Effective July 1, 2020 the California Environmental Quality Act (CEQA) requires land development (and other) projects to quantify and mitigate any increase in vehicle miles traveled (VMT) beyond an allowable threshold. This is a dramatic change from past practice, which involved estimating and mitigating increases in traffic congestion caused by a project.

Mitigating VMT is challenging in different ways than mitigating congestion. Mitigation for congestion typically took the form of adding lanes to roads or making other roadway improvements such as adding signals and turn lanes. As with congestion, there may be ways of mitigating additional VMT through modifications of the project; but there are also precedents for establishing regional fees and mitigation banks that could be used to offset VMT increases from particular projects. Or mitigation could be achieved through combining a mixture of VMT-increasing and VMT-decreasing private and public investments planned for in a Regional or Metropolitan Transportation Plan or through local land use plans and regulations implementing a Sustainable Communities Strategy.

However, another mitigation approach, discussed in this white paper, could be a useful supplement to these established precedents: Land development projects that increase VMT could be matched with projects and programs that reduce VMT, thereby mitigating the VMT impacts and satisfying the requirements of CEQA. This could be done at the level of a transaction in which the VMT-generating project funds the VMT-reducing project, without any intermediating government agency, or through a regional fee or mitigation bank. For example, a land development project in San Bernardino County might fund a transit pass program in Los Angeles County.

These transactions could be made across broad geographies and support a wide variety of VMT reduction projects. A VMT mitigation offset exchange transaction could also become part of project-level mitigation offered by developers to support a finding of no significant environmental impact.

These transactions would need to meet all of the normal requirements of CEQA including the legal “nexus” and “rough proportionality” tests, and be supported by substantial evidence.
The VMT offset transaction approach has some advantages in terms of flexibility and in helping to lay the evidentiary basis for a regional mitigation fee or bank.

The remainder of this paper describes the concept, its possible applications, and some unanswered questions in greater detail.

**VMT Mitigation Challenges**

In the course of the SB 743 Implementation Assistance Project: “From Driving More to Driving Less,” several participants, including members of the Leadership Team and Technical Advisory Committee, recognized the potential challenges for large development or transportation projects to mitigate their additional generated VMT at the project level alone.

This challenge would be even larger when VMT analyses, following CEQA requirements, consider (a) the entirety of VMT impacts, regardless of the political boundary of the lead agency or the area identified as a project area for other purposes; and (b) (in the case of projects that increase road capacity) any induced additional driving both directly and through the land development they facilitate (this is called somewhat confusingly “induced demand”).

Another aspect of the problem is that retail development typically requires attracting customers who would drive to the shops. In the absence of truly exceptional transit service and service riders, mitigation efforts to reduce driving, say to a regional shopping center, would be counterproductive to the goals of the development.

This difficulty was confirmed by the exercises conducted at the project’s workshop in Los Angeles (April 2018), at which participants were asked to propose mitigation activities for the VMT generated in the case study projects.

**Regional VMT Mitigation Reduction Strategies**

Many project participants presumed that a regional fee to pay for VMT-reducing projects or programs (such as building additional transit lines or bike lanes) could be used to offset the increased VMT. A regional fee of this type would be based on well-established CEQA precedents, such as using fees to finance the creation of new wetlands that replace those destroyed by development. A regional VMT reduction fee could:

- Comprehensively address VMT impacts across jurisdictional boundaries
- Reduce or eliminate the need for expensive analyses of project-specific cumulative conditions.
- Offer more certainty for developers regarding the kinds and costs of appropriate mitigations needed to address cumulative VMT impacts.
Regional transportation impact mitigation fees and mitigation banks and their advantages are explored in a working paper prepared for this project by Neil Peacock, Caltrans Senior Environmental Planner, which is available on the project website at https://www.sb743.org/vmt-mitigation.

Another solution is to mitigate at a regional level through the adoption and implementation of general plans and regulations implementing a Sustainable Communities Strategy and through VMT reduction programs and projects approved as part of Regional and Metropolitan Transportation Plans (also integrated with Sustainable Community Strategies and General Plans). Those reductions could be used to offset a variety of local and regional projects that would increase VMT that are also part of the regional transportation plan. This approach takes advantage of programmatic and “tiering” practices developed under CEQA that are widely used.

