SB 743.

An Evolutionary Change to Transportation Impact Analysis

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March 16, 2017
SB 743

IMPLEMENTATION TIMELINE

- Final Draft to Natural Resource Agency early 2017
- Implementation in late-2017
- Two-year grace period?
- Potential acceleration in schedule due to Caltrans guidance
Change

NEW LAWS

SB 743
AB 417
AB 2245
SB 226
AB 1358
SB 375
SB 97
AB 32
(1) Ensure that the environmental impacts of traffic, such as noise, air pollution, and safety concerns, continue to be properly addressed and mitigated through the California Environmental Quality Act.

(2) More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.
What SB 743 Does Not Do...

No change to general plans, traffic impact fee programs, State Constitution, subdivision map act, etc.
What SB 743 Does Do...
- Eliminates LOS/Delay
- Adds VMT
- Safety?
- Methods and Thresholds Guidance
Isn’t VMT quantification already included under CEQA?

- Yes, but it is not specifically reported in the transportation section
- It is used to quantify other metrics used for energy, greenhouse gas, and air pollution analyses
- Reducing VMT for transportation purposes requires the project to change in some way that reduces the amount of vehicle trips or their length
SB 743 looks at VMT differently

• For Residential: automobile VMT for home-based trips (passenger cars and light trucks only)

• For Office: automobile VMT generated by workers

• For Retail: exempt if less than 50 Ksf, can provide total VMT generated or cumulative project effect
Methods

INNOVATION BY VMT FORECASTING

VMT = Volume x Distance or Trips x Trip Length
### Available Sources

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Calibration Type</th>
<th>Localized Information</th>
<th>Zones</th>
<th>Accuracy</th>
<th>Trip Information</th>
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<td>only provides</td>
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<td></td>
<td>information for</td>
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<td></td>
<td>(about 20% of</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>method for</td>
<td></td>
<td>on</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>residential and office</td>
<td></td>
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*VMT: Vehicle Miles Traveled*
INNOVATION BY
Data

AVAILABLE SOURCES

SCTA Model

- Locally Calibrated
- Roadway, Transit, and Land Use
- More Refined than MTC
- 900+ Sonoma County Zones
- Truncates trip length/VMT at County boundaries
VMT = Volume x Distance or Trips x Trip Length

- OPR guidelines provide 3 basic methodologies for VMT quantification:
  - Activity-Based Modeling
  - Trip-Based Modeling
  - Spreadsheet Method/Sketch Models
VMT = Volume x Distance or Trips x Trip Length

• There are sub-methodologies within each method:
  • Boundary Method
  • Origin-Destination Method
Boundary VMT Method

- Calculates VMT that occurs in a designated area (i.e. a city)
- Can be used for retail projects
- Citrus Heights = 1,000,110 daily VMT (weekday)
Origin-Destination (OD) VMT Method

- Calculates VMT from individual trips to/from an area
- Citrus Heights = 1,397,340 daily VMT (weekday)
**Methods**

**FULL/SHARED ACCOUNTING**

- **Full Accounting:** all VMT generated by project is attributed to project.
- **Shared-Accounting:** VMT is shared between originating and destination land use.

Colors indicate the percent of total visitors to the site who live or work in that 1 km² grid cell.

- 0.01 - 0.19%
- 0.2 - 0.43%
- 0.44 - 0.71%
- 0.72 - 1.27%
- 1.28% or more.
Methods

WHAT VMT COUNTS?

Project Generated VMT vs. the Project’s Effect on VMT
Model Based O-D VMT

- Calculates VMT per resident of area or worker in area
- MTC Model Sonoma County daily VMT per Capita generated by Residents = 17.9
### MTC Model: Residence-Based VMT

