

Appendix TRAF-2

Senate Bill 743 Analysis

Memorandum

To: Christine Hopper, City of Marina
From: Michael Schmitt, AICP CTP, PTP, RSP₁
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Re: DRAFT SB 743 Analysis
City of Marina Downtown Specific Plan
Date: January 7, 2021

This memorandum documents SB 743 compliant analysis completed for the proposed Downtown Marina Specific Plan in the City of Marina, CA. The proposed Downtown Specific Plan is expected to consist of multi-family residential, office buildings, and retail uses. With the passage of SB 743, Vehicle Miles Travelled (VMT) has become an important indicator for determining if new development will result in a “significant transportation impact” under the California Environmental Quality Act (CEQA). This memorandum summarizes the VMT analysis and resultant findings for the proposed Downtown Specific Plan.

Methodology and Assumptions

Based on the land use information provided, for the purposes of SB 743 analysis and the determination of transportation related significant impacts, the following land uses were analyzed:

- Residential
- Office
- Retail

For residential and office, the Association of Monterey Bay Area Governments Regional Travel Demand Model (AMBAG TDM) was used as the principle tool to determine VMT. The AMBAG TDM contains a base year of 2015 and future year of 2040, both of which were used to determine the VMT impact of the proposed residential and office land uses. Based on the nature of the land use descriptions provided, retail was analyzed qualitatively.

The City of Marina currently has draft VMT thresholds and analysis guidelines that were used as the basis of the analysis contained herein.

Project Land Use Model Input Conversion

In order to represent the land uses in the Downtown Specific Plan in the AMBAG TDM, the land uses needed to be converted into households, population, and jobs. While it is understood that the proposed Downtown Specific Plan does not have a set number of residential units or the size of the total non-residential land uses, in order to be conservative, the maximum amount of each of the three land use types were assumed as a part of this analysis. Therefore, for this analysis it is assumed that the Downtown Specific Plan is comprised of 2,904 multi-family residential units, 511,000 square-feet of office uses, and 875,000 square-feet of retail uses.

In order to convert the non-residential land uses to the number of employees input into the model, the ratio of daily trip generation rates listed in the *Trip Generation Handbook, 10th Edition* published by the Institute of Transportation Engineers (ITE) between 1,000 square-feet and employees was used. The

number of daily trips produced by the size of each of the land use codes for office and retail was used to back calculate the number of employees based on each land use’s equation for the number of trips that are produced by each employee.

While the AMBAG TDM uses dwelling units as its input, there is no differentiation between single-family and multi-family residential in terms of trip generation and distribution. However, the AMBAG TDM is a hybrid model as its processes follow the traditional four-step model (trip generation, trip distribution, mode choice, and trip assignment), but it also contains a population synthesis step based on socioeconomic data collected throughout the AMBAG region to produce individuals living in each household that contain their own trip making characteristics. Therefore, the population synthesis step was completed for the proposed Downtown Specific Plan to develop the population for the project. It should be noted that the AMBAG TDM provides the population synthesis process for changes in land use in the future, but not for changes in land use for the base year. However, a process was developed to use the future population synthesis step with the base model. This methodology is described in detail in the Base Year Population Synthesis section of this memorandum.

The proposed Downtown Specific Plan land uses were distributed throughout the Traffic Analysis Zones (TAZs) that represent the Specific Plan area based on the growth between the base year and future year for those zones. In order to maintain a conservative analysis, TAZs identified as having negative growth were revised to maintain the same number of households and jobs as existed in the base year of the model. It was assumed that all land uses analyzed as a part of the Downtown Specific Plan were in addition to land uses that currently exist rather than a reuse of existing buildings. Note that the growth between the base year and future year for the TAZs representing the Downtown Specific Plan were assumed to be a part of the project and the change in land uses is much smaller between 2040 No Project and 2040 Plus Project compared to 2015 No Project and 2015 Plus Project. The 2040 MTP version of the AMBAG TDM was used to represent 2040 No Project Conditions. The land use totals for the proposed Downtown Specific Plan input into the model are summarized in **Exhibit 1** below.