VMT Mitigation Offset Transactions

In the course of various discussions about mitigation, the idea occurred to borrow a concept from cap and trade and transferable development right (TDR) programs, and employ VMT offset transactions to offset increased VMT from one project with reduced VMT from another project or activity. The project generating the additional driving could fund or otherwise enable the project providing the reduced driving.

Here are some illustrations of potential VMT offset transactions:

- A city or neighborhood business district could offer to install parking meters over a broad area, charging at least $1/hour for parking if the third party VMT generator pays the capital cost.
- A city could offer to increase the allowable floor area ratio (FAR) (maximum building size) within a 15-minute walk of all rail transit stops in that city in exchange for a developer paying the capital costs of developing a specified number of new pocket parks to serve the higher density neighborhoods.
- A major employer could offer to institute a permanent parking buy-out and transit subsidy program for its employees in exchange for $X worth of transit or ride-hailing services.
- A senior care community for younger residents who still drive could pay for a transit shuttle service at another senior community forty miles away where VMT reduction could be more cost-effectively achieved.
- A transit agency could endow an evening bus service with a one-time mitigation payment.
- A transit agency could fund part of a new transit line in exchange for offset payments from developers. This has a precedent under the old mitigation regime, in the form of payments into accounts to pay for projects to increase road capacity in order to avoid
triggering degradation of Level of Service. However, CEQA only allows fees paid to projects that are fully funded to be counted as mitigation since projects with inadequate funding may not be built and therefore not deliver the required mitigation. (See “Partial financing of VMT reducing capital projects; an opportunity and a challenge” in the Appendix, below.)

As these examples suggest and as mentioned earlier, the offset exchange transactions could either work as mitigation for a VMT impact or be built into a project, resulting in a declaration of no significant impact.

Offset exchange transactions could be deployed at both the project level and over broader geographies. The concept could be a useful supplement to the existing project VMT mitigation and possible future regional strategies.

These transactions might have special appeal to some developers in certain circumstances, say where the mitigation activity might generate good press or appeal to potential purchasers or clients, or the Lead Agency. For example, the mitigation for additional traffic generated by a new private school could be paying for transit passes that enable lower income youth to get to school or college by transit.

An exchange or brokerage could facilitate or even initiate VMT reduction actions offered by third parties in exchange for money or some other inducement (e.g., provision of services) provided by the project developer.

These offset transactions would be subject to the same substantial evidence standards as any other mitigation effort. The project would still require a CEQA Environmental Impact Report prepared by a lead (government) agency and it would still require monitoring of the VMT reduction program.

The offsets would also have to be activities or investments that were not already taken into account as part of the implementation of approved Sustainable Communities Strategies (SCS’s).

Transit agencies and local governments might solicit contributions to not-yet-fully funded transit capital projects or bike and pedestrian facilities. The contributed funds, when combined with other funding sources, must be sufficient to actually construct the project; contributions to a fund for a capital project that may never get built would not count, since there may therefore be no mitigation. This can be conceived of as a form of sale of mitigation credits.

As mentioned above, similar to any other form of environmental impact mitigation under CEQA, these credits could not be used as mitigation if applied to a project already accounted for in an SCS; they would have to fund some additional project.

VMT offset transactions would provide an evidentiary basis for setting a regional VMT mitigation fee, by demonstrating costs of different types of VMT mitigation and proof of their
efficacy (or inefficacy). This evidence would help the fee pass muster under CEQA’s statutory “nexus” and the U.S. Constitution’s “rough proportionality” tests.

The Question of the Period for Which Mitigation Must Be Sustained

An unresolved and interesting question, not unique to this setting, is matching the time period for a mitigation program – say, a transit pass program – to the period over which a project’s additional VMT is generated. For example, is it correct to assume that a new residential development would generate additional VMT in perpetuity, so that funding for a transit pass or demand management program would also have to be in perpetuity?

Would it be reasonable under CEQA to assume that providing seed funding for a transportation management agency that would deliver VMT reductions is adequate if that seed funding is part of a plan to sustain financing from dues and services after the start-up period?

A twist on this issue is whether the offset can be accelerated relative to the additional VMT generated. Suppose that a project is expected to generate 100,000 additional VMT per year, for ten years. Could that impact be mitigated by investing in a program that mitigated 1 million VMT within one year? With regard to the impacts of greenhouse gas (GHG) emissions from driving, might accelerated reductions be better than concurrent mitigation?

