

FINAL

**BAY MEADOWS II
TRAFFIC MANAGEMENT PLAN**

Prepared For:

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Executive Summary

UPDATED October 8, 2012

The majority of the content of the original Traffic Management Plan dated March 17, 2008, is retained in this update dated October 8, 2012. This update is primarily being completed to update the land use information to the current development plan for the Bay Meadows II development. These updates specifically include changes to the square footage and dwelling unit development details currently planned on a block-by-block basis, and a reporting of the updated trip generation for the Bay Meadows II development.

PURPOSE

This report documents a Traffic Management Plan for the Bay Meadows II project as required under the project's Conditions of Approval. The purpose of this Plan is to:

1. Estimate the trip generation for the Bay Meadows II project for each phase of development at the time of development of that phase and at full build-out
2. Establish a trip budget for each individual Block, based on the applicable pre-grade separation, short-term, mid-term and long-term trip reduction goals for the project, as established by the Conditions of Approval.
3. Demonstrate how the trip generation of the project for each phase of development and at full build-out is expected to stay within the applicable trip caps and meet applicable trip reduction goals established in the Conditions of Approval.
4. Identify a Transportation Demand Management Strategy that will be implemented with the project as required by the Conditions of Approval.
5. Describe a traffic monitoring plan, as required in the Conditions of Approval that will allow the City to monitor and verify whether the project is meeting its trip reduction goals and evaluate the effectiveness of any TDM measures that are implemented.

BACKGROUND

In 2005, the City of San Mateo adopted the San Mateo Rail Corridor Transit Oriented Development Plan (Corridor Plan). The Corridor Plan includes a framework for creation of Transit Oriented Development (TOD), implementation of a Transportation Demand Management program with a goal of achieving an overall reduction in new vehicle trips of at least 25 percent corridor-wide, establishment of trip generation thresholds, establishment of parking standards, and monitoring of trip generation.

The Corridor Plan called for the amendment of the Bay Meadows Specific Plan to achieve the TOD and other policies of the Corridor Plan. The City implemented these



policies through its approval in 2005 of the Bay Meadows Specific Plan Amendment and associated Conditions of Approval and the Bay Meadows Development Agreement. The Specific Plan Amendment, Conditions of Approval and Development Agreement set forth all of the relevant land use, TDM, trip reduction, parking and monitoring standards and conditions applicable to Bay Meadows.

The Corridor Plan and Bay Meadows Specific Plan Amendment were designed to take advantage of the potential for the expanded CalTrain commuter line linking San Francisco to San Jose and Gilroy. However, recognizing that the Peninsula Corridor Joint Powers Board ("JPB") improvements to the Hillsdale Station and the expanded CalTrain service were independent of the Corridor Plan and Specific Plan, the Conditions of Approval set different "trip budgets" depending upon the status of the adjacent rail improvements. In other words, the Bay Meadows Specific Plan amendment anticipated the potential for future rail improvements but was not dependent upon it.

As part of the Final EIR for the Specific Plan Amendment, the City prepared a phasing analysis that determined the level of a development that could be sustained, without impact, prior to the completion of the proposed grade separations at 28th and 31st Avenues. The context for the analysis was the 2020 scenario, which means that the traffic volumes included not only anticipated growth in the Bay Meadows and Corridor Plan areas, but also growth throughout the City of San Mateo and substantial growth throughout San Mateo County. This analysis yielded a "trip budget" of 1,127 net new trips, or 1,562 total trips (assuming a credit for the existing racing uses), before any grade separation was required to mitigate traffic.

The City's environmental analysis also concluded that a substantial amount of development could occur at Bay Meadows, including full development of the residential portion of the project (1,250 dwelling units), and 580,000 square feet of office, with the understanding that retail development might be deferred until such time as the grade separations were in place, and/or additional development could be achieved if TDM and interim Hillsdale CalTrain improvements resulted in overall trip reductions. The project approvals recognized that the precise mix of development would be left open until the Site Plan and Architectural Review (SPAR) process.

The findings of the City's environmental analysis were incorporated into Conditions of Approval Nos. 40 through 44 for the project. These conditions implement the Transportation Demand Management policies and goals of the Corridor Plan by providing the specific parameters for the Bay Meadows Phase II site. Condition 40 establishes overall project trip budget for each of four phases determined by the commencement and completion of a grade separation at 28th and/or 31st Avenues, and completion of a particular portion of development of the Bay Meadows site. The same condition also establishes trip reduction goals for the project, again dependent upon the amount of overall development completed. Condition 41 describes the monitoring methods to be used by the City to keep track of the individual trip budgets for each Block. Conditions 42 and 43 describe how Bay Meadows project will participate in a transportation management association (TMA) and implement a transportation demand



management (TDM) plan. Condition 43 also specifies the method for monitoring and enforcing the TDM goals for the project.

PROPOSED LAND USES

The Bay Meadows II project is subdivided into two primary districts, the Station/Mixed-Use district, and the Residential district. These districts are further subdivided into 18 development Blocks. The pre-grade separation development program, as of October 2012, is proposed to be a total of 771,713 square feet of office¹, 22,898 square feet of retail, 14,808 square feet of restaurant, 1,066 residential dwelling units and 450-student high school. At full build-out after grade separation, the proposed development program, as of October 2012, includes a total of 805,199 square feet of office, 74,771 square feet of retail, 17,808 square feet of restaurant, 1,116 residential dwelling units, and a 450 student high school. In addition to these land uses, the project site includes a parcel of land that may be developed into a 500 space parking structure by the JPB, which is also not included. **Table 1** of this Plan sets forth the summary of land uses in detail.

CONCLUSION

In satisfaction of the Conditions of Approval, the projected trips to be generated by the project will be within the applicable trip caps and trip reduction goals for the project. Compliance is based upon estimated trip generation of the project by phase and at full build-out, with the implementation of the Level I and Level II TDM strategies during applicable phases.

¹ All square footage values identified in this report and used in the trip generation analysis are in terms of gross building square footage.



1 Introduction

UPDATED October 8, 2012

The majority of the content of the original Traffic Management Plan dated March 17, 2008, is retained in this update dated October 8, 2012. This update is primarily being completed to update the land use information to the current development plan for the Bay Meadows II development. These updates specifically include changes to the square footage and dwelling unit development details currently planned on a block-by-block basis, and a reporting of the updated trip generation for the Bay Meadows II development.

1.1 Purpose of Study

This report documents a Traffic Management Plan (the "Plan") for the Bay Meadows II project as required under Conditions 40 through 43 of the project's Conditions of Approval. The purpose of the Plan is to:

1. Estimate the trip generation for the Bay Meadows II project for each phase of development at the time of development of that phase and at full build-out
2. Establish a trip budget for each individual Block, based on the applicable pre-grade separation, short-term, mid-term and long-term trip reduction goals for the project, as established by the Conditions of Approval.
3. Demonstrate how the trip generation of the project for each phase of development and at full build-out is expected to stay within the applicable trip caps and meet applicable trip reduction goals established in the Conditions of Approval.
4. Identify a Transportation Demand Management Strategy that will be implemented with the project as required by the Conditions of Approval.
5. Describe a traffic monitoring plan, as required in the Conditions of Approval that will allow the City to monitor and verify whether the project is meeting its trip reduction goals and evaluate the effectiveness of any TDM measures that are implemented.

1.2 Organization

Section 1 of this Plan describes the study area of the Plan. It also provides an overview of the City's applicable transportation policies set forth in the San Mateo Rail Corridor Plan and the Bay Meadows Specific Plan Amendment, as implemented through the Bay Meadows Development Agreement and Specific Plan Amendment Conditions of Approval.



Section 2 describes the proposed land uses on a block by block basis, including square feet of commercial uses and number of dwelling units.

Section 3 sets forth the trip generation analysis. It describes in detail the trip reduction requirements, sets forth the base trip rates and trip reduction assumptions for transit and mixed-use internal capture, establishes the trip budgets project-wide and per block, and estimates the trip generation for each phase of project development.

Section 4 describes the Transportation Demand Management strategies that may be considered for achieving the trip reduction goals.

Section 5 sets forth the Traffic Monitoring Plan required to monitor trip generation and determine compliance with trip reduction goals at a given point in time.

1.3 Background

In 2005, the City of San Mateo adopted the San Mateo Rail Corridor Transit Oriented Development Plan (Corridor Plan). The stated goal of the Corridor Plan was to allow, encourage and provide guidance for the creation of world class transit-oriented development (TOD) within a half-mile radius of the Hillsdale and Hayward Park Caltrain station areas, while maintaining and improving the quality of life for those who already live and work in the area. The Corridor Plan includes a framework for creation of TOD, implementation of a Transportation Demand Management program with a goal of achieving an overall reduction in new vehicle trips of at least 25 percent corridor-wide, establishment of trip generation thresholds, establishment of parking standards, and monitoring of trip generation (Corridor Plan Policy 7.17).

In June, 2005, the City Council certified the San Mateo Rail Corridor Plan & Bay Meadows Specific Plan Amendment Final Environmental Impact Report (the "FEIR"), approved the Corridor Plan, and adopted associated revisions to the City's General Plan consistent with the policies of the Corridor Plan.

As part of the Corridor Plan implementation for Bay Meadows, the Corridor Plan called for the amendment of the Bay Meadows Specific Plan to achieve the TOD and other policies of the Corridor Plan. The City implemented these policies through its approval of the Bay Meadows Specific Plan Amendment (the "Specific Plan Amendment") and Conditions of Approval adopted on November 7, 2005, and the Bay Meadows Development Agreement between the City of San Mateo and Bay Meadows Land Company, dated as of November 21, 2005 (the "Development Agreement"). The City found these actions were consistent with the Corridor Plan and the City's General Plan.

The Specific Plan Amendment, Conditions of Approval and Development Agreement set forth all of the relevant land use, TDM, trip reduction, parking and monitoring standards and conditions applicable to Bay Meadows. Implementation of the applicable Corridor Plan and Specific Plan Amendment parking policies are set forth in the Bay Meadows II Parking Management Plan, submitted by the applicant to the City concurrently with this Plan.



The Corridor Plan and Bay Meadows Specific Plan Amendment were designed to take advantage of the potential for the expanded CalTrain commuter line linking San Francisco to San Jose and Gilroy. However, recognizing that the Peninsula Corridor Joint Powers Board ("JPB") improvements to the Hillsdale Station and the expanded CalTrain service were independent of the Corridor Plan and Specific Plan, the Conditions of Approval set different "trip budgets" depending upon the status of the adjacent rail improvements. In other words, the Bay Meadows Specific Plan amendment anticipated the potential for future rail improvements but was not dependent upon it.

As part of the Final EIR for the Specific Plan Amendment, the City prepared a phasing analysis that determined the level of a development that could be sustained, without impact, prior to the completion of the proposed grade separations at 28th Avenue and 31st. The context for the analysis was the 2020 scenario, which means that the traffic volumes included not only anticipated growth in the Bay Meadows and Corridor Plan areas, but also growth throughout the City of San Mateo and substantial growth throughout San Mateo County. This analysis yielded a "trip budget" of 1,127 net new trips, or 1,562 total trips (assuming a credit for the existing racing uses), before any grade separation was required to mitigate traffic.

The City's environmental analysis also concluded that a substantial amount of development could occur at Bay Meadows, including full development of the residential portion of the project (1,250 dwelling units), and 580,000 square feet of office, with the understanding that retail development might be deferred until such time as the grade separations were in place, and/or additional development could be achieved if TDM and interim Hillsdale CalTrain improvements resulted in overall trip reductions. The project approvals recognized that the precise mix of development would be left open until the Site Plan and Architectural Review (SPAR) process.