Exhibit 1 – AMBAG TDM Land Use Inputs by Scenario

Scenario	Households	Office Employment	Retail Employment
2015 Existing (No Project)	4,707	1,364	854
2015 Plus Project	7,611	2,897	2,604
Delta (Project Land Use)	2,904	1,533	1,750
2040 MTP (No Project)	6,695	2,884	1,006
2040 Plus Project	7,611	2,897	2,604
Delta	916	13	1,598

Base Year Population Synthesis

As noted above, the AMBAG TDM process is not intended to be used for the Base Year scenario, but for the purposes of this analysis its use was required for Existing plus Project Conditions. Therefore, the process was modified slightly for use in analyzing the proposed Downtown Specific Plan. The AMBAG TDM Population Synthesis process uses the distribution of households by vehicle ownership (0, 1, 2, 3, or 4+), household size (1, 2, 3, or 4+), household income (eight categories), and the number of households without children or elderly people (under 18 or over 65, respectively). The households are distributed into these categories based on socioeconomic data collected throughout the region and grouped by TAZ.

In order to use the results of the Base Year version of the Population Synthesis process for the Existing plus Project Conditions, factors were developed on a TAZ by TAZ basis that were applied to the calculated

VMT per Capita values for each TAZ. These factors were developed by running two separate base year model runs with identical land use inputs, but with one model run where the Population Synthesis process was completed. The outputs of both model runs were then used to calculate VMT per Capita for each TAZ using the process outlined in the Analysis section of this memorandum. The factor for each TAZ was calculated by taking the inverse of the percent difference between the VMT per Capita for each model run on a TAZ by TAZ basis. For example, if the VMT per Capita was 12.0 without the Population Synthesis process being completed, but 12.4 when the Population Synthesis process was completed, the factor to get back to the original calculated VMT per Capita would be 96.67% ($12.4 - 12.0 = 0.4$, $0.4/12.0 = 0.033$, $1 - 0.033 = 0.9667$ or 96.67%). The calculated factors were applied to all TAZs in the model for the Existing Plus Project scenario prior to evaluating the transportation impact.

Analysis

The following sections detail the analysis completed:

Residential and Office Land Uses

The VMT for the residential land uses was computed by combining the production VMT for all Home-Based trip purposes. VMT for non-residential land uses was computed from the attraction Home-Based Work VMT. The external VMT for residential land uses was determined by multiplying the calibrated external trip distance by TAZ determined using big data (Teralytics) by the total internal-external (I-X) Home-Based trips for that TAZ. The external VMT for non-residential land uses was determined by multiplying the calibrated external trip distance by TAZ determined previously by the total internal-external (I-X) Home-Based Work trips for that TAZ.

To determine the share of the non-residential VMT for the office land uses, the total number of trips attracted to each TAZ were calculated by multiplying the model's underlying trip generation rate for the Home-Based Work trip purpose by employment type. The office land use share of the total VMT was then calculated by dividing the number of trips by office employment by the total number of Home-Based Work Trips calculated using the trip generation rates. The VMT for the office land uses was calculated by multiplying the office land use share by the total Home-Based Work VMT (including External VMT).

Residential and office VMT per Capita and VMT per Employee, respectively, for each TAZ were computed by dividing the residential and office VMT by TAZ by the total population or total office employees. A VMT per Capita and VMT per Employee weighted average was calculated for the TAZs comprising proposed Downtown Specific Plan based on population and employment, respectively.

Exhibit 2 summarizes the VMT per Capita and VMT per Employee for the proposed Downtown Specific Plan by scenario. As shown in

Exhibit 2, For Existing No Project and Existing Plus Project scenarios, the residential land uses result in a VMT per Capita below the City’s draft threshold, but a VMT per Employee slightly above the City’s draft threshold. A scenario was run where only the proposed Downtown Specific Plan’s office and retail employees were added to the model to avoid completing the Population Synthesis and factoring process. This scenario resulted in similar outcomes at the other Existing scenarios.

For the 2040 No Project and 2040 Plus Project scenarios, the analysis resulted in similar outcomes. For both the 2040 No Project and 2040 Plus Project scenarios, both the residential and office land uses exceed the City’s draft thresholds.