Despite these questions and constraints, the idea has much to offer as a supplemental strategy. Its potentially wide geography (discussed below) would allow a VMT generating project to find offsets from a much larger number and range of VMT reduction projects and programs. It would allow for a wider scale of VMT reduction actions and greater potential range in VMT reduction costs and incentives for providing the reductions.
To explore and refine the idea of VMT offset exchanges, the SB 743 Implementation Assistance Project organized two workshops in June 2018, one in Los Angeles and the other in San Jose.

The Los Angeles workshop was hosted by the Southern California Association of Governments (SCAG) and sponsored by SCAG, the City of Los Angeles, Caltrans, the Governor’s Office of Planning and Research, Metro (L.A. County’s regional transit agency), the San Diego Association of Governments, the Los Angeles Department of Transportation (LADOT), and the California Association of Councils of Government (CALCOG).

The San Jose workshop was hosted by the City of San Jose and sponsored by the City of San Jose, Caltrans, the Governor’s Office of Planning and Research, Joint Venture Silicon Valley, the Metropolitan Transportation Commission (MTC), San Francisco Municipal Transportation Agency (SFMTA), the California Association of Councils of Governments (CALCOG) and the California Vanpool Authority (CalVans).

The workshops had morning and afternoon segments. During the morning, a set of hypothetical VMT reduction offset transactions were presented by individuals working for a government agency, a private business and a nonprofit organization.

Each presenter was requested to offer a proposed transaction with the following elements:

- Descriptive title
- Description of the VMT reduction project or program
- Estimate of the VMT reduction
- Evidentiary basis for the claimed reduction
- Cost or other benefit that would be required to implement the reduction
- Identification of potential VMT generators that might be interested in buying the offset

After each transaction idea was presented, the workshop participants posed questions and made observations about the opportunities, constraints, efficacy and feasibility of the particular VMT reduction transaction.

The following projects and programs were offered as a proposed VMT reduction offset:

- Funding for the foundation of a transportation management association.
- Funding for student transit passes.
• Imposition by an employer of employee parking charges and other transportation demand management incentives by a private employer or a business park owner or management company.
• Funding for (part of) a bus rapid transit line and associated complete streets project.
• Funding for rural van service for farm workers and others.
• Bike share and microtransit first/last mile accessibility solutions

The afternoon segment of the workshops consisted of a public presentation of both the concept and the hypothetical transactions, plus background information on the administrative and legal feasibility of the exchange concept.

About 15 people participated in the morning workshop in Los Angeles and about 100 people attended (or watched by video link) the public presentation in the afternoon. About 40 people attended the morning workshop in San Jose and about 60 attended the public presentation in the afternoon, which was introduced by the Mayor of Sunnyvale.

**Insights and Observations from the Workshops**

*Geographic flexibility and the politics of matching impacts with offsets*

The question about the proper area to be considered as the impact area was addressed several times. Given the link between VMT and GHG emissions, including the GHG reduction goals established by the California Air Resources Board’s GHG reduction sectoral analysis, the possible impact areas could be (a) the same as the area within which additional VMT was generated; (b) the airshed (already defined for many parts of the states as the boundaries of air quality management districts); or arguably (c) the entire state or the planetary atmosphere.

Conversely, limiting the impact area to which mitigation should be applied to the lead agency’s political boundary or a project boundary created for another purpose, seemed arbitrary and perhaps at odds with the intent of the legislation and judicial interpretations of CEQA.

Several participants noted that for reasons of real and perceived fairness or other political pressures lead agencies often chose to mitigate impacts in the same area in which they occurred, even though this is not required provided a lead agency establishes the required nexus between the impact and the fee or other mitigation provided.

Some transactions might lend themselves to addressing equity issues. For example, it might be appropriate to provide mitigation in an area already suffering from the impacts of a lot of driving when the source of the new VMT might be in a distant suburb with little exposure to air pollution and the other impacts from driving.

In addition, there may be reasons for a private developer of a project to choose a particular type of mitigation, and perhaps mitigation beyond the minimum required, because it would, for
example, result in good publicity or would be more consistent with the generator’s business. An example would be the development of a new retirement community choosing to pay for mitigation in the form of senior transit shuttle service rather than paying for a bike lane. This could be done either for the project itself, or for another senior center, possibly owned by the same company, where much higher level of VMT reduction could be achieved at the same or lower cost.