The findings of the City's environmental analysis were incorporated into Conditions of Approval Nos. 40 through 44 for the project. These conditions implement the Transportation Demand Management policies and goals of the Corridor Plan by providing the specific parameters for the Bay Meadows Phase II site. Condition 40 establishes overall project trip budget for each of four phases determined by the commencement and completion of a grade separation at 28th and/or 31st, and completion of a particular portion of development of the Bay Meadows site. The same condition also establishes trip reduction goals for the project, again dependent upon the amount of overall development completed. Condition 41 describes the monitoring methods to be used by the City to keep track of the individual trip budgets for each Block. Conditions 42 and 43 describe how Bay Meadows project will participate in a transportation management association (TMA) and implement a transportation demand management (TDM) plan. Condition 43 also specifies the method for monitoring and enforcing the TDM goals for the project.



1.4 Study Area

The project site is bounded by the San Mateo County Exposition Center to the north, CalTrain rail tracks to the west, the Franklin Campus / Saratoga Drive to the east, and existing residential land uses to the south. Regional access to the project site is provided by US-101 and SR-92, accessed via the Hillsdale Boulevard and Delaware Street interchanges. Regional transit access is provided by SamTrans bus routes and CalTrain. The CalTrain Hillsdale station is located at the southwest corner of the project site.

Major transportation improvements associated with the development of the project site includes; the extension of Delaware Street through the project site to Pacific Boulevard, the extension of Franklin Boulevard as 31st Avenue from its current terminus to the JPB right-of-way, the construction of 28th Avenue from Saratoga Avenue to the JPB right-of-way, and the construction of a grid of internal local streets. 31st and/or 28th Avenues will be connected to El Camino Real when the CalTrain tracks are raised and grade-separations are implemented as planned by the JPB. The timing of this JPB project is unknown at this time. For purposes of this Plan, conditions prior to constructing one or both of the 28th or 31st Avenue grade-separations is considered the “pre-grade separation” stage, and afterwards the “post-grade-separation” stage.

1.5 Definitions

Vehicle Trip Generation – a vehicle “trip” is defined as “a single or one direction vehicle movement with either the origin or destination inside a study area”. Trip generation, as it refers to new development is the number of trips that the development produces and attracts during a given time period.

Trip Generation Rates – is the ratio of automobile trips to an independent variable of land use in a given period of time. For example, a residential land use may have a trip generation rate of 0.55 trips per dwelling unit in the afternoon peak hour. Rates are applied to the total land use program to estimate trips. The primary source of trip generation rates is the Institute of Transportation Engineers’ (ITE) *Trip Generation* manual.

Mode share – is the method of travel selected by a person. The common modes of travel include walking, bicycling, using transit, carpooling, and driving alone. Mode share of new development is often measured as the number of person trips by each mode of travel as a percentage of the total person trips produced or attracted by the development.

Mixed-Use and Internal Capture (Internalization) – Mixed-use development, as published by the Urban Land Institute is defined as “three or more significant revenue-producing uses, with significant functional and physical integration of the project components, and development in conformance with a coherent plan.” Mixed-use can be a single building, or a site with multiple buildings such as Bay Meadows. ITE defines mixed-use development as “a single real-estate project that consists of two or more ITE



land use classifications between which trips can be made without using the off-site road system.” The definition of internal capture is encapsulated in this definition.

Transit-Oriented Development (TOD) – According to the *Statewide Transit-Oriented Development Study: Factors for Success in California*² TOD is transportation-related land use strategy, in coordination with bus, rail and/or ferry systems to provide communities with an alternative to the predominant pattern of low-density sprawl and automobile dependency. The study’s advisory committee defined TOD as “a moderate to higher-density development, located within an easy walk of a major transit stop, with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto.”

² California Department of Transportation, California Business, Transportation and Housing Agency, Final Report, September 2002.

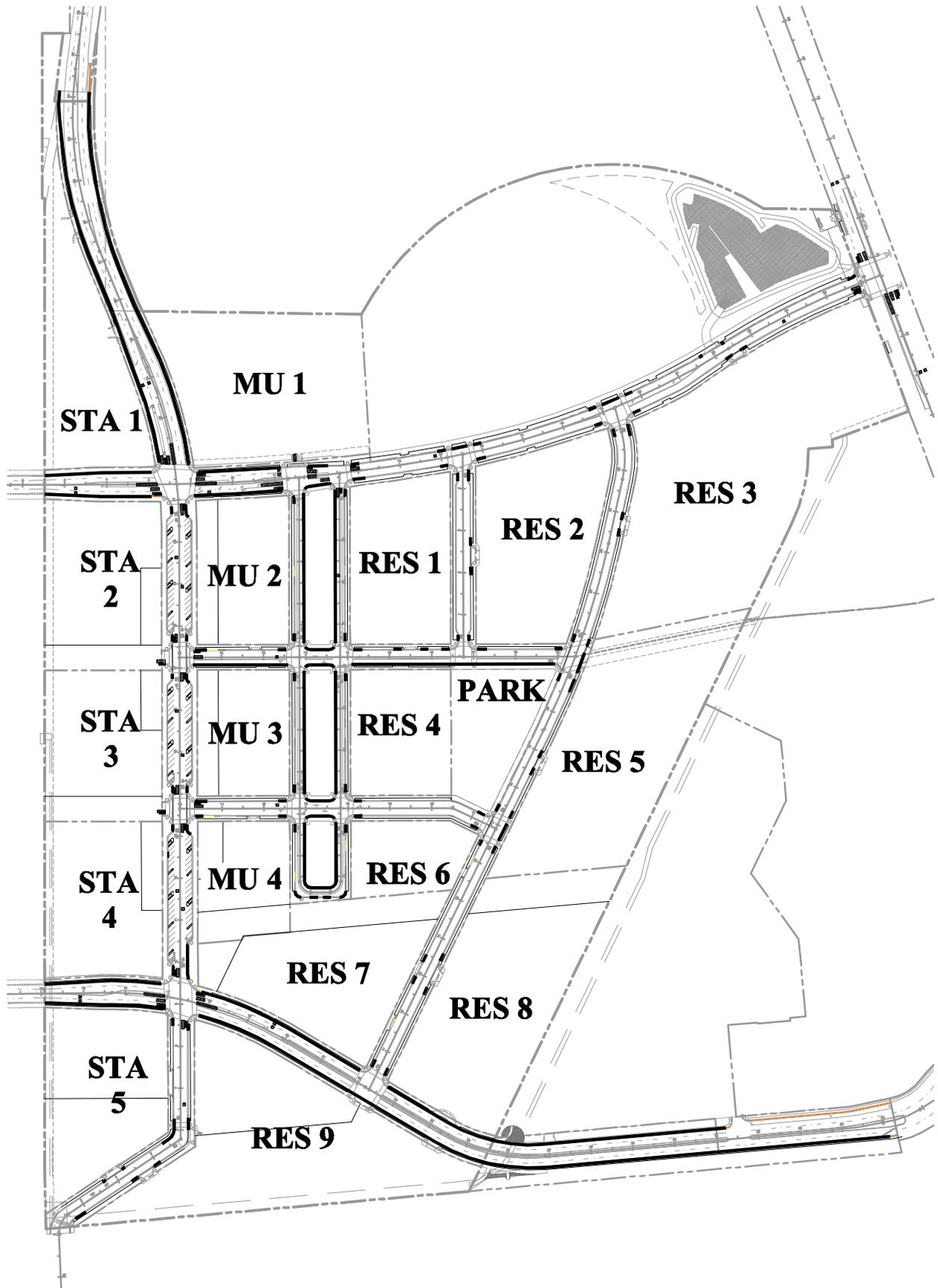


FIGURE 1: BAY MEADOWS II BLOCK NUMBERING



2 Proposed Land Uses

The Bay Meadows II project is subdivided into two primary districts, the Station/Mixed-Use district, and the Residential district. These districts are further subdivided into 18 development Blocks. There are five (5) Station Blocks, four (4) Mixed-Use Blocks, and nine (9) Residential Blocks. As of October 2012, the pre-grade separation development program is proposed to be a total of 771,713 square feet of office³, 22,898 square feet of retail, 14,808 square feet of restaurant, 1,066 residential dwelling units, and a 450-student high school. At full build-out after grade separation, the proposed development program includes a total of 805,199 square feet of office, 74,771 square feet of retail, 17,808 square feet of restaurant, 1,116 residential dwelling units, and a 450-student high school. In addition to these land uses, the project site includes a parcel of land that may be developed into a 500 space parking structure by the JPB, which is also not included. The Bay Meadows project site and the block numbering system are shown in **Figure 1. Table 1** of this Plan sets forth the summary of land uses in detail.

³ All square footage values identified in this report and used in the trip generation analysis are in terms of gross building square footage.



Table 1: Summary of Land Use by Blocks at Full Build-out

Block	Land Use	Quantity	Units
STATION BLOCKS			
Station Block 1 (STA 1)	Office	92,267	Square Feet
	Retail	5,794	Square Feet
	Restaurant	0	Square Feet
	Subtotal	98,061	Square Feet
Station Block 2 (STA 2)	Office	190,235	Square Feet
	Retail	10,889	Square Feet
	Restaurant	3,050	Square Feet
	Subtotal	204,174	Square Feet
Station Block 3 (STA 3)	Office	174,445	Square Feet
	Retail	8,769	Square Feet
	Restaurant	3,281	Square Feet
	Subtotal	186,495	Square Feet
Station Block 4 (STA 4)	Office	216,428	Square Feet
	Retail	8,627	Square Feet
	Restaurant	3,477	Square Feet
	Subtotal	228,532	Square Feet
Station Block 5 (STA 5)	Office	98,338	Square Feet
	Retail	4,098	Square Feet
	Restaurant	0	Square Feet
	Subtotal	102,436	Square Feet
Total Station Blocks	Office	771,713	Square Feet
	Retail	38,177	Square Feet
	Restaurant	9,808	Square Feet
	Total	819,698	Square Feet



Table 1: Summary of Land Use by Blocks at Full Build-out (Cont.)

Block	Land Use	Quantity	Units
MIXED-USE BLOCKS			
Mixed-Use Block 1 (MU 1)	High School Residential ⁴	450 50	Students Dwelling Units
Mixed-Use Block 2 (MU 2)	Office	15,509	Square Feet
	Retail	11,814	Square Feet
Mixed-Use Block 2 (MU 2)	Restaurant	3,000	Square Feet
	Residential	88	Dwelling Units
Mixed-Use Block 2 (MU 2)	Subtotal	30,323 88	Square Feet Dwelling Units
	Office	12,906	Square Feet
Mixed-Use Block 3 (MU 3)	Retail	12,361	Square Feet
	Restaurant	0	Square Feet
Mixed-Use Block 3 (MU 3)	Residential	76	Dwelling Units
	Subtotal	25,267 76	Square Feet Dwelling Units
Mixed-Use Block 4 (MU 4)	Office	5,071	Square Feet
	Retail	8,947	Square Feet
Mixed-Use Block 4 (MU 4)	Restaurant	5,000	Square Feet
	Residential	70	Dwelling Units
Mixed-Use Block 4 (MU 4)	Subtotal	19,018 70	Square Feet Dwelling Units
	Total Mixed-Use Blocks	Office Retail Restaurant Residential High School	33,486 33,122 8,000 284 450

⁴ Includes the 50 Below Market Rate (BMR) units proposed to be developed by the City on Block MU-1 which is included in the post-grade separation analysis.



Table 1: Summary of Land Use by Blocks at Full Build-out (Cont.)

