set at \$1400 per VMT produced, applies to all development in Mobility Zone 4, with the funds to be used for VMT-reducing infrastructure projects located within Mobility Zone 1, 2, or 3 (the lower VMT areas). As noted above, the rationale for this approach is that investing in VMT reducing infrastructure in Mobility Zone 4 yields the least amount of citywide VMT reductions, and instead, it is cheaper and more efficient to invest in VMT reducing facilities in the other mobility zones in comparison. At least 50 percent of all new funds will be spent solely within Communities of Concern.

Mobility Zone 1, which includes the downtown area, is not required to implement active transportation measures or pay the fee. Projects in Mobility Zones 2 and 3 can pay the VMT fee, or instead provide Active Transportation Measures, which are VMT reduction measures such as lighting along public walkways, pedestrian refuges and raised or widened crosswalks and sidewalks, shade trees, traffic calming measures, transit stop upgrades, designated car-share or carpool vehicle parking, or electric bicycle charging stations. Multifamily residential development in Mobility Zone 2 must provide specific amenities including bicycle storage or repair stations, transit pass subsidies, or micro mobility charging spaces; all other development in Mobility Zone 2 must consider employing the wider full range of potential Active Transportation Measures. All development in Mobility Zone 3 must provide Active Transportation Measures or pay the fee. Certain projects are exempt, regardless of mobility zone, including affordable housing, locally serving retail and public facilities, and certain mixed-use projects.

The nexus study notes that, “As VMT generation varies by location, project type (land use), and project size, development of a suitable VMT calculator will be an important tool for program implementation” (EFS Engineering, 2020). The city developed such a Calculator tool, an Excel based program that allows project applicants, developers, and city staff to calculate the Active Transportation In Lieu Fee associated with a specific project based on its location, land use, and size (City of San Diego, n.d.). The tool can be used to calculate the required fee for Mobility Zone 4 or the opt-in fee for projects in Mobility Zones 2 or 3 that prefer to pay the fee rather than implement the required VMT reduction measures. The fee is calculated for a project so as to estimate the amount of additional VMT generated over the established threshold (ibid).

Meanwhile, San Diego has not given up use of auto LOS standards. In the newly revised Transportation Study Manual, requirements are spelled out both for a project’s CEQA transportation impact analysis and a Local Mobility Analysis (LMA), required for certain projects (those that generate more than 1,000 daily driveway trips) to assess circulation issues (City of San Diego, 2020b). An LMA is intended “to analyze site access and circulation and evaluate the local multi-modal network available to serve the project...[and] evaluate the effects of a development project on mobility, access, circulation, and related safety elements in the proximate area of the project” (ibid). The manual specifies in lengthy detail how circulation impacts should be analyzed and mitigated, in relation LOS standards.

San Diego designed its fee program so that it can tier off the city’s CAP, easing evaluation of project and program-level GHG impacts in respect to VMT. The fee program can take advantage of CEQA tiering for GHG emissions analysis, according to the nexus study. “The Active Transportation In Lieu Fee will fund and construct an array of multi-modal infrastructure that will help to reduce citywide VMT to levels consistent with California’s climate change goals and the City’s CAP... To the extent that the fee provides a mechanism by which development can mitigate, in whole or in part, statutorily-defined transportation impacts, projects could benefit by reduced processing times and project costs,” according to the nexus study. The Program Environmental Impact Report (PEIR) completed for the fee program explicated the potential tiering opportunities further, noting that, “To achieve its proportional share of the state reduction targets for...2050 (EO S-3-05), the City would need to reduce emissions below the 2010 baseline by...50 percent by 2035...Through implementation of the CAP, the City is projected to reduce emissions even further...Analysis within this PEIR directly tiers off of the CAP PEIR for cumulative GHG emissions under CEQA Guidelines Section 15183.5. As such consistency with the City’s CAP is used to evaluate the significance of the proposed project’s GHG impact” (City of San Diego, 2020a).

However, while the fee program is designed to make use of CEQA tiering, the PEIR on the program finds that while “the Mobility Choices Program would not be associated with significant VMT related impacts, and impacts would be less than significant...[and] although development under the Housing Program combined with improvements resulting from the Mobility Choices Program are anticipated to result in the implementation of infrastructure improvements that could result in reductions in per capita VMT, at a program level, it cannot be determined whether those improvements would sufficiently reduce potentially significant VMT

impacts to below the threshold of significance...at a program level, potentially significant VMT impacts could nonetheless remain because it cannot be determined with certainty whether the improvements would be implemented at the time a future development project's VMT impacts could occur and whether those impacts would be mitigated to a less than significant level" (City of San Diego, 2020a).