**Duration of mitigation obligation for mitigation reduction programs**

A persistent question was the period required for the mitigation. When mitigation was tied to maintaining level of service for highways and other roads, capital investments in increased road capacity or signals promised to last as long as the additional traffic.

Both public and private mitigation of driving that takes the form of investments in structures (transit lines, bike lanes) or places (more higher density and mixed use developments) seems as durable, persisting, as the VMT generating project.

But if the mitigation is a program, like creation of transportation management organization or charging for employee parking, what is the mitigation period?

If the mitigation period is “forever” then mitigation becomes can become so expensive and the obligation to run a program forever so daunting that program type mitigation becomes impossible or infeasible.

Workshop participants commented that even investments in capital (roads, transit lines, etc.) have estimated lifetimes before they must be replaced or extensively renovated. Perhaps that capital facilities life-time could be the span of the mitigation project obligation.

Another approach would be for the mitigatory to fund an endowment to implement the mitigation program. The endowment would pay for the mitigation activities out of the earnings on the principal and therefore the mitigation could be infinite or if a declining balance was used, could complete the mitigation during and concurrently with the project generating the VMT.

Another suggestion was to use a typical planning horizon, 20 years.

Like the question of geography, perhaps the VMT offset obligation does not have to be contemporaneous with the generous of the VMT.

For example, if a project was going to generate an additional 100,000 miles in driving per year, and the mitigation obligation was for a twenty year period then the total mitigation obligation is 2 million miles of driving. A generator might choose to offset 2 million miles of driving in a single year and completely discharge the mitigation obligation. (The opposite approach – to
extend the mitigation activity to years after the lifetime of the project would presumably not pass CEQA muster.)

**Opportunity for direct private sector exchanges**

Workshop participants accustomed to thinking in terms of public mitigation under the prior standard, that is, maintaining level of service by investments in road networks, were struck by the idea that mitigation of additional VMT could be carried out by transactions between private businesses or nonprofit organizations, without the participation of a government acting as a lead agency.

That possibility was by the hypothetical transaction based on an actual program of introducing a rising scale of employee parking charges at a business park.

(As with all CEQA mitigation efforts this mitigation would still have to be scrutinized, blessed and monitored by a government agency that had responsibility for approving the VMT generating project.)

Allowing for business to business transactions may greatly increase the possible number of exchanges.

**Application of legal requirements of a logical nexus and rough proportionality**

California’s Mitigation Fee Act (California Government Code § 66000 et seq.) governs “exactions” (required donations of land, fees or improvements to real estate necessitated by impacts from new development) and implements an interpretation of the US Supreme Court decisions in *Nollan v. California Coastal Commission* and *Dolan v City of Tigard*. The former decision requires a logical connection, a nexus, between the exaction and the impacts of the new development. The latter requires rough proportionality between what a local or state government requires an applicant for a development permit to do or pay, and the impact attributable to the development.

That legislation and precedent would be applicable to VMT mitigation fees or mitigation transactions.

As a practical matter, if an applicant chose a particular VMT mitigation offset transaction (because of its lower cost or greater consistency with their business mission) it seems highly unlikely that it would challenge it in court: Why would you legally challenge your own proposed solution?

**Creating and stabilizing a VMT reduction market and laying the foundations for a regional fee**

One of the problems for creating a regional or local VMT mitigation fee is knowing what to charge for that fee since there are widely different costs to activities that reduce driving.
Building a new transit line can cost hundreds of millions of dollars per mile but the costs of imposing parking fees can result in an increase in local government or private business revenues but will impose a political cost.

Having an exchange program would yield information about the prices (and performance) of different mitigation capital projects and programs. Those prices would help establish prices for different VMT reductions and create a sound evidentiary basis for any local or regional mitigation fees.

**Opportunity to blend and supplement regional and local planning approaches with VMT mitigation exchange transactions**

A program of individual VMT offset transactions can co-exist, and even complement local and regional scale VMT reduction and fee programs.

For example, local and regional demand management programs which generate large reductions could be used to offset, in a regional planning context, major categories of new VMT generating land development or road capacity projects (if the jurisdictions opt to use the VMT reduction instead of the LOS maintenance CEQA performance standard.) But much smaller, private VMT generating projects, could be offset by smaller VMT offset transactions.