Block	Land Use	Quantity	Units
RESIDENTIAL BLOCKS			
Residential Block 1 (RES 1)	Residential	108	Dwelling Units
Residential Block 2 (RES 2)	Residential	80	Dwelling Units
Residential Block 3 (RES 3)	Residential	156	Dwelling Units
Residential Block 4 (RES 4)	Residential	71	Dwelling Units
Residential Block 5 (RES 5)	Residential	76	Dwelling Units
Residential Block 6 (RES 6)	Residential	54	Dwelling Units
Residential Block 7 (RES 7)	Residential	158	Dwelling Units
	Retail	3,472	Square Feet
Residential Block 8 (RES 8)	Residential	74	Dwelling Units
Residential Block 9 (RES 9)	Residential	55	Dwelling Units
Total Residential Blocks	Residential Retail	832 3,472	Dwelling Units Square Feet
Total All Blocks	Office Retail Restaurant Residential High School	805,199 74, 771 17,808 1,116 450	Square Feet Square Feet Square Feet Dwelling Units Students



3 Trip Generation Analysis

This section describes in detail, the trip reduction requirements, base trip rates, trip budgets for the project overall and individual blocks, trip reduction assumptions for transit and mixed-use internal capture, and the trip generation estimates for each phase of the project development.

3.1 Trip Budget and Trip Reduction Requirements Established in Conditions of Approval

As described earlier, Conditions 40 and 41 establish trip reduction goals for the project. Condition 41 requires that a trip budget must be established for the entire project as well as for each Block, in order to measure the project's success in meeting the applicable trip reduction goals. These goals are set at a 10% (short-term), 16% (mid-term) and 25% (long-term) reduction. Trip reduction is measured against standard ITE rates applicable to the actual commercial/retail square footage of development or dwelling unit size (the methodology used in the FEIR) without regard to TOD or mixed-use internalization, as more particularly described in Condition 40 and summarized the following sections. Condition 40 also provides that even if an individual Block generates trips in excess of its trip budget, the overall project will be in compliance so long as the project as a whole is below the applicable trip caps and is meeting the applicable trip reduction goals.

For purposes of conforming to the conditions, the project development is divided into four stages; one stage reflecting pre-grade separation conditions and three stages post-grade separation reflecting short-term (Phase I), mid-term (Phase II), and long-term (Phase III) conditions. The trip reduction goal varies at different stages of development and is dependent on completion of the 28th and/or 31st Avenue grade-separations. Each stage and its trip reduction goal are described below.

3.1.1 Pre-Grade Separation Trip Budget and Trip Reduction Goals

Condition 40 restricts the amount of p.m. peak hour traffic the project may generate prior to the commencement of construction of the 28th and/or the 31st Avenue grade-separations to 1,562 trips.

3.1.2 Post-Grade Separation Trip Budget and Trip Reduction Goals

Once construction at either or both the 28th and 31st Avenue grade-separations has been completed and a minimum of site development has been completed and occupied, the Conditions of Approval establish increased trip reduction goals. The trip reduction goals are measured in two ways, 1) in the SPAR approval process the project is required to estimate the maximum number of trips allowed under the trip reduction goal in each stage (i.e., trip budget), and 2) after completion and occupancy, the actual number of trips generated are monitored and compared to the maximum number of trips allowed. This Plan represents the estimates described in (1) above and provides a monitoring plan for (2).



3.1.3 Short-Term Conditions (Phase I) Threshold (Post-Grade Separation)

When applicable: Until the later of any of the following conditions a) completion and occupancy of at least 50% of the collective amount of development approved for the first three blocks to be developed in Phase I, and b) completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 1,562 PM peak hour trips

Trip reduction goal: 10% off the total p.m. peak hour trip generation calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

3.1.4 Mid-Term Conditions (Phase II) Threshold (Post-Grade Separation)

When applicable: From and after the following conditions a) completion and occupancy of at least 50% of the collective amount of development approved for the first three blocks of Phase II to be developed, and b) completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 2,878 PM peak hour trips

Trip reduction goal: 16% off the total p.m. peak hour trip generation (including the blocks approved in Phase I) calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

3.1.5 Long-Term Conditions (Phase III) Threshold (Post-Grade Separation)

When applicable: From and after the later to occur of a) approval of a SPAR for each block in the project, b) completion and occupancy of 75% of the collective amount of development approved in the Station/Mixed-Use Parcels, c) completion and occupancy of 75% of the collective amount of development approved in the Residential Parcels, and d)



completion of grade separated crossings at either or both of 28th and 31st Avenues.

Overall trip cap: Not to exceed 2,569 PM peak hour trips

Trip reduction goal: 25% off the total p.m. peak hour trip generation (including the blocks approved in Phases I and II) calculated using the trip generation methodology established in the FEIR, excluding reductions for mixed-use internalization or transit-oriented development or TDM measures.

The Conditions of Approval provide that even if an individual Block generates trips in excess of its trip budget, the overall project will be in compliance so long as the project as a whole is below the applicable trip budget and the overall development is meeting the applicable trip reduction goals.

3.2 Trip Generation Rates

3.2.1 Base Rates

In accordance with the Conditions of Approval, trip generation estimates for all conditions were initially estimated using standard rates published in the Institute of Transportation Engineers (ITE) 7th Edition of *Trip Generation*, 2003. This is the source of rates used to develop the initial trip generation estimates in the Final Environmental Impact Report (FEIR) for the Bay Meadows II Specific Plan. The unadjusted base trip rates are summarized in **Table 2**.

Table 2: Unadjusted Base Trip Rates for Bay Meadows Land Uses

Land Use	AM Peak Hour (Trips/Unit)			PM Peak Hour (Trips/Unit)		
	In	Out	Total	In	Out	Total
Residential – Flats/Townhomes(units)	0.08	0.43	0.51	0.42	0.20	0.62
Residential – Cluster Detached (units)	0.39	0.19	0.58	0.72	0.42	1.14
Retail (KSF)	0.63	0.40	1.03	1.80	1.94	3.74
Restaurant (KSF)[1]	3.76	3.48	7.24	5.82	3.73	9.55
Office (KSF)	1.37	0.19	1.56	0.25	1.24	1.49

[1] 60% of the restaurants usage for the project was assumed to be “high-turnover (sit-down)” restaurants and the remaining 40% was assumed to be “quality” restaurants as defined by ITE. The base trip rate for restaurants was calculated using the weighted average of these two restaurant types.
Note: According to the ITE Trip Generation manual, overall gross floor area for restaurants does not include outdoor seating areas. While the rates account for the traffic generated by outdoor seating, the calculation of trips does not include its floor area.
KSF = 1,000’s of square feet.



3.2.2 Trip Budget Calculations

Condition 41 requires that a trip budget must be established for the entire project as well as for each Block, in order to measure the project's success in meeting the applicable trip reduction goals. The trip budgets established in this Plan will ultimately be reflected in CC&R's imposed against individual parcels. On-going monitoring pursuant to the monitoring plan described in Section 4 below will allow the City to review whether the project as a whole is meeting its trip reduction goals. If the project is not meeting the trip reduction goals, then the monitoring can be adjusted to identify individual Blocks that are contributing excess trips. The Transportation Demand Management strategy set forth in Section 5 requires the use of additional levels of TDM measures until further monitoring shows that the project is meeting the applicable trip reduction goals overall as reflected in the trip budget. The trip budgets for each Block were calculated based upon the estimated trip reductions achievable on the Block, whether due to TDM, proximity to transit, mixed use interaction, or site design. It is expected that based upon the results of project monitoring, the trip Budgets for an individual Block might be modified by the project developer to reflect the actual trip reduction results. The CC&Rs will contain a mechanism for such an amendment.

The trip budget for each Block was calculated for pre-grade separation conditions and post-grade separation conditions. **Table 3** and **Table 4** show the trip budget for the entire project as well as for each Block under the pre-grade separation and post-grade separation conditions.

Note: Since the p.m. peak hour is the higher peak hour, the tables show trip budget calculations for the p.m. peak hour only.

Table 3 Trip Budget - Pre-Grade Separation Conditions

Unadjusted PM peak Hour Trip Generation by Block

Block	Land Use	Size	Units	PM Peak Hour	
				Trip Generation Rate	Unadjusted Trips
RES 1	Townhomes	108	DUs	0.62	67
RES 2	Townhomes	80	DUs	0.62	50
RES 3	Townhomes	156	DUs	0.62	97
RES 4	Flats	71	DUs	0.62	44
RES 5	Townhomes	76	DUs	0.62	47
RES 6	Flats	54	DUs	0.62	33
RES 7	Flats	158	DUs	0.62	98
RES 7	Retail	3.472	KSF	3.74	13
Total RES 7					111
RES 8	Townhomes	74	DUs	0.62	46
RES 9	Detached	55	DUs	1.14	63
Total Residential Blocks	Residential	3,472	KSF		557
	Retail	832	DUs		
STA 1	Office	92.267	KSF	1.49	137
STA 1	Retail	5.794	KSF	3.74	22
STA 1	Restaurant	0.000	KSF	9.55	0
Total STA 1					159
STA 2	Office	190.235	KSF	1.49	283
STA 2	Retail	3.049	KSF	3.74	11
STA 2	Restaurant	3.050	KSF	9.55	29
Total STA 2					324
STA 3	Office	174.445	KSF	1.49	260
STA 3	Retail	3.280	KSF	3.74	12
STA 3	Restaurant	3.281	KSF	9.55	31
Total STA 3					304
STA 4	Office	216.428	KSF	1.49	322
STA 4	Retail	0.000	KSF	3.74	0
STA 4	Restaurant	3.477	KSF	9.55	33
Total STA 4					356
STA 5	Office	98.338	KSF	1.49	147
STA 5	Retail	4.098	KSF	3.74	15
STA 5	Restaurant	0.000	KSF	9.55	0
Total STA 5					162
Total Station Blocks	Office	771.713	KSF		1,304
	Retail	16.221	KSF		
	Restaurant	9.808	KSF		
MU 1 (High School)	High School	450	Students	Custom	95
MU 1 (Residential)	Residential	0	DUs	0.62	0
Total MU1					95
MU 2 (Office)	Office	0.000	KSF	1.49	0
MU 2 (Retail)	Retail	0.000	KSF	3.74	0
MU 2 (Restaurant)	Restaurant	0.000	KSF	9.55	0
MU 2 (Residential)	Residential	88	DUs	0.62	55
Total MU2					55
MU 3 (Office)	Office	0.000	KSF	1.49	0
MU 3 (Retail)	Retail	0.000	KSF	3.74	0
MU 3 (Restaurant)	Restaurant	0.000	KSF	9.55	0
MU 3 (Residential)	Residential	76	DUs	0.62	47
Total MU3					47
MU 4 (Office)	Office	0.000	KSF	1.49	0
MU 4 (Retail)	Retail	3.205	KSF	3.74	12
MU 4 (Restaurant)	Restaurant	5.000	KSF	9.55	48
MU 4 (Residential)	Residential	70	DUs	0.62	43
Total MU4					103
Total Mixed-Use Blocks	Office	0.000	KSF		300
	Retail	3.205	KSF		
	Restaurant	5.000	KSF		
	Residential	234	DUs		
	High School	450	Students		
Total All Blocks					2,161