Exhibit 2 – Vehicle Miles Traveled (VMT) by Land Use and Scenario

Scenario	VMT/Capita (Residential)	VMT/Employee (Office)
Calculated VMT per Capita or VMT per Employee by Scenario		
Draft City Threshold	10.9	6.6
2015 Existing (No Project)	12.7	8.5
2015 Plus Project	11.7	8.0
2015 Plus Project (EMP Only)	11.8	8.1
2040 MTP (No Project)	13.8	8.8
2040 Plus Project	12.8	7.2
Over Threshold?		
2015 Existing (No Project)	Yes	Yes
2015 Plus Project	Yes	Yes
2015 Plus Project (EMP Only)	Yes	Yes
2040 MTP (No Project)	Yes	Yes
2040 Plus Project	Yes	Yes

Retail Land Uses

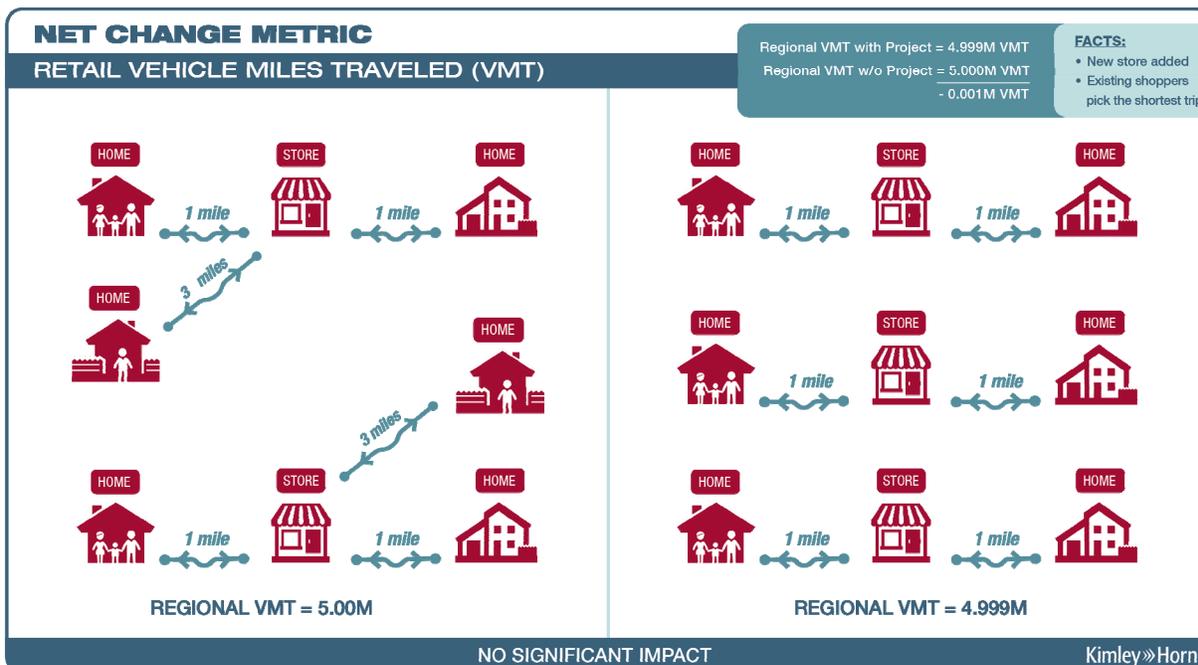
As described previously, the retail land uses were analyzed qualitatively. Page 4 and 7 of the Draft City of Marina SB 743 Implementation Guidelines¹ specifically addresses some of the key issues surrounding how a local serving retail store should be evaluated in terms of its VMT impact. As described, the threshold for significance is “a net increase.” This means that if a proposed retail use results in additional VMT, it would result in a finding of significance.

Local serving retail primarily serves pre-existing needs (i.e. they do not generate new trips because they meet existing demand). Because of this, local-serving retail uses can be presumed to reduce trip lengths when a new store is proposed. Essentially, the assumption is that someone will travel to a newly constructed local serving store because of its proximity, rather than the proposed retail store fulfilling an unmet need (i.e. the person had an existing need that was met by the retail located further away and is now traveling to the new retail use because it is closer to the person’s origin location). This results in a trip on the roadway network becoming shorter, rather than a new trip being added to the roadway network, which would result in an impact to the overall transportation system. Conversely, residential and office land uses often drive new trips given that they introduce new participants to the transportation system. The Draft City of Marina SB 743 Implementation Guidelines provides for a general threshold of 50,000 square-feet as an indicator as to whether a retail store can be considered local serving or not. Based on the understanding that no single store within the estimated 875,000 square feet of retail uses will exceed 50,000 square feet, it is presumed that the proposed retail uses will not result in a net increase in VMT and would therefore not result in a significant impact.

Exhibit 3 has been provided to visually demonstrate the basis of this finding. Note that the numbers provided are for illustrative purposes as the analysis technique used is qualitative.