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>VMT</th>
</tr>
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<tbody>
<tr>
<td>Santa Rosa</td>
<td>13.4*</td>
</tr>
<tr>
<td>Healdsburg</td>
<td>14.0*</td>
</tr>
<tr>
<td><strong>Bay Area</strong></td>
<td>15.3</td>
</tr>
<tr>
<td>Cloverdale</td>
<td>15.6*</td>
</tr>
<tr>
<td>Windsor</td>
<td>16.6*</td>
</tr>
<tr>
<td>Rohnert Park</td>
<td>17.6</td>
</tr>
<tr>
<td><strong>Sonoma County</strong></td>
<td>17.9*</td>
</tr>
<tr>
<td>Petaluma</td>
<td>19.1*</td>
</tr>
<tr>
<td>Sonoma</td>
<td>19.3*</td>
</tr>
<tr>
<td>Cotati</td>
<td>19.6*</td>
</tr>
<tr>
<td>Unincorporated</td>
<td>20.1*</td>
</tr>
<tr>
<td>Sebastopol</td>
<td>20.8</td>
</tr>
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</table>

* CHTS data suggests higher VMT per capita. MTC model may be truncating trips.

**LEGEND**

% vs. Sonoma County
% vs. Bay Area

- **Cloverdale** -13% | 2%
- **Healdsburg** -22% | -8%
- **Windsor** -7% | 9%
- **Santa Rosa** -25% | -13%
- **Sebastopol** 16% | 36%
- **Rohnert Park** -2% | 15%
- **Cotati** 10% | 28%
- **Sonoma** 8% | 26%
- **Petaluma** 6% | 25%
MTC Model: Worker-Based VMT

### Jurisdiction VMT

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloverdale</td>
<td>13.3</td>
</tr>
<tr>
<td>Santa Rosa</td>
<td>17.9</td>
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<tr>
<td>Rohnert Park</td>
<td>20.9</td>
</tr>
<tr>
<td>Healdsburg</td>
<td>21.6</td>
</tr>
<tr>
<td><strong>Sonoma County</strong></td>
<td><strong>22.4</strong></td>
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<tr>
<td>Bay Area</td>
<td>22.7</td>
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<tr>
<td>Petaluma</td>
<td>24.7</td>
</tr>
<tr>
<td>Sebastopol</td>
<td>25.2</td>
</tr>
<tr>
<td>Unincorporated</td>
<td>25.3</td>
</tr>
<tr>
<td>Sonoma</td>
<td>29.1</td>
</tr>
</tbody>
</table>

### LEGEND

- % vs. Sonoma County
- % vs. Bay Area

- Cloverdale: -40% | -41%
- Unincorporated: 13% | 12%
- Healdsburg: -3% | -5%
- Windsor: -11% | -13%
- Santa Rosa: -20% | -21%
- Sebastopol: 13% | 11%
- Rohnert Park: -6% | -8%
- Cotati: -8% | -10%
- Sonoma: 30% | 28%
- Petaluma: 11% | 9%
OPR is basing their recommendations on **substantial evidence** based on adopted State plans, pending State plans, and Executive Orders of the current and previous governors.
OPR suggests a threshold of 15 percent below baseline (conditions when NOP is released)

In general, the 15 percent reduction threshold is tied to statewide greenhouse gas reduction goals.

But, thresholds in the Technical Advisory are non-binding.
So, it is up to the lead agency to decide on what quantification methodology they want to use (with substantial supporting evidence)

Thresholds must be based on this method
Step 1
Screening

Is the project:
In a transit priority area
OR In a low VMT area
OR Local serving retail less than 50,000 square feet?

Is the project:
Floor area ratio greater than 0.75
AND Consistent with parking requirements without oversupplying
AND Consistent with RTP/SCS?

YES: No impact. No VMT Analysis
NO: Further Analysis Needed.
INNOVATION BY

- Transit Service
- Bicycle Facilities
- Pedestrian Facilities
- Safety
  - Direct
  - Indirect

OTHER MODES AND SAFETY

Thresholds
Mitigation

TRIPS OR TRIP LENGTH

The project needs to change in some way.
Mitigation

BUILT ENVIRONMENT

Density  Diversity  Design  Destinations  Distance to Transit  Development Scale  Demographics

7Ds
That influence Trip Generation (and VMT)
SB 743

UNCERTAINTY

What about disruptive trends?