PM Peak Hour Trip Generation Budgets by Block

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
STA - 1				
Retail	22	37.60%	5.90%	12
Restaurant	0	29.80%	5.90%	0
Office	137	19.90%	10.60%	96
Subtotal	159			108
		Total % Reduction		32.27%
STA - 2				
Retail	11	37.60%	5.90%	6
Restaurant	29	29.80%	5.90%	19
Office	283	19.90%	10.60%	197
Subtotal	324			222
		Total % Reduction		31.42%
STA - 3				
Retail	12	37.60%	5.90%	7
Restaurant	31	29.80%	5.90%	20
Office	260	19.90%	10.60%	181
Subtotal	304			208
		Total % Reduction		31.56%
STA - 4				
Retail	0	37.60%	5.90%	0
Restaurant	33	29.80%	5.90%	21
Office	322	19.90%	10.60%	224
Subtotal	356			245
		Total % Reduction		30.99%
STA - 5				
Retail	15	37.60%	5.90%	9
Restaurant	0	29.80%	5.90%	0
Office	147	19.90%	10.60%	102
Subtotal	162			110
		Total % Reduction		31.73%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
MU-1				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
High School	95	0.00%	0.00%	95
Residential	0	29.55%	4.10%	0
Subtotal	95			95
		Total % Reduction		0.00%
MU-2				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
Office	0	19.90%	10.60%	0
Residential	55	29.55%	4.10%	36
Subtotal	55			36
		Total % Reduction		33.65%
MU-3				
Retail	0	37.60%	5.90%	0
Restaurant	0	29.80%	5.90%	0
Office	0	19.90%	10.60%	0
Residential	47	29.55%	4.10%	31
Subtotal	47			31
		Total % Reduction		33.65%
MU-4				
Retail	12	37.60%	5.90%	7
Restaurant	48	29.80%	5.90%	31
Office	0	19.90%	10.60%	0
Residential	43	29.55%	4.10%	29
Subtotal	103			66
		Total % Reduction		35.74%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I % Reduction [1]	Net Trips
Res-1				
Residential	67	29.55%	2.80%	45
Subtotal	67			45
		Total % Reduction		32.35%
Res-2				
Residential	50	29.55%	2.80%	34
Subtotal	50			34
		Total % Reduction		32.35%
Res-3				
Residential	97	29.55%	2.80%	65
Subtotal	97			65
		Total % Reduction		32.35%
Res-4				
Residential	44	29.55%	2.80%	30
Subtotal	44			30
		Total % Reduction		32.35%
Res-5				
Residential	47	29.55%	2.80%	32
Subtotal	47			32
		Total % Reduction		32.35%
Res-6				
Residential	33	29.55%	2.80%	23
Subtotal	33			23
		Total % Reduction		32.35%
Res-7				
Residential	98	29.55%	2.80%	66
Retail	13	37.60%	4.10%	8
Subtotal	111			74
		Total % Reduction		33.44%
Res-8				
Residential	46	29.55%	2.80%	31
Subtotal	46			31
		Total % Reduction		32.35%
Res-9				
Residential	63	29.55%	2.80%	42
Subtotal	63			42
		Total % Reduction		32.35%

Total All Blocks		
Unadjusted Trips	Net Trips	% Reduction
2,161	1,498	30.7%

Notes:

[1] This column represents the reductions in trip generations expected from implementation of Level I and II Transportation Demand Management measures as described in Sect Source of trip generation rates: Bay Meadows II Phasing Analysis, Hexagon Transportation Consultants, and Institute of Transportation Engineers Trip Generation, 7th Edition

Table 4 Trip Budget - Post-Grade Separation Conditions

Unadjusted PM peak Hour Trip Generation by Block

Block	Land Use	Size	Units	PM Peak Hour	
				Trip Generation Rate	Unadjusted Trips
RES 1	Townhomes	108	DUs	0.62	67
RES 2	Townhomes	80	DUs	0.62	50
RES 3	Townhomes	156	DUs	0.62	97
RES 4	Flats	71	DUs	0.62	44
RES 5	Townhomes	76	DUs	0.62	47
RES 6	Flats	54	DUs	0.62	33
RES 7	Flats	158	DUs	0.62	98
RES 7	Retail	3,472	KSF	3.74	13
Total RES 7					111
RES 8	Townhomes	74	DUs	0.62	46
RES 9	Detached	55	DUS	1.14	63
Total Residential Blocks	Residential	3,472	KSF		557
	Retail	832	DUs		
STA 1	Office	92,267	KSF	1.49	137
STA 1	Retail	5,794	KSF	3.74	22
STA 1	Restaurant	0,000	KSF	9.55	0
Total STA 1					159
STA 2	Office	190,235	KSF	1.49	283
STA 2	Retail	10,889	KSF	3.74	41
STA 2	Restaurant	3,050	KSF	9.55	29
Total STA 2					353
STA 3	Office	174,445	KSF	1.49	260
STA 3	Retail	8,769	KSF	3.74	33
STA 3	Restaurant	3,281	KSF	9.55	31
Total STA 3					324
STA 4	Office	216,428	KSF	1.49	322
STA 4	Retail	8,627	KSF	3.74	32
STA 4	Restaurant	3,477	KSF	9.55	33
Total STA 4					388
STA 5	Office	98,338	KSF	1.49	147
STA 5	Retail	4,098	KSF	3.74	15
STA 5	Restaurant	0,000	KSF	9.55	0
Total STA 5					162
Total Station Blocks	Office	771,713	KSF		1,386
	Retail	38,177	KSF		
	Restaurant	9,808	KSF		
MU 1 (High School)	High School	450	Students	Custom	95
MU 1 (Residential)	Residential	50	DUs	0.62	31
Total MU1					126
MU 2 (Office)	Office	15,509	KSF	1.49	23
MU 2 (Retail)	Retail	11,814	KSF	3.74	44
MU 2 (Restaurant)	Restaurant	3,000	KSF	9.55	29
MU 2 (Residential)	Residential	88	DUs	0.62	55
Total MU2					150
MU 3 (Office)	Office	12,906	KSF	1.49	19
MU 3 (Retail)	Retail	12,361	KSF	3.74	46
MU 3 (Restaurant)	Restaurant	0,000	KSF	9.55	0
MU 3 (Residential)	Residential	76	DUs	0.62	47
Total MU3					113
MU 4 (Office)	Office	5,071	KSF	1.49	8
MU 4 (Retail)	Retail	8,947	KSF	3.74	33
MU 4 (Restaurant)	Restaurant	5,000	KSF	9.55	48
MU 4 (Residential)	Residential	70	DUs	0.62	43
Total MU4					132
Total Mixed-Use Blocks	Office	33,486	KSF		521
	Retail	33,122	KSF		
	Restaurant	8,000	KSF		
	Residential	284	DUs		
	High School	450	Students		
Total All Blocks					2,465

PM Peak Hour Trip Generation Budgets by Block

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
STA - 1				
Retail	22	30.40%	5.90%	14
Restaurant	0	37.90%	5.90%	0
Office	137	15.20%	10.60%	102
Subtotal	159			116
		Total % Reduction		27.23%
STA - 2				
Retail	41	30.40%	5.90%	26
Restaurant	29	37.90%	5.90%	16
Office	283	15.20%	10.60%	210
Subtotal	353			253
		Total % Reduction		28.49%
STA - 3				
Retail	33	30.40%	5.90%	21
Restaurant	31	37.90%	5.90%	18
Office	260	15.20%	10.60%	193
Subtotal	324			231
		Total % Reduction		28.60%
STA - 4				
Retail	32	30.40%	5.90%	21
Restaurant	33	37.90%	5.90%	19
Office	322	15.20%	10.60%	239
Subtotal	388			278
		Total % Reduction		28.21%
STA - 5				
Retail	15	30.40%	5.90%	10
Restaurant	0	37.90%	5.90%	0
Office	147	15.20%	10.60%	109
Subtotal	162			118
		Total % Reduction		26.79%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
MU-1				
Retail	0	30.40%	5.90%	0
Restaurant	0	37.90%	5.90%	0
High School	95	0.00%	0.00%	95
Residential	31	32.85%	4.10%	20
Subtotal	126			115
		Total % Reduction		9.09%
MU-2				
Retail	44	30.40%	5.90%	28
Restaurant	29	37.90%	5.90%	16
Office	23	15.20%	10.60%	17
Residential	55	32.85%	4.10%	34
Subtotal	150			96
		Total % Reduction		36.35%
MU-3				
Retail	46	30.40%	5.90%	29
Restaurant	0	37.90%	5.90%	0
Office	19	15.20%	10.60%	14
Residential	47	32.85%	4.10%	30
Subtotal	113			73
		Total % Reduction		34.78%
MU-4				
Retail	33	30.40%	5.90%	21
Restaurant	48	37.90%	5.90%	27
Office	8	15.20%	10.60%	6
Residential	43	32.85%	4.10%	27
Subtotal	132			81
		Total % Reduction		38.62%

Block / Land Use	Unadj. Trips	Internal and Transit % Reduction	Level I and Level II % Reduction	Net Trips
Res-1				
Residential	67	32.85%	4.10%	42
Subtotal	67			42
		Total % Reduction		36.95%
Res-2				
Residential	50	32.85%	4.10%	31
Subtotal	50			31
		Total % Reduction		36.95%
Res-3				
Residential	97	32.85%	4.10%	61
Subtotal	97			61
		Total % Reduction		36.95%
Res-4				
Residential	44	32.85%	4.10%	28
Subtotal	44			28
		Total % Reduction		36.95%
Res-5				
Residential	47	32.85%	4.10%	30
Subtotal	47			30
		Total % Reduction		36.95%
Res-6				
Residential	33	32.85%	4.10%	21
Subtotal	33			21
		Total % Reduction		36.95%
Res-7				
Residential	98	32.85%	4.10%	62
Retail	13	30.40%	5.90%	8
Subtotal	111			70
		Total % Reduction		36.87%
Res-8				
Residential	46	32.85%	4.10%	29
Subtotal	46			29
		Total % Reduction		36.95%
Res-9				
Residential	63	32.85%	4.10%	39
Subtotal	63			39
		Total % Reduction		36.95%

Total All Blocks		
Unadjusted Trips	Net Trips	% Reduction
2,465	1,713	30.5%

Notes:

[1] This column represents the reductions in trip generations expected from implementation of Level I and II Transportation Demand Management measures as described in Sect Source of trip generation rates: Bay Meadows II Phasing Analysis, Hexagon Transportation Consultants, and Institute of Transportation Engineers Trip Generation, 7th Edition



3.2.3 Trip Adjustments

Because the project is a transit-oriented development and contains a mix of land use types, a portion of project trips are expected to remain internal to the project site (via walk, bike or auto), or be external transit trips. The trip budgets therefore reflect internal capture for mixed-use, for transit use, and for Level I and Level II TDM Measures.

3.2.3.1 Internal Capture Adjustment for Mixed-Use

Trip reduction for the internal capture for mixed-use is based on ITE’s ‘Multi-Use Internalization Methodology’ published in its Trip Generation Handbook (ITE, October 1998). The trip reductions for the different land use types and for the different project phases are shown in **Table 5**. Since internal capture is a function of the amount of each land use type the mixed-use adjustment varies between pre-grade separation conditions (reflecting partial buildout) and post-grade separation conditions (reflecting full buildout).

Table 5: Trip Reduction for Internal Capture for Mixed-Use

Land Use	Pre-Grade Separation Conditions		Post-Grade Separation Conditions	
	AM Peak	PM Peak	AM Peak	PM Peak
Residential	5.4%	5.4%	8.7%	8.7%
Retail	32.6%	32.6%	25.4%	25.4%
Restaurant	24.8%	24.8%	32.9%	32.9%
Office	1.2%	6.5% [1]	1.8%	1.8%

[1] The p.m. peak hour office internal capture factor was increased over that determined with the ITE mixed-use internalization method based on research of mixed-use activity centers that shows a significantly higher internal capture between office, retail and restaurant uses. This was only applied under the pre-grade separation scenario. See (Hooper), *Travel Characteristics of Large-Scale Suburban Activity Centers*.

Note: Although it is proposed that additional office square footage and a school be added to Bay Meadows II as described in this report, the effect on internal capture percentages is negligible (i.e. change of 0.1% or less). Therefore, the same internal capture percentages used in the 2008 Bay Meadows II report are also used in this report update.

3.2.3.2 Adjustment for Transit Use

The source of trip reduction adjustments for transit use is research on the travel characteristics of transit-oriented development in California from educational institutions and the San Francisco Bay Area Metropolitan Transportation Commission (MTC). The trip reductions for the different land use types and for the different project phases are shown in **Table 6**. Since the level of transit use is highly dependent on the type of trip, the transit adjustment factors are divided into those for work trips and those for non-work trips, except for restaurant and retail uses for which travel data is published only for all types of trips.

Transit adjustment factors for residential uses (work-related trips) is based on data from both the CalTrain and BART systems because these two systems are connected at the Millbrae Station, so Bay Meadows residents have access to the BART system. However, the adjustments are weighted to reflect that CalTrain will be the predominant mode of transit.