¹ Draft City of Marina SB 743 Implementation Guidelines, December 16, 2020

Exhibit 3 – Illustration of the VMT Reducing Effect of Local Serving Retail



If regional serving retail is ultimately determined to be part of the project, those sites will need to be evaluated on their own merits as detailed project descriptions become available in the future.

Findings

Based on the results of this analysis, the following findings are made:

- The residential land uses do exceed the threshold of significance for the Project scenarios. **The project is determined to have a significant transportation impact for residential development.**
- The office land uses do exceed the threshold for the Existing Plus Project scenario and the 2040 plus Project scenario. **As a result, the project is determined for office land uses to have a significant transportation impact.**
- The proposed project’s retail stores are assumed to be smaller than 50,000 square feet per store, per the Draft City of Marina SB 743 Implementation Guidelines, **they are presumed to not have a significant impact.**

VMT Reducing Design Principles, Policies, and Improvements

Given the lack of specifics that are available for this specific level plan, it is not possible to fully account for the effect of specific design principles, policies, and improvements that will reduce VMT as part of this analysis. However, these approaches are still important considerations in evaluating the results of this VMT analysis and as appropriate they should be accounted for in subsequent VMT evaluations within the Downtown Specific Plan area.

VMT Reducing Design Principles

Design elements of the project that are VMT reducing, may reduce project VMT. The following are considerations consistent with the Downtown Specific Plan:

- Compactness of design/Transit Oriented Development,
- A range of housing options,
- Mixed uses,
- Walkable community, and
- A variety of transportation options, and
- The preservation of open space.

Transit Oriented Development

The Marina Transit Station, which is also planned to accommodate the new SURF BRT project, is within walking distance from Downtown. Bus stops will be at the station and also on Del Monte Boulevard at Palm Avenue.

Mixed-Use Specific Principles

Mixed-Use combines two or more types of land uses into a building or set of buildings that are physically or functionally integrated. Mixed-Use, as planned for the Downtown, seeks to promote smart growth principles including:

- Diversity and appropriate mix of uses
- Pedestrian Orientation
- Community Focal Point
- Excellence in Design
- Coordination of development strategies
- Sustainability

The plan includes guidance for specific use types (commercial, residential, etc.) and based on location (downtown, mixed-use/commercial areas, etc.) that contribute to favorable conditions for active transportation through denser development. As the AMBAG Model does not include specific functionality to reflect the impact of many of the design principles outlined and the exact nature, location, and timing of these VMT reducing considerations is not known, the additional impact of these design features will need to be evaluated at the individual project-level rather than at the programmatic level. However, it should be noted that these considerations will have a material impact on development project analysis although it will vary on the location and design features selected.

VMT Reducing Policies and Improvements

This section discusses the establishment of a framework for a programmatic approach to policies and improvements that respond to the need for feasible Vehicle Miles Travelled (VMT) mitigation within the Downtown Specific Pan Plan area. Identified VMT mitigation opportunities include:

1. Transportation Demand Measures
2. Implementation of Marina's SB 375 Measures
3. Transit and Multimodal Improvements
4. Establishment of a VMT Bank/Exchange

Transportation Demand Measures

VMT mitigation often relies heavily on Transportation Demand Measures (TDMs). These measures generally represent two basic approaches: policy and infrastructure. The California Air Pollution Control Officers Association (CAPCOA) guide for Quantifying Greenhouse Gas Mitigation Measures, last updated in 2010, is one of the primary bases for estimating mitigation effects in California. Although this resource is invaluable, care needs to be taken in terms of its application given that some TDMs have limited sample sizes and many of the measures are based on experiences in highly urbanized areas. Depending on the selected TDMs, it can be challenging from the standpoint of mitigation monitoring and are often unpopular with project applicants because they may need to be managed and paid for in perpetuity. These limitations have led jurisdictions to increasingly consider programmatic approaches to VMT mitigation.