TRENDLAB+

US Vehicle Miles Traveled per Capita per Year in 2040 and 2060

Your Forecast

- 2040: 11,550
- 2060*: 15,100

* Fehr & Peers 2060 forecast range: 10,000-16,000

2040 Published Forecasts
- 17,100 VMT per capita
  U.S. DOT
- 16,300 VMT per capita
  Transportation Financing Commission
- 13,400 VMT per capita
  U.S. Energy Administration
- 12,200 VMT per capita
  Public Interest Research Group: High
- 12,200 VMT per capita
  Public Interest Research Group: Low
- 8,200 VMT per capita
  Fehr & Peers: Low

1970

1996

2004

2012

2020

2040

2060

Fehr & Peers: High
Examples

- 16-unit Residential
  - Just Over 100 Trip Threshold
  - Not in TPA

- Auto VMT for home-based trips
- Use average trip length x trip gen
- “Spreadsheet” Approach
<table>
<thead>
<tr>
<th>Examples</th>
<th>PROJECT TYPES</th>
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<tr>
<td>□ Office Building</td>
<td>□ Auto VMT for work-based trips from employees</td>
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<tr>
<td>□ Over 100 Trip Threshold</td>
<td>□ Can use averages or model runs, depending on size and complexity</td>
</tr>
<tr>
<td>□ Does not meet screening criteria</td>
<td></td>
</tr>
</tbody>
</table>

- Office Building
- Over 100 Trip Threshold
- Does not meet screening criteria
- Auto VMT for work-based trips from employees
- Can use averages or model runs, depending on size and complexity
Examples

- **Retail**
  - Over 50,000 square feet
  - Does not meet other screening criteria

- **EITHER**
  - All VMT generated by site (O/D or Trip Averages)
  - Cumulative effect in area (boundary method)
Examples

- Transportation Infrastructure
  - Does the project add roadway capacity?
  - Does the project have potential to induce demand?

- Bike/Ped projects, road diets, transit projects do not require VMT analysis

- OPR is still developing guidance for other transportation project types
SB 743

Latest Developments

• Caltrans IGR comments
• Status of final guidance from OPR
• Status of grace period

http://www.dot.ca.gov/hq/tpp/sb743.html
How have VMT impacts been addressed?
Traffic Analysis
With the enactment of Senate Bill (SB) 743, Caltrans is focusing on transportation infrastructure that supports smart growth and efficient development. Recently approved guidance for incorporating SB 743 (Local Development-Intergovernmental Review Program Interim Guidance, September 2016) intends to ensure that development projects align with State policies through the use of efficient development patterns, innovative travel demand reduction strategies, and necessary multimodal roadway improvements. Please submit a transportation impact study that provides VMT analysis resulting from the proposed project, applying local agency thresholds or absent those, thresholds recommended by the most recent draft of Office of Planning and Research’s CEQA Guidelines (http://resources.ca.gov/ceqa/docs/2016_CEQA_Statutes_and_Guidelines.pdf).
Transportation Demand Management (TDM)

In the Interim Guidance mentioned above, this project falls under Project Type 4 Dedicated Use Areas, which includes projects located on large tracts of land used for commercial purposes such as business or industrial park or warehousing, or for recreational purposes such as golf courses. Therefore, we encourage you to develop TDM policies to promote smart mobility and reduce regional VMT and traffic impacts to the STN. The TDM elements described below should be included in the program:

- Project design to encourage walking, bicycling, and convenient transit access;
- Lower parking ratios;
- Transit fare incentives for patrons and employees such as subsidized transit passes on a continuing basis;
- Designated bicycle parking;
- Charging stations for electric vehicles;
- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area;
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement; and
- Reducing headway times of nearby Marin Transit Bus Routes 22, 113, and 117 and Golden Gate Transit Bus Route 18.
SB 743 - Nishi Site (Land Use Project)

Basically, analyze VMT and use TDM as mitigation.

Impact 4.14-5: Increase in vehicle miles travelled.