Table 6: Trip Reductions for Transit Use

Land Use	Pre-Grade Separation		Post-Grade Separation	
	AM Peak	PM Peak	AM Peak	PM Peak
Residential				
Work Trips	18.85%	18.85%	18.85%	18.85%
Non-Work Trips	5.30%	5.30%	5.30%	5.30%
Retail	5.00%	5.00%	5.00%	5.00%
Restaurant	5.00%	5.00%	5.00%	5.00%
Office				
Work Trips	12.70%	12.70%	12.70%	12.70%
Non-Work Trips	0.70%	0.70%	0.70%	0.70%

Source of Transit Adjustments:
Office: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California, Institute of Urban and Regional Development, 1993.
Work trips: 12.70%
Non-work trips: 0.70%

Residential: Average of CalTrain and BART commute mode share. Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California, Caltrans 2004.
Work Trips: [CalTrain: Rail = 15.7%, Bus = 1.7%] [BART: Rail = 44.3%, Bus = 0.6%] Based on a weighted average assuming a 93% CalTrain share and a 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips. Sources: Caltrain Planning Division and BART (2008), Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California.
Non-Work Trips: Rail/Bus = 5.3%
Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak.
Source: Metropolitan Transportation Commission.

Retail and Restaurant: 50% of El Cerrito Plaza (BART) retail center transit mode share. Cervero, Robert; Lund, Wilson, Travel Characteristics of Transit-Oriented Development in California, Caltrans 2004.

3.2.3.3 Adjustment for Level I and Level II TDM Measures

The TDM strategies were divided into four levels; Levels I through IV contain increasingly stringent TDM measures applied at different phases of the project. The strategies at each level are described in Section 4 of the Plan. For the trip generation analysis under pre-grade separation conditions, TDM adjustments are based on Level I and Level II measures. Under post-grade separation conditions, TDM adjustments are based on Level I and Level II measures. **Table 7** lists the Level I and Level II measures and the percent adjustment applied to the trip generation analysis. See Section 4 for a detailed explanation of TDM measure effectiveness. In accordance with the Conditions of Approval, should monitoring demonstrate that the trip budgets are being exceeded, the Level III and Level IV measures could be required until the trips from the project are reduced.



Table 7: Trip Reductions for Level I and Level II TDM Measures

TDM Strategies	Percent (%) Reduction
Level I	
<ul style="list-style-type: none"> ▪ Mandatory membership in Transportation Management Association (TMA) with basic services <ul style="list-style-type: none"> ○ Try Transit Free program ○ Guaranteed Ride Home ○ Rebates for new vanpool participants ○ Encouraging employers to sponsor new vanpools ○ Carpool Incentive Program (fuel card incentive) ○ Carpool to College program (fuel card incentive) ○ School Pool program (fuel card incentive) ○ The Bike and Pedestrian Safety Program (education program) ○ Commute Benefits Program (employer based program planning assistance) ○ Develop and implement an employee and resident travel survey annually or every other year 	1.5 – 3.5%
<ul style="list-style-type: none"> ▪ Secure bicycle parking, locker/changing rooms, and showers provided in commercial buildings as part of the development program 	0.5 – 0.6%
<ul style="list-style-type: none"> ▪ New tenant/resident orientation of transportation alternatives and TMA services 	0.5%
<ul style="list-style-type: none"> ▪ Provide space for a transportation demand management office (located within the property management office or dedicated office space within the ground floor program) 	0.5%
<ul style="list-style-type: none"> ▪ Reserve portion of the 1-bedroom unit parking spaces in RES blocks 1 and 7 as flex spaces 	
<ul style="list-style-type: none"> ▪ Encourage commercial building owners to: 	
<ul style="list-style-type: none"> ○ Install a publicly available ATM machine or encourage a bank branch tenant 	0.2 – 0.3%
<ul style="list-style-type: none"> ○ Seek a health club tenant 	
<ul style="list-style-type: none"> ▪ Encourage/advise employers to offer the following services: 	
<ul style="list-style-type: none"> ○ New employee commute options orientation program 	
<ul style="list-style-type: none"> ○ Pre-tax transit fare purchases (CommuterCheck with direct value load to TransLink cards) 	0.1 – 0.3%
<ul style="list-style-type: none"> ○ Commute services website and/or link to TMA website on employer's intranet 	
<ul style="list-style-type: none"> ○ Co-sponsor (with BM II Property Owner Association) a commuter/transportation fair (potentially in conjunction with another community event) 	
<ul style="list-style-type: none"> ○ On-site vanpool promotion 	0.8%
<ul style="list-style-type: none"> ▪ Work with Home Owners Associations to offer the following services: 	
<ul style="list-style-type: none"> ○ Provide link to TMA website on HOA website 	
<ul style="list-style-type: none"> ○ Co-sponsor (with BM II employers) a commuter/transportation fair (potentially in conjunction with another community event) 	0.1%
<ul style="list-style-type: none"> ○ Provide a transportation-alternatives information package to every new household 	
<ul style="list-style-type: none"> ○ Provide on-site sales of transit passes (or TransLink cards) 	
Total Level I Trip Reduction	4.2 – 6.6%



Level II	
This menu of measures that would be considered as (1) new services or measures in addition to those provided by the TMA, and (2) additional services provided by the TMA.	
Near-Term (10% Trip Reduction Goal)	
▪ Reserve garage and on-street spaces for carshare vehicles	0.5%
▪ Additional TMA Services:	
○ Encourage private carshare enterprise (TMA to contact and promote)	
○ Provide rideshare matching service specific to BM II employees and residents	0.1%
Mid-Term (16% Trip Reduction Goal)	
▪ Establish preferential parking spaces for carpools and vanpools	2.1 – 2.5%
▪ Additional TMA Services:	
○ Shuttle to downtown (shared cost with other TMA members)	1%
○ Establish a “Commuter Club” providing cash drawings and other incentives for using alternative modes and completing travel diaries	0.1%
Long-Term (25% Trip Reduction Goal)	
▪ Additional TMA Services	
○ Bicycle purchase subsidy	0.1%
○ Electric bike purchase subsidy	
Total Level II Trip Reduction	3.9 – 4.3%

3.2.3.4 Exclusions for Non-Project Uses

The trip generation analysis only reflects traffic generated by the Bay Meadows Specific Plan “project”. Land uses on land being dedicated to the City or offered for sale to the JPB are excluded from the total trip generation estimates. This Plan includes the residential land use (50 dwelling units) in block MU-1 (which will be a city-sponsored Below Market Rate housing development) only in the post-grade separated condition. This plan does not include the recreation playfields or other improvements to be constructed in the Community Park (which will be dedicated to and operated by the City’s Parks and Recreation Department), and a garage which could be potentially constructed by the JPB.

3.3 Trip Generation Estimates by Phase

Trip generation estimates are prepared under two scenarios, 1) pre-grade separation conditions, and 2) buildout (post-grade separation) of the entire project. The trip reduction goals would be applied to the project and measured as each development threshold is reached. The objective of this analysis is to determine whether the project can achieve the trip generation goals under the two scenarios and, if not, what measures need to be taken to ensure the goals can be achieved.



3.3.1 Pre-Grade Separation Conditions

Under this scenario, to stay within the pre-grade separation trip cap (1,562 p.m. peak hour trips), the full land use program will not be built, and it is anticipated that an average trip reduction (project-wide) of nearly 30.7% will be achieved.⁵ **Table 8** identifies the land uses within each Block group being proposed in the pre-grade separation condition.

Table 8: Pre-Grade Separation Land Use Program

Land Use by Block	Pre-Grade Separation Conditions
Station Blocks	
Office	✓
Office Building Ground Floor Retail	✓
Freestanding Retail	
Mixed-Use Blocks	
Residential	✓ (Except MU-1)
High School	✓
Freestanding Retail	
Office Above Freestanding Retail	
Retail/Restaurant	✓ (MU-4)
Residential Blocks	
Residential	✓
Retail (RES 7)	✓

The land uses identified in **Table 8** results in the following specific levels of development in the pre-grade separation condition:

- 100% of residential development in Blocks RES 1 through RES 9 (832 units), including 3,472 SF of ground floor retail in Block RES 7
- 100% of office development in Blocks STA 1 through STA 5 (771,713 SF)
- 42% of retail development in Blocks STA 1 through STA 5 (16,221 SF)
- 100% of restaurant development in Blocks STA 1 through STA 5 (9,808 SF)
- 100% of development of a private High School in Block MU 1 (450 students)
- 0% of residential development in Block MU 1
- 100% of residential development in Blocks MU 2 through MU 4 (234 units)
- 0% of retail/restaurant development in Blocks MU 2 through MU 3
- 36% of retail development in Block MU 4 (3,205 SF)
- 100% of restaurant development in Block MU 4 (5,000 SF)

⁵ A reduction of 30.7%, which is greater than identified in the 2008 Bay Meadows II report, is primarily a result of implementing adding Level II TDM measures to the pre-grade separation land use program.



Although the trip generation estimates include both the a.m. and p.m. peak hours, trip caps, trip budgets, and trip reduction goals are only applicable to the p.m. peak hour trip generation estimates (per the Conditions of Approval)

The trip generation estimates for the pre-grade separation conditions are summarized in **Table 9**. The overall trip reduction applied to the unadjusted trip generation estimate is 21.4% in the a.m. peak hour and 30.7% in the p.m. peak hour. Detailed trip generation estimates are provided in the **Appendix**. Although the grade separations and full range of station upgrades have not been implemented to date, the JPB has nonetheless completed many improvements to the existing Hillsdale station, and the CalTrain ridership at the Hillsdale station is among the highest in the CalTrain system. The adjacency of existing excellent transit, the connection to BART and Santa Clara VTA's light rail system, the Level I and Level II TDM strategies, and the mixed-use character of the proposed development, create the elements necessary to achieve trip reductions, even though the full-range of transit upgrades have not been realized. In fact, surveys of existing non-mixed use development adjacent to Caltrain that do not provide the same quality of design as Bay Meadows, nor subject to trip reduction goals and TDM programs, achieve higher than 12% and 18% transit shares for employees and residents respectively⁶. Therefore, with the elements available to Bay Meadows, it is estimated that the initial portion of the project approved by the pending SPARs will achieve a 30.7% overall reduction of trips.

⁶ This statement is based on the author's review of the individual developments described in the Cervero, Lund, and Willson TOD studies, and a review of their contexts using Google Earth. These developments, while proximate to transit, are not part of planned mixed-use neighborhoods, and generally are not located in highly pedestrian-oriented locations outside of the specific development.



Table 9: Trip Generation Estimates – Pre-Grade Separation Conditions

Land Use	Size (KSF)	Units	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Residential Blocks								
Residential	832	DUs	84	345	428	366	179	544
Retail	3.472	KSF	2	1	4	6	7	13
Subtotal Trips			86	346	432	372	185	557
Station Blocks								
Office	771.713	KSF	1,059	144	1,204	193	957	1,150
Retail	16.221	KSF	10	7	17	29	31	61
Restaurant	9.808	KSF	37	34	71	57	37	94
Subtotal Trips			1,107	185	1,292	279	1,025	1,304
Mixed Use Blocks								
Office	0	SF	0	0	0	0	0	0
Retail	3.205	KSF	2	1	3	6	6	12
Restaurant	5.000	KSF	19	17	36	29	19	48
Residential	234	DUs	19	101	119	98	47	145
High School	450	Students	332	269	601	39	56	95
Subtotal Trips			372	388	760	172	128	300
Unadjusted Total Trips (All Blocks)								
Total Trips			1,564	919	2,483	823	1,338	2,161
Trip Reductions - Internal Capture and Transit Use								
Subtotal Trips			(207)	(171)	(378)	(217)	(290)	(507)
Trip Reductions - TDM Level I and Level II								
Subtotal Trips			(120)	(33)	(152)	(42)	(114)	(156)
Adjusted Net Total Trip Generation								
Net Trips			1,237	715	1,953	565	934	1,498
Maximum Trip Threshold Allowed Under Conditions of Approval								1,562
Trips Under / (Over) Maximum Trip Cap:								64
Note: Trip totals may differ slightly due to rounding								
KSF = 1,000s of square feet.								