As part of the Marina's development of its SB 743 Guidance, a review of TDM measures was undertaken for the purpose of identifying TDMs that are both appropriate to the City and setting reasonable maximums for their resultant VMT reductions. Future project level analyses should rely on the City's current TDM options and associated maximum reductions as provided for in its SB 743 Guidance. Although, many of the TDM options may be appropriate to individual project implementation, many of the identified TDMs may be better suited to a programmatic approach where they are implemented across the entire Downtown Specific Plan area. The following TDMs have been identified as the potential basis for a programmatic approach to TDM implementation within the Downtown Specific Plan Area:

- Reduce Parking Supply
- Transit Stops
- Mandatory Travel Behavior Change Program
- Promotions & Marketing
- Emergency Ride Home (ERH) Program
- Bike Share
- Implement on-street and on-site Pedestrian facilities
- Implement/Improve on-street and on-site Bicycle facilities
- Traffic Calming Improvements

Implementation of the City of Marina SB 375 Measures

Pursuant to Senate Bill (SB) 375, AMBAG prepared a Sustainable Communities Strategy (SCS) that was incorporated into the Regional Transportation Plan (RTP). SB 375 requires that the RTP include an SCS, which outlines growth strategies that better integrate land use and transportation planning and help reduce the state's greenhouse gas emissions from cars and light trucks. There are two mutually important facets to the SB 375 legislation: reducing VMT and encouraging more compact, complete, and efficient communities for the future. As identified in the AMBAG RTP/SCS, the region is projected to meet or exceed these targets, and significantly lower greenhouse gas emissions by 2040. The AMBAG RTP/SCS has also identified several strategies to achieve these goals. The strategies focus on integrating land use planning and transportation improvements. Some of the key strategies identified in the RTP/SCS that would apply to the Downtown Specific Plan are mentioned below:

Land Use Strategies

- Improve job-housing balance in the region
- Focus new growth around transit

Transportation Strategies

- Improve transit network
- Promote and improve active transportation
- Promote shared mobility

Multimodal Improvements

In terms of transit, the AMBAG model currently includes the Marina Transit Station located within the Downtown Specific Plan Area. MST is currently planning the implementation of the SURF BRT service that will connect Marina to Monterey, a primary commute route. It is reasonable to assume that at a minimum of a 4% mitigation effect would result if a supporting transit infrastructure, as are being planned along this route. It is likely the potential impact of transit may be higher given that Highway 1 and Highway 68 is not planned to be improved in the future and growth will continue to occur as shown in the AMBAG model.

Participation in a VMT Bank

Programmatic approaches that rely on collectively funding larger infrastructure projects appear to hold great promise for VMT mitigation as they allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

Under a VMT Banking framework, multiple VMT reducing projects are grouped together and their associated VMT reductions are monetized in the form of credits. These credits are then purchased for the purposes of mitigating VMT in excess of determined impact thresholds. The underlying projects may be either regionally or locally beneficial to the area in which the project is located.

The City will most likely develop a VMT Banking program or similar, however it is early in development so there is insufficient detail to estimate the impact on VMT mitigation of such a program. However, the implementation of a VMT Bank could provide meaningful opportunities for development projects that might otherwise not have the ability to mitigate their impact.

VMT Mitigation

As discussed previously, given the lack of specifics that are available for this downtown level plan, it is not possible to fully account for the effect of specific design principles, policies and improvements that will reduce VMT as part of this analysis. Although many of the VMT reducing design principles, policies, and improvements that are described in the prior section may ultimately mitigate and/or potentially reduce the VMT impacts outlined in this evaluation, necessary details to assure implementation and appropriately evaluate their effect are not yet available.

It is important to note that the approaches to VMT reduction described in the prior section are supportive of existing City policies and guidelines. However, the VMT reducing approaches cited in the prior section will require further planning and development as well as committed funding sources including those from participants in the development community (many of which many not be identified yet as large areas of land may be further subdivided into specific projects and developments). As such, it is reasonable to assume that the findings of this analysis reflect a worst-case scenario given the guidance within the City of Marina SB 743 Guidance.

Conclusion

Based on the results of this analysis, the following findings are made:

- The residential land uses do exceed the threshold of significance for the Project scenarios. **The project is determined to have a significant transportation impact for residential development.**
- The office land uses do exceed the threshold for the Existing Plus Project scenario and the 2040 plus Project scenario. **As a result, the project is determined for office land uses to have a significant transportation impact.**
- The proposed project's retail stores are assumed to be smaller than 50,000 square feet per store, per the Draft City of Marina SB 743 Implementation Guidelines, **they are presumed to not have a significant impact.**

Note that specific development projects may perform better or worse than the overall impacts determined by this programmatic level analysis. However, in the aggregate it is likely that this VMT analysis represents a worst-case scenario given that it does not fully represent the effect of planned VMT reducing design principles or the effect that targeted mitigation measures may ultimately have on development projects.