Nishi Site and West Olive Drive

The project would increase local and regional vehicle miles traveled as a result of people driving to and from the project site on a daily basis. Taking into account local and regional VMT reduction goals, the project may impede the ability of the City/region to achieve established goals. This would be a potentially significant impact because of projected increases in VMT.

The Davis General Plan Mobility Element Goal #2 contains performance objectives designed to improve air quality and reduce greenhouse gas (GHG) emissions related to travel in the City. Performance Objective 2.2 requires a reduction in VMT of 20 percent from 2010 levels, by 2035. This reduction is set at the level needed to achieve a 61 percent carbon reduction from the Davis transportation system, based on SCAQMD modeling. In addition, the City of Davis Climate Action and Adaptation Plan (2010) has a long-term goal to reach Carbon Neutrality (zero greenhouse gas emissions) by 2050 and a series of short-term goals including one to reduce objective greenhouse gas emissions 26 percent below 1990 levels by 2020. The Climate Action Plan contains actions to promote VMT reduction within the City and regionally. One of the 2015 Actions aimed at reducing VMT is to “Develop Transportation Demand Management Programs with Employers.”

The project would generate substantial new travel demand related to commuting and other trip purposes associated with the industrial and retail uses on-site. The project is projected to generate approximately 45,000 vehicle miles per day. As such, it would increase City-generated VMT and GHG, not reduce them. The Nishi Gateway project includes several characteristics, with respect to site location (i.e., central location in Davis as well as close proximity to the UC Davis campus and Downtown Davis) and the mix of residential and employment land uses, that would generate lower auto trip generation and VMT when compared to projects of similar size and intensity in other parts of the Sacramento region.

As a concentrated employment and housing center, the project applicant and future tenants would have a unique ability to implement programs that promote travel alternatives to the single-occupant vehicle, control the fuel types and efficiencies of vehicles accessing the site, and collectively contribute to the goal of minimizing VMT and GHG growth.

As the project would increase VMT by approximately 45,000 miles per day, potential increases would be considered substantial and impacts would be potentially significant if they impede the City’s/region’s ability to achieve VMT reduction goals.

Mitigation Measures

Mitigation Measure 4.14-6: Before issuance of the first building permit, the applicant shall prepare a TDM program, including any anticipated phasing, and submit it to the City Department of Public Works for review and approval. The TDM program must be designed to achieve the following:

1. Reduce trips to achieve one and five-tenths (1.5) AVR in accordance with Davis Municipal Code Section 22.15.060, and
2. Reduce daily and peak hour vehicle trips, as forecast for the project in this transportation impact assessment, by 10 percent for every project phase.

The management entity shall be responsible for implementing the TDM Program.

(a) The plan shall identify trip reduction/TDM proposed programs and strategies to achieve the above objectives that may include, but are not limited to, the following. The programs and strategies are described in more detail in the Nishi Gateway Project Sustainability Implementation Plan.
The following topics were evaluated as part of the impact analysis, but are not identified as specific impacts.

**VMT** – VMT results for the Proposed Project are presented above in Table 4.13-1. To the extent that VMT changes associated with the Proposed Project generated environmental impacts such as air pollution or GHG emissions, those impacts are identified in the appropriate subject matter chapters of this EIR. A separate VMT significance impact threshold has not been established for the 2035 General Plan. Instead, the 2035 General Plan VMT results are recognized as the composite outcome of the City’s desired land use and transportation network. The City recognizes that VMT reductions may be achieved through the implementation of individual development projects as part of 2035 General Plan implementation and has included 2035 General Plan Policy 3.A.4, which establishes a VMT per capita threshold of 30 for measuring transportation impacts for subsequent projects. This value is approximately 10 to 11 percent lower than the projected VMT per capita for the East and South Alternatives and represents the potential to achieve VMT reductions through project design and transportation demand management (TDM) strategies as required under Policy 3.A.5. A modification to this policy to reflect this clarification is proposed below. Over time, the actual VMT/capita associated with the 2035 General Plan implementation is predicted to trend downward from the results in Table 4.13-1.
Questions?
What’s the difference between SB 375 and SB 743?