Conclusion: Under pre-grade separation conditions the project is estimated to generate a total of 1,498 trips in the p.m. peak hour with reductions for transit, mixed-use internalization, and Level I and Level II TDM measures. The trip cap and budget per the Conditions of Approval is 1,562 trips. The p.m. peak hour trip estimate is under the maximum trip threshold by 64 trips.

3.3.2 Post-Grade Separation Conditions (Phases I through III)

The short-term (Phase I), mid-term (Phase II), and long-term (Phase III) project-wide trip reduction goals are 10%, 16%, and 25% respectively. Since the long-term trip reduction goal is the highest, this analysis focuses on Phase III. The trip generation estimates for the long-term (Phase III) conditions are summarized in **Table 10**. The overall trip reduction from the unadjusted trip generation estimate is 23.5% in the a.m. peak hour and 30.5% in the p.m. peak hour. Detailed trip generation estimates are provided in the **Appendix**.

Because the short-term and mid-term trip reduction goals established in the Conditions of Approval are lower than the long-term goal of 25% (10% and 16%), the project is estimated to achieve and surpass the interim term requirements as well.

Conclusion: For long-term buildout conditions the trip generation analysis includes 100% of the project's land use program. At buildout, with trip reductions for transit, mixed-use internalization, and Level I and Level II TDM measures, the project would generate a total of 1,713 trips in the p.m. peak hour. Compared to the Phase III trip cap established in the Conditions of Approval (2,569 p.m. peak hour trips), the project's estimated trip generation is below the cap by about 856 trips. Compared to the Phase III trip budget (2,349 x 75% = 1,762), the project is estimated to generate 49 less trips. Therefore, the analysis concludes that the project will achieve and surpass the 25% trip reduction goal at buildout, and remain within the established trip cap.



Table 10: Trip Generation Estimates – Post-Grade Separation Condition

Land Use	Size (KSF)	Units	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Residential Blocks								
Residential	832	DUs	84	345	428	366	179	544
Retail	3.472	KSF	2	1	4	6	7	13
Subtotal Trips			86	346	432	372	185	557
Station Blocks								
Office	771.713	KSF	1,059	144	1,204	193	957	1,150
Retail	38.177	KSF	24	15	39	69	74	143
Restaurant	9.808	KSF	37	34	71	57	37	94
Subtotal Trips			1,120	194	1,314	319	1,068	1,386
Mixed Use Blocks								
Office	33.486	KSF	46	6	52	8	42	50
Retail	33.122	KSF	21	13	34	60	64	124
Restaurant	8.000	KSF	30	28	58	47	30	76
Residential	284	DUs	23	122	145	119	57	176
High School	450	Students	332	269	601	39	56	95
Subtotal Trips			451	438	890	273	248	521
Unadjusted Total Trips (All Blocks)								
Total Trips			1,657	978	2,636	964	1,501	2,465
Trip Reductions - Internal Capture and Transit Use								
Subtotal Trips			(243)	(209)	(451)	(270)	(298)	(568)
Trip Reductions - TDM Level I and Level II								
Subtotal Trips			(128)	(41)	(169)	(55)	(128)	(183)
Adjusted Net Total Trip Generation								
Net Trips			1,287	729	2,016	638	1,075	1,713
Maximum Trip Threshold Allowed Under Conditions of Approval								2,569
Trips Under / (Over) Maximum Trip Cap:								856
Note: Trip totals may differ slightly due to rounding								
KSF = 1,000s of square feet.								



4 Transportation Demand Management (TDM) Strategies

The Conditions of Approval require implementation of a TDM program as stated in Condition 40:

“A Transportation Demand Management Program shall be implemented using a selection of programs from the Corridor Plan and the City/County Association of Governments (C/CAG). These programs, once implemented, must be on-going for the occupied life of the development, unless they are altered, exchanged or discontinued in consultation with the City.”

This section of the Plan discusses the objectives of the TDM plan and the recommended TDM strategies that may be considered for achieving the trip reduction goals.

4.1 Process for Implementing and Managing the TDM Program

Implementing and managing the TDM Program is a collaborative effort between the Bay Meadows II Master Property Owners Association (POA), the individual Bay Meadows II Homeowners Associations (HOA), owners, tenants and employers of the commercial properties, the Transportation Management Association (TMA), and the City of San Mateo. The responsibility for implementation, monitoring and managing the program is summarized in Table 11 below. The strategies, services and proposed methods of monitoring are discussed in the following sections.

Table 11: TDM Program Responsibilities

Action	Responsibility
Initial implementation of site and block level TDM strategies	Bay Meadows II (POA, HOA, owners, tenants, employers)
Initial implementation of corridor-wide TDM strategies and services	TMA
Annual monitoring of site traffic volumes	TMA, in cooperation with Bay Meadows POA
Supplemental traffic counts (if needed)	TMA
Annual monitoring of resident/employee travel characteristics	TMA
Summary of traffic monitoring and travel characteristics submitted to City of San Mateo	TMA
Determination of conformance with goals and conditions of approval	City of San Mateo
Review of effectiveness and revision of Bay Meadows and corridor-wide TDM strategies	Bay Meadows POA, TMA
Implementation of revised Bay Meadows strategies if required	Bay Meadows II (POA, HOA, owners, tenants, employers)



4.2 Membership in the San Mateo TOD Corridor Transportation Management Association (TMA)

The conditions also require that the project participate in a Transportation Management Association (TMA) being created for the San Mateo Transit-Oriented Corridor Plan Area. The TMA is still in its formation stages and has not yet identified the specific measures and programs that will be offered to its members. However, an existing TMA, the Peninsula Traffic Congestion Relief Alliance (The Alliance), has been identified as the organization that will manage the San Mateo Transit-Oriented Corridor Plan Area TMA. This Plan lists the current services provided by the Alliance and identifies additional TDM measures specific to the project which may be considered toward achieving the required trip reduction goals. It is assumed that the current services and programs offered by Alliance will also be adopted by the San Mateo Transit-Oriented Corridor Plan Area TMA.

4.2.1 Potential Services Provided by the TMA

The following programs are currently offered by the Peninsula Traffic Congestion Relief Alliance (The Alliance), and it is reasonable to assume that these same services will be provided by the San Mateo Transit-Oriented Corridor Plan Area TMA.

1. The Try Transit Program: This program allows employees and residents try transit for free. The employees and residents receive free tickets for BART, CalTrain, SamTrans, VTA and AC Transit, allowing people to test transit systems.
2. The Emergency Ride Home Program: Employees who commute by alternative modes of transit are provided with a free taxi or 24-hour car rental in case of an emergency. The Alliance pays 75% of cost of ride and the employer pays the remaining 25%. Currently fifty San Mateo County employers participate in this program.
3. Vanpool Incentive Program: This program provides an informational meeting to assist employees in forming vanpools. The new vanpool driver will receive a cash incentive of \$500 for six months and the vanpool passengers receive up to \$100 per month for three months.
4. Commuter Benefits Consulting: This program allows participation in the Alliance's programs at various levels. The participants receive assistance in getting the most out the programs and benefits (e.g., how to maximize the tax advantages of a pre-tax commuter subsidy program). This program also provides an opportunity for companies to achieve the Bay Area's "Best Workplaces for Commuters" designation from the United States Environmental Protection Agency.
5. Marketing of TDM programs to Employees and Community: The Alliance participates in employee, transportation, and community fairs and provides employees and residents with public transit information and other Alliance



- programs. Awareness of the programs offered by the Alliance is also done by brochure distribution at fairs, advertising, and on the Alliance website.
6. Carpool Incentive Program: This program provides an informational meeting to assist employees in forming carpools. The participants can directly register on Alliance's website, www.commute.org or find a carpool partner at www.511.org. The program also provides cash incentives such as \$60 gas card for riding in a carpool two (2) days per week for eight (8) weeks for each carpool passenger. The Alliance also provides incentives for carpooling to college.
 7. Bicycle Parking Incentive Program: This program assists in installing bike lockers at half the cost at the project site and provides a 50% reimbursement up to \$500 per rack and locker. The goal of this program is to encourage people to bike to work.
 8. Bicycle and Pedestrian Safety Program: Employees and residents can receive a free bike and pedestrian safety workshop at their worksite or community centers. This program also teaches employees or residents how to use biking/walking as a transit extension. The goal of this program is to improve workplace safety.
 9. The Shuttle Program: This program transports employees from BART and CalTrain Stations to their workplaces. Shuttle services includes: route formation and scheduling, customer service, vendor relations, and promotion and marketing of shuttle routes to employers and their employees. Currently, the Alliance operates 16 shuttle routes (between BART and CalTrain Stations to worksites) and more than 60 employers contribute to the funding to offset the cost of shuttle operations. The Alliance also promotes community shuttles and currently manages four community shuttle routes.
 10. Downtown Dasher / On-Demand Taxi: This program provides on-demand taxi service from locations east of US-101 freeway to Downtown South San Francisco Merchants. The service is available to employers/employees from 11:00 AM to 2:00 PM. The participating South San Francisco Downtown Merchants provide the discounts and the program is currently funded by City of South San Francisco.

Once formed, the TMA's Director and Board of Directors will determine the initial services and programs to offer to members. These may include the following existing Alliance services and additional services.

- Try Transit Free program
- Guaranteed Ride Home
- Rebates for new vanpool participants
- Encouraging employers to sponsor new vanpools
- Carpool Incentive Program (fuel card incentive)
- Carpool to College program (fuel card incentive)
- School Pool program (fuel card incentive for carpooling at least 2 students)



- The Bike and Pedestrian Safety Program (education program)
- Commute Benefits Program (employer based program planning assistance)
- Develop and implement an employee and resident travel survey annually or every other year

4.3 Proposed TDM Strategies

The TDM program proposes to implement strategies and measures incrementally as the trip reduction goals increase over time and specific infrastructure improvements are implemented. The program proposes four (4) levels of strategies. Each level provides increasingly stringent measures designed to achieve higher trip reduction goals. It is anticipated that the project can achieve its 10%, 16% and 25% trip reduction goals with implementation of Level I and Level II TDM strategies. Level III and IV strategies would be implemented in the event that the project fails to achieve goals, as determined through annual monitoring. Except for the mandatory membership in the TMA, each block's builder will choose from the menu of TDM measures to apply to individual developments. While it is anticipated that Level I and II measures can achieve the trip reduction goals, the builders may choose measures from any of the levels.

It is important to note that the TDM strategies in this section both support the inherent reduction in trips of the project, and to further reduce automobile trips over and above the inherent reduction. The inherent reduction in trips is based on the proximity to the Hillsdale Caltrain station, and the walkable, and mixed-use design of the project. These inherent reductions are supported by empirical research of TOD and mixed-use development without reliance on significant TDM programs. **Figure 2** illustrates the implementation of the TDM strategy levels and **Table 12** presents the strategies by level and the estimated effectiveness of each level.

Except for the basic services provided by the TMA in Level I, the measures in **Table 12** represent a menu of strategies that would be considered in developing the initial TDM program and in subsequent revisions to the program. The effectiveness of each measure is estimated from the perspective that the strategies would be combined. Therefore, the effectiveness of individual measures is conservatively low, but reasonable when considered collectively. Further, since this is a menu, not all of the measures may be implemented at any given level. In light of this, the total collective effectiveness reflects an average of a select number of measures.

The Level I measures are estimated to achieve a collective trip reduction of 4.2 – 6.4% off the unadjusted trip generation of the project. Combined with the inherent trip reduction for TOD and mixed-use, Level I is expected to achieve an overall reduction of nearly 24 - 26%. The Level II measures are estimated to achieve a collective trip reduction of 3.9 – 4.3%. Combined with Level I measures and the inherent trip reductions, Level II is expected to achieve nearly 28% trip reduction. Therefore, these two levels are anticipated to achieve the trip reduction goals established in the Conditions of Approval.