This finding of uncertainty about program impacts, along with the fact that funding sources other than the impact fee will be sought for the facilities identified for the fee program, indicates that the fee cannot automatically be considered full mitigation of VMT impacts. As discussed earlier, if a mitigation program is not fully funded so as to fully mitigate an impact to an insignificant level, based on substantial evidence that it can do so, then it might be open to challenge as a basis for more than partial mitigation. It is also notable that San Diego's fee program was adopted shortly before the state adopted AB 602, which (as discussed earlier) now requires that a locality adopting an impact fee must adopt a capital improvement plan as part of its nexus study. San Diego's nexus study is based on facility improvements types, but not a specific set of designated improvements. This lack of specificity adds to uncertainty about program impacts.

Through the complicated set of inter-related programs and policies described above, San Diego has worked to integrate housing and transportation strategies to reduce VMT and GHGs, with mitigation requirements directed to funding high-impact measures in the city's most location-efficient zones. This kind of approach allows the city to connect the dots between project-level VMT mitigation and coordinated, strategic city-wide policies and programs to reduce VMT, along with means to fund them. Through this sort of coordinated approach, the city aims to maximize the potential for VMT reductions.

Conclusion

As California cities are proceeding to develop new policies to comply with SB 743 and its implementing guidelines, many of them are doing more than just the minimum steps required - more than just establishing VMT-based "significance thresholds" for evaluating and mitigating transportation impacts of proposed development projects and plans. This white paper has endeavored to characterize and typologize some primary approaches being taken to modify impact fees in response to SB 743.

The research indicates that cities are pursuing a range of strategies. Three basic categories are delineated, based on whether cities revise their fee programs to utilize a VMT-based nexus, and whether or not they integrate VMT analysis into their General Plan and/or associated policy documents. The first group includes fee programs developed under provisions of AB 1600 that aim to reduce VMT but which do not employ a VMT nexus; the second group does employ a VMT nexus for identifying facilities needed and to be funded; and the third group of fee programs connects to General Plan and/or other EIR-certified policy documents.

Key take-away findings from this research include that cities revising their impact fees in response to SB 743 are not all using a VMT nexus in designing their fee programs; other options

are available. Indeed San Francisco, one of the first California cities to develop a coordinated programmatic response to SB 743, designed an impact fee that does not use a VMT metric. The research also found that cities are experimenting with how best to employ a VMT-based nexus for impact fee programs, and facing some challenges in doing so. SB 743 represents a significant change in how CEQA addresses traffic impacts, by introducing a metric and standard aimed at encouraging more efficient development patterns, viewed at a wider-than-local scale. This salutary attribute of SB 743 also presents new practical challenges for practitioners, however, who have been accustomed to measuring auto LOS at the localized intersection-level scale. The research for this white paper underscores that establishing and demonstrating (measuring) a VMT “burden” for nexus purposes, and quantifying VMT impacts of mitigations strategies, can be challenging.

To establish a solid policy basis for VMT analysis and mitigation, and for integrating VMT with other community goals such as for maintaining LOS standards, some cities are integrating CEQA-certified policies for addressing VMT impacts into their General Plan policies. However, the research finds that the motivation for doing so may not be to support programmatic mitigation strategies for VMT reduction. In some cases, the main motivation may be to provide CEQA streamlining benefits from tiering off of a statement of overriding considerations on significant and unavoidable VMT impacts.

In that case, a programmatic approach may enable more systematic analysis and mitigation of VMT impacts, and may serve to help reconcile community goals and policies, but it may not serve to support VMT reduction. Instead, a programmatic approach that tiers from a statement of overriding consideration for evaluation and mitigation of cumulative VMT impacts may simply ease impact assessment for high-VMT projects. State policymakers may want to consider how to address this aspect of tiering provisions, by enhancing benefits for programmatic approaches that serve to enhance mitigation to reduce VMT impacts.

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Data Summary

Products of Research

The data collected for this white paper are comprised of information found in publicly available documents as cited in the white paper, and from a small number of interviews conducted with city planners and transportation consultants. No publicly available data was compiled from the research project.

Data Access and Sharing

The publicly available documents cited in this white paper are available at the website links listed in the References section, above. The interview recordings are not publicly available, due to confidentiality.