- SB 375 establishes greenhouse gas reduction expectations
  - Targets are based on 2005 conditions
  - VMT is only part of mobile source emissions
- SB 743 changes CEQA transportation impact analysis
  - Prohibition on using vehicle LOS as the sole basis
  - Focus on automobile travel (i.e., passenger cars and light trucks) and specific types of land uses
  - Comparing project effects to baseline
Are there general guidelines for when a model should be used?

• For a 15-unit development: probably not due to the aggregate nature of models

• For a 200-unit development: possibly but still may not be appropriate

• For a 500-unit development: probably

• For a large specific plan or general plan: most likely
How do we quantify VMT for a 15-unit development that would trigger the 100 trip threshold?

• OPR recommends using the same methodology for setting thresholds, performing project estimates and evaluating mitigation

• Model may be appropriate but could have limited sensitivity for a project of this size

• A spreadsheet model that relies on Countywide model data such as trip lengths by TAZ could be used
### Mobile Device Data Per Trip: O-D Based

<table>
<thead>
<tr>
<th>Area</th>
<th>VMT Per Trip</th>
<th>Model VMT Per Trip</th>
<th>Delta</th>
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<tr>
<td>Mill Valley</td>
<td>6.6</td>
<td>5.8</td>
<td>0.8</td>
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<tr>
<td>Larkspur</td>
<td>6.6</td>
<td>6.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Ross</td>
<td>6.7</td>
<td>5.6</td>
<td>1.1</td>
</tr>
<tr>
<td>San Anselmo</td>
<td>6.8</td>
<td>5.9</td>
<td>0.9</td>
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<tr>
<td>Bay Area</td>
<td>6.9</td>
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<tr>
<td>Fairfax</td>
<td>7.0</td>
<td>6.5</td>
<td>0.5</td>
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<td>Corte Madera</td>
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<td>1.7</td>
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<tr>
<td>Novato</td>
<td>10.2</td>
<td>6.2</td>
<td>4.0</td>
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**Legend**
- % vs. Marin County
- % vs. Bay Area

**Marin County Trip Length Distribution (miles)**

- Mobile Device Data
- Travel Model Data
Census Journey-to-Work Data

- Humboldt County: 46
- Mendocino County: 71
- Marin County: 79,676
- Sonoma County: 4,302
- Napa County: 508
- Solano County: 682
- Contra Costa County: 2,183
- Alameda County: 4,165
- Sacramento County: 82
- Santa Clara County: 986
- San Francisco County: 25,237
- San Mateo County: 2,161
- Stanislaus County: 36
- Fresno County: 46
- Orange County: 45
- Los Angeles County: 155
<table>
<thead>
<tr>
<th>Area</th>
<th>Total VMT</th>
<th>VMT per Capita</th>
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</thead>
<tbody>
<tr>
<td>Tiburon</td>
<td>53,000</td>
<td>5.8</td>
</tr>
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<td>Sausalito</td>
<td>46,000</td>
<td>6.4</td>
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<tr>
<td>Ross</td>
<td>17,000</td>
<td>7.0</td>
</tr>
<tr>
<td>Novato</td>
<td>470,000</td>
<td>8.7</td>
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<tr>
<td>San Rafael</td>
<td>610,000</td>
<td>10.3</td>
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<td>Belvedere</td>
<td>22,000</td>
<td>10.5</td>
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<td>Corte Madera</td>
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</tr>
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<td>San Anselmo</td>
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<td>Larkspur</td>
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<td>Mill Valley</td>
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<tr>
<td>State Highways</td>
<td>4,528,000</td>
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LEGEND

% vs. Marin County
% vs. Bay Area

VMT on State Highways reported separately

Likely due to visitors

Tiburon
-80% | -76%

Sausalito
-78% | -73%

Novato
-70% | -64%

San Anselmo
-64% | -56%

Fairfax
-51% | -39%

Ross
-76% | -71%

Larkspur
-63% | -54%

San Rafael
-65% | -57%

Corte Madera
-64% | -56%

Belvedere
-64% | -56%

Tiburon
-65% | -57%