If necessary, Level III and IV measures may be implemented for an additional 5.7% and 9.1% in trip reduction respectively. All levels combined in conjunction with inherent trip reductions are estimated to have the potential to reduce trips by up to 44.6%.



Figure 2: Levels of TDM Measures

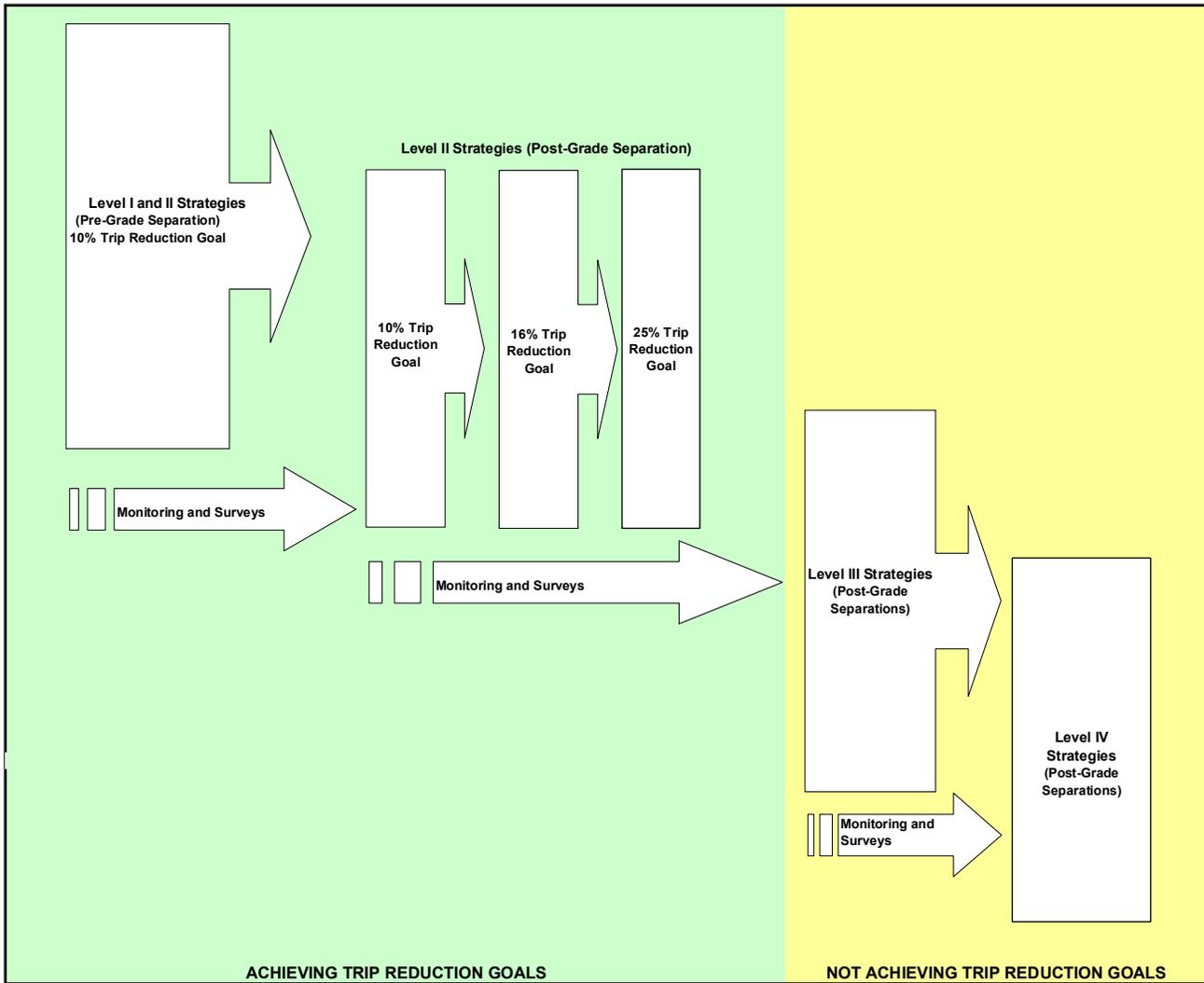




Table 12: TDM Strategy Levels and Estimated Effectiveness

Menu of TDM Strategies	Estimated Collective Effectiveness [1]
Level I (Prior to Grade-Separations – 10% Trip Reduction Goal)	
<ul style="list-style-type: none"> ▪ Mandatory membership in Transportation Management Association (TMA) with basic services <ul style="list-style-type: none"> ○ Try Transit Free program ○ Guaranteed Ride Home ○ Rebates for new vanpool participants ○ Encouraging employers to sponsor new vanpools ○ Carpool Incentive Program (fuel card incentive) ○ Carpool to College program (fuel card incentive) ○ School Pool program (fuel card incentive) ○ The Bike and Pedestrian Safety Program (education program) ○ Commute Benefits Program (employer based program planning assistance) ○ Develop and implement an employee and resident travel survey annually or every other year 	1.5 – 2.5%
<ul style="list-style-type: none"> ▪ Secure bicycle parking, locker/changing rooms, and showers provided in commercial buildings as part of the development program 	0.5 – 0.6%
<ul style="list-style-type: none"> ▪ New tenant/resident orientation of transportation alternatives and TMA services 	0.5%
<ul style="list-style-type: none"> ▪ Provide space for a transportation demand management office (located within the property management office or dedicated office space within the ground floor program) 	0.5%
<ul style="list-style-type: none"> ▪ Reserve portion of the 1-bedroom unit parking spaces in RES blocks 1 and 7 as flex spaces 	
<ul style="list-style-type: none"> ▪ Encourage commercial building owners to: <ul style="list-style-type: none"> ○ Install a publicly available ATM machine or encourage a bank branch tenant ○ Seek a health club tenant 	0.2 – 0.3%
<ul style="list-style-type: none"> ▪ Encourage/advise employers to offer the following services: <ul style="list-style-type: none"> ○ New employee commute options orientation program ○ Pre-tax transit fare purchases (CommuterCheck with direct value load to TransLink cards) ○ Commute services website and/or link to TMA website on employer's intranet ○ Co-sponsor (with BM II Property Owner Association) a commuter/transportation fair (potentially in conjunction with another community event) ○ On-site vanpool promotion 	0.1 – 0.3%
<ul style="list-style-type: none"> ▪ Work with Home Owners Associations to offer the following services: <ul style="list-style-type: none"> ○ Provide link to TMA website on HOA website ○ Co-sponsor (with BM II employers) a commuter/transportation fair (potentially in conjunction with another community event) ○ Provide a transportation-alternatives information package to every new household ○ Provide on-site sales of transit passes (or TransLink cards) 	0.1%
Total Level I Trip Reduction Effectiveness	4.2 – 6.6%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I TDM)	23.5 – 25.9%



Level II (After Grade-Separations – Achieving Trip Generation Target)	
This menu of measures that would be considered as (1) new services or measures in addition to those provided by the TMA, and (2) additional services provided by the TMA.	
Near-Term (10% Trip Reduction Goal)	
▪ Reserve garage and on-street spaces for carshare vehicles	0.5%
▪ Additional TMA Services:	
○ Encourage private carshare enterprise (TMA to contact and promote)	
○ Provide rideshare matching service specific to BM II employees and residents	0.1%
Mid-Term (16% Trip Reduction Goal)	
▪ Establish preferential parking spaces for carpools and vanpools	2.1 – 2.5%
▪ Additional TMA Services:	
○ Shuttle to downtown (shared cost with other TMA members)	1%
○ Establish a “Commuter Club” providing cash drawings and other incentives for using alternative modes and completing travel diaries	0.1%
Long-Term (25% Trip Reduction Goal)	
▪ Additional TMA Services	
○ Bicycle purchase subsidy	0.1%
○ Electric bike purchase subsidy	
Total Level II Trip Reduction Effectiveness	3.9 – 4.3%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I & II TDM)	27.4 – 27.8%
Level III (After Grade-Separations – If Not Achieving Trip Budget Target)	
This menu of measures that would be considered if monitoring indicates that the project is failing to achieve trip reduction goals after implementing Level I and II measures.	
▪ 25% subsidized transit fares for existing employees and residents (funded through Property Owners Association)	2%
▪ Free 90-day TransLink card for new employees and residents (funded through the Property Owners Association)	0.1%
▪ Establish parking cash-out program for employees of commercial properties	3%
▪ Property Owners Association will train and provide a part-time on-site TDM coordinator serving BM II employees and residents	0.1%
▪ Subsidize carshare vehicles (if private carshare enterprise not already implemented)	0.5%
Total Level III Trip Reduction Effectiveness	5.7%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I, II & III TDM)	33.5%
Level IV (After Grade-Separations – If Not Achieving Trip Budget Target)	
This menu of measures that would be considered if monitoring indicates that the project is failing to achieve trip reduction goals after implementing Level I, II and III measures.	
▪ 50% subsidized transit fares for all existing employees and residents (funded through Property Owners Association)	4%
▪ Free 12-month TransLink card for new employees and residents	1%
▪ Charge employees for parking at commercial buildings	1.5%
▪ Subsidize school bus/shuttle to local elementary/middle schools (subsidy funded through HOAs while parents pay subscription for remaining cost)	0.1%
▪ Property Owners Association funded carshare service (through purchase of vehicles to be managed, maintained and insured by private enterprise)	1%
▪ Work with employers to fund vanpools (provide vehicles, maintenance and insurance)	0.8%



<ul style="list-style-type: none"> ▪ Property Owners Association will train and provide a full-time on-site TDM coordinator serving BM II employees and residents 	0.5%
<ul style="list-style-type: none"> ▪ Additional TMA Services <ul style="list-style-type: none"> ○ Contract with professional marketing firm to develop a commute alternatives campaign targeting San Mateo employees and residents 	0.5%
Total Level IV Trip Reduction Effectiveness	9.1%
Estimated Total Trip Reduction (Mixed-use + Transit + Level I-IV TDM)	42.6%
<p>[1] This table presents the estimated effectiveness of each TDM strategy as they would contribute to the collective effectiveness of a package of measures. This is to avoid double counting potential trip reductions. The effectiveness of any given individual measure is conservatively low, but reasonable when viewed in combination with other measures.</p>	



5 Traffic Monitoring Plan

5.1 **Monitoring Requirements of the San Mateo Transit Oriented Development (TOD) Corridor Plan and Conditions of Approval**

The San Mateo Rail Corridor TOD Plan Policy 7.23 requires for any TOD project along the corridor to establish a plan for monitoring project trip generation. This policy is also reflected in the Bay Meadows II Conditions of Approval. These policies and conditions require that the short-term (Phase I), mid-term (Phase II) and long-term (Phase III) trip reduction goals are monitored and verified by the City, or the TMA. On-going monitoring will allow the City to review whether the project is meeting the trip caps and achieving the applicable trip reduction goals. If the project is exceeding the trip caps or not meeting the trip reduction goals in any of the phases, then the monitoring may be adjusted to identify individual Blocks that are contributing to the excess trips. The project's CC&Rs will require the enforcement of the trip budget and implementation of additional TDM measures until the trip budget goals are achieved. It is expected that the TMA's costs of monitoring and enforcement will be covered by dues paid to the TMA from participants throughout the Rail Corridor. The monitoring is required to comply with the following as specified in the Conditions of Approval:

- a. Commencing from the time that the City's running tabulation of trips shows that Bay Meadows is generating more than 1,100 new trips, the City will monitor the trips generated by Bay Meadows annually to determine whether the project is meeting its TDM goals. The TDM requirements shall be included in the project's CC&Rs.
- b. The monitoring shall consist of p.m. peak hour driveway counts, sampling, cordon counts, street counts or any other counting method that provides accurate traffic data in the most cost-effective manner available (covering at least the period 4 p.m. to 6 p.m.) conducted annually for at least a five-day period (Monday through Friday, but excluding the holiday season between November 24 and January 1). The counts shall be done in such a way that the building owners and tenants are not aware that the counts are being done. The City or TMA may conduct supplemental counts to measure progress.
- c. The combined results of monitoring shall be consistent with the short-term, mid-term or long-term trip reduction goals. If the thresholds are not met, the building owners shall work with the City or TMA to improve the effectiveness of their TDM program.
- d. When monitoring the project, the City and/or TMA shall not include any trips attributable to the parking structure to be constructed by the Peninsula Corridor Joint Powers Board at the new Hillsdale CalTrain station in the total project counts.