In addition, VMT generators could be given the choice between buying into a regional solutions or choosing to find an offset of their own.

As noted previously, a VMT mitigation exchange market could provide the evidentiary basis for a regional fee or fee range.

However one participant believed very firmly that in order to achieve rapid and large scale reductions in VMT that the adoption of a regional demand management practices (tolling, parking pricing, rezoning) would dwarf what can be accomplished by VMT mitigation exchanges and at much lower transaction cost.

**Today’s technology allows for much better performance monitoring, but raises privacy concerns**

Many participants noted that advances in software and technology would allow for much more rigorous performance monitoring. The technology includes cell phone use, tracking devices used in demand managed (viz. tolled) facilities, cameras that can monitor parking lots and license plates, transit card systems and even bike travel counters.

Naturally this monitoring could raise privacy issues, and will need to comply with the California Consumer Protection Act which was passed in 2018 and goes into effect January 1, 2020. However, several work-arounds are available that could protect individual identities while collecting aggregate data. In addition, some participants in VMT reduction programs may
volunteer to automatically share some parts of their travel data as part of the price of participation.

**Partial financing of VMT reducing capital projects; an opportunity and a challenge**

The discussions surfaced the idea of using a VMT mitigation offset as a source of supplemental financing for capital projects that are a bit short of total financing. For example, a government that is $1 million short of funding for extending a rail line or bicycle lane, could sell off a part of the VMT reduction from that project as offsets to finance the unfunded portion of project cost.

This kind of payment would blend elements from the offset exchange mitigation transaction with the regional fee and planned transit investment approaches.

But appellate decisions interpreting CEQA currently prohibit the technique of gradually stockpiling parts of financing for mitigation. The reasoning is that there is no assurance these projects will actually be built and the mitigation carried out. The exception is Caltrans which the courts recognized had the scale and financial capacity to carry out mitigation projects over time.

This may be less of an issue for less costly projects that can be financed incrementally, such as a bike lane.

That limitation could be overcome by a mitigation broker paying for the capital shortfall in advance and then selling off the VMT reduction mitigation credit subsequently.

Neal Peacock’s paper provides examples of annual reports demonstrating that transportation impact fees are being collected in sufficient volumes, year to year, to effectively funding congestion mitigation (road construction) projects.

**Public and private roles for VMT offset exchange market facilitation and certification**

The authorization of new markets does not mean they will arise. For example, consider another parallel for the VMT mitigation exchange concept: transferable development rights.

New Jersey and other states have, in a political exchange for reducing allowable development on private property in certain natural areas, given landowners a certain number of rights or credits to develop new homes. Those right cannot be exercised on their own property but can be purchased and transferred to allow development on other lands where additional development is appropriate or desirable but not permitted without the purchase of the rights/credits. (A variation of this idea is to transfer development rights from one part of a large property to another part and to cluster the development in order to keep larger areas undeveloped.)
In theory, the potential to take advantage of development rights credits should spontaneously give rise to a market. But the most successful programs have been facilitated by the creation of a “bank” that both buys and sells credits. The bank acts as a transaction legal expert, an educator, an analyst, and a facilitator and broker, recouping its operating costs out of transaction fees.

In the initial phase these roles might be played by governments or public-private partnerships until the market is established.

Another role that could be played by private sector consultants and perhaps lawyers would be as evaluators, certifiers and even guarantors of VMT reduction programs. The guarantee could take the form of a legal defense obligation.

**Potential for increasing the feasibility and thus the likelihood of mitigation**

If the VMT mitigation exchange concept proves as adaptable as some of the workshop participants believe it might be, then the number of statements of overriding consideration that were adopted under the old level of service performance standard might be much lower under the new VMT reduction performance standard.

**Post-Workshop Activities**

The workshop participants agreed to continue discussing the VMT offset exchange concept after the workshops. A series of teleconferences by a number of participants were held during the second half of 2018.

One activity under consideration was to secure a state grant to further develop the concept, to address some of the legal and administrative questions touched on in the workshops.

Several agency staff, including staff from the City of San Jose, Valley Transit Authority and LA Metro, have also begun discussing crafting and carrying out some exchanges to test the concept.