- e. Owner shall designate, at its option, either a representative of the whole project, or a representative of each Block, to coordinate with the City and/or the TMA as to TDM monitoring.

5.2 Recommended Traffic Monitoring Plan for Bay Meadows II

This section discusses the recommended traffic monitoring plan and methodology. Key elements of the monitoring plan include:

- Identification of traffic counting gateways that create a cordon capturing all trips traveling external to the project site, and a schedule of traffic counting periods;
- A methodology for quantifying through traffic (traffic that passes entirely through the site without stopping) through periodic origin-destination surveys; and
- A methodology for determining non-Bay Meadows traffic that can be excluded from the monitoring program (i.e., JPB parking facility and City playfields).

5.2.1 Cordon Counts

The most effective method for capturing trips generated by the project that travel external to the project site is a cordon count. A cordon is an imaginary line drawn around the project which crosses streets that access the project site. At these points traffic counts can be conducted. The project site is accessed from six different roadways, including:

1. Delaware Street - North of 28th Avenue (from San Mateo County Exposition Center)
2. Delaware Street - South of 31st Avenue (from Pacific Boulevard)
3. 28th Avenue - West of Delaware Street (At JPB right-of-way after grade-separation)
4. 28th Avenue – East at Saratoga Drive
5. 31st Avenue - West of Delaware Street (At JPB right-of-way after grade-separation)
6. 31st Avenue - East at Franklin Parkway

Traffic monitoring is required to commence once the project trip generation during any phase exceeds a total of 1,100 trips. This means the project monitoring needs to start before buildout of the land uses assumed in the pre-grade separation conditions which are estimated to generate about 1,562 p.m. peak hour trips.

5.2.2 Cordon Count Methodology

Twenty four (24) hour bi-directional automatic machine counts need to be collected at all six roadway connections (four connections prior to grade-separations) accessing the project to capture all trips entering or exiting the site. These cordon counts should be collected for five consecutive days from Monday to Friday, but excluding summer months (while school is out of session), and the holiday seasons.



5.2.3 Origin-Destination Surveys to Quantify Through Traffic

Origin-Destination surveys are used to determine the number of “through trips” passing through the project site without stopping. Through trips are excluded from the trip generation monitoring as they are not generated by the “project”. Origin-destination surveys should be conducted during the same week that the cordon counts are being conducted. To determine the number of “through trips” during the p.m. peak hour, origin-destination surveys should be conducted from 4:00 p.m. to 6:00 p.m. Origin-destination surveys could use manual license plate surveys or the video recognition technology. Each of the methods is described below:

Manual License Plate Survey: Observers are posted at each of the access points and record the first or last three digits of license plates as they pass over the cordon, as well as record the time the vehicle crossed the cordon. A vehicle recorded at more than one access point within a relatively short period of time (i.e., a few minutes) did not stop within Bay Meadows and is considered a through trip. There are two ways this method of survey can be conducted:

- 1) Full Survey – requires capturing every vehicle entering and exiting the cordon. This can be labor intensive and has potential for human error, but of the manual methods it provides the most accurate data.
- 2) Sample survey – entails capturing only a portion of the vehicles and presenting the data as a percentage of the total cordon traffic. The sample usually is done by selecting only white passenger vehicles (the most common color for vehicles) and all commercial vehicles.

License Plate Survey by Video Recognition: This technique involves installing video cameras at all the access points. These video cameras are placed such that they record the license plates of the cars entering and leaving the project site. The video are then fed into an optical recognition system that records the license plate numbers and generates a list of numbers and the time they entered and exited the project area. From this data an analysis similar to manual license plate surveys can identify through traffic. This technique is more accurate than manual surveys because it can capture nearly all of the vehicles entering and exiting the project area. It is also reliable and can be used for any length of time as long as there is sufficient lighting to video license plates.

5.2.4 Parking Occupancy Surveys

Parking occupancy surveys determine traffic related to CalTrain commuters once the parking structure for the Peninsula Corridor Joint Powers Board is constructed. Traffic using this facility is excluded from the project trip monitoring.

Two scenarios are possible with the construction of the Peninsula Corridor Joint Powers Board parking structure:

- 1) The Joint Powers Board parking structure does not provide any parking spaces for uses within Bay Meadows.



- 2) The Joint Powers Board parking structure provides some parking for uses within Bay Meadows. These spaces would need to be designated in some manner.

Under scenario 1 the JPB structure is only used by CalTrain patrons and all traffic using the garage is excluded from the project's trip monitoring. Simple machine counts at the structures' access points will quantify these trips. Under scenario 2, parking occupancy surveys of those spaces designated or reserved for Bay Meadows' use are conducted before and during the p.m. peak hour. Traffic entering or exiting these spaces during the peak hour are included in the project's trip monitoring.

5.2.5 City Playfields

City playfields, which are excluded from the traffic monitoring, would require traffic counts at the facilities' driveways to determine their trip generation. These counted volumes would be subtracted from the cordon counts.

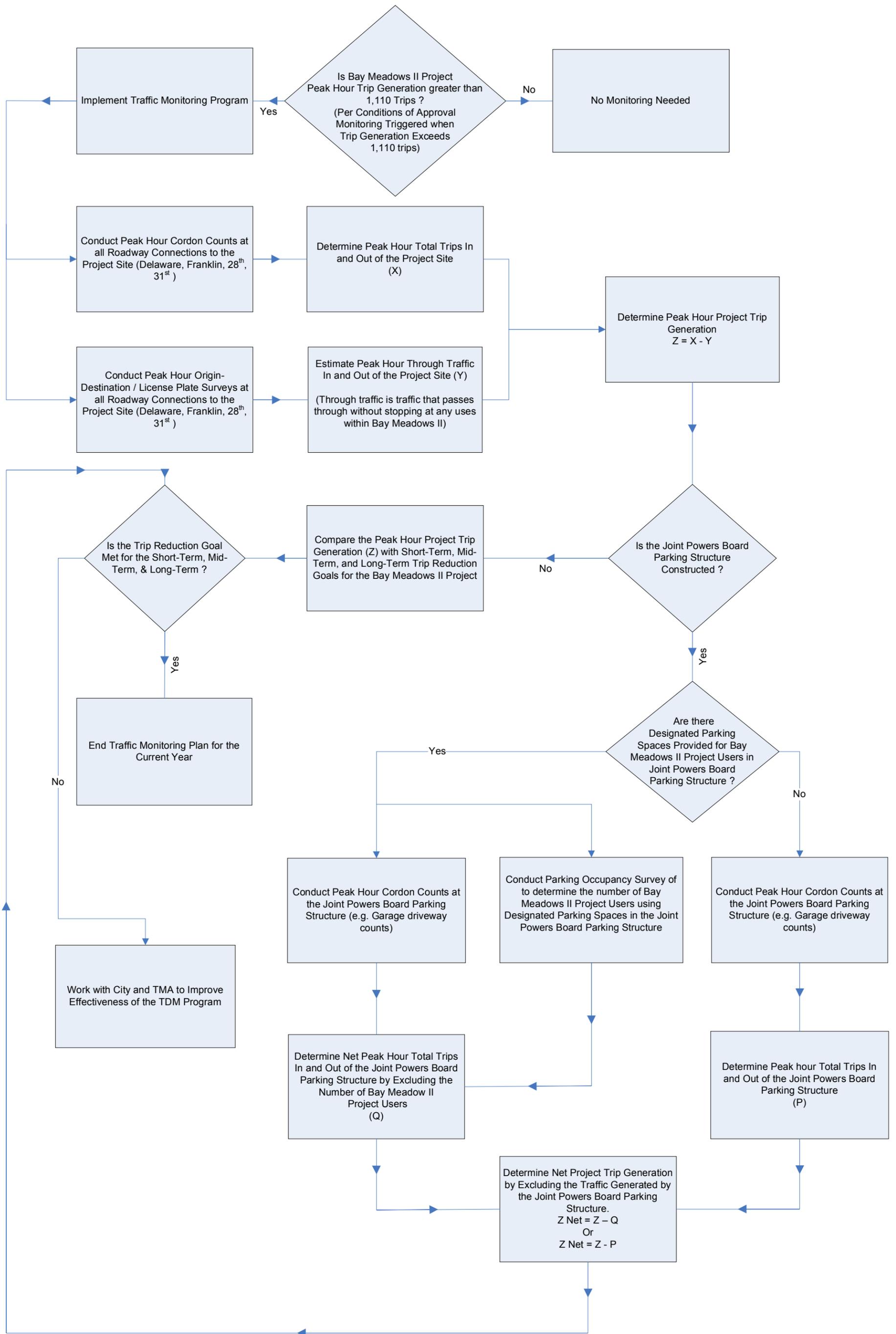
5.2.6 Block Level Monitoring

If monitoring indicates that the project overall is exceeding its trip cap or failing to achieve its trip reduction goal, monitoring may be conducted at the block level. Block level monitoring would be comprised of driveway counts and on-street parking turnover counts before and during the peak hours to determine the number of cars being generated by the project but that do not use driveways.

5.2.7 Methodology for Traffic Monitoring Plan

The recommended trip monitoring methodology is outlined in the flowchart shown in **Figure 3**.

Figure 3 Bay Meadows II Project – Traffic Monitoring Plan Flowchart





Appendices

- 1. *Short-Term (Phase I) Conditions – Detailed Trip Generation Estimates***
- 2. *Short-Term (Phase I) Conditions – Internal Capture Worksheets***
- 3. *Mid-Term (Phase II) Conditions – Detailed Trip Generation Estimates***
- 4. *Phase II and III Conditions – Internal Capture Worksheets***
- 5. *Long-Term (Phase III) Conditions – Detailed Trip Generation Estimates***

Bay Meadows II Trip Generation Budget (Pre-Grade Separations with Minimum 10% Trip Reduction Goal)
 (100% Residential (except MU 1), 100% Office and Ground Floor Retail/Restaurant in STA Blocks, No Freestanding Retail)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	3,049	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	5	6	11
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	3,280	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	6	6	12
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	16,221	KSF				10	7	17				29	31	61
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,107	185	1,292				279	1,025	1,304
MU 1 (Residential)	0	DUs	0.08	0.43	0.51	0	0	0	0.42	0.20	0.62	0	0	0
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 2 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
MU 2 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 3 (Retail)	0,000	KSF	0.63	0.40	1.03	0	0	0	1.80	1.94	3.74	0	0	0
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	0,000	KSF	1.36	0.19	1.55	0	0	0	0.25	1.24	1.49	0	0	0
MU 4 (Retail)	3,205	KSF	0.63	0.40	1.03	2	1	3	1.80	1.94	3.74	6	6	12
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	0,000	KSF				0	0	0				0	0	0
Subtotal Mixed-Use Blocks (Retail)	3,205	KSF				2	1	3				6	6	12
Subtotal Mixed-Use Blocks (Restaurant)	5,000	KSF				19	17	36				29	19	48
Subtotal Mixed-Use Blocks (Residential)	234	DUs				19	101	119				98	47	145
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						372	388	760				172	128	300
Total Unadjusted Trips:						1,564	919	2,483				823	1,338	2,161
Bulldozer Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:			AM Peak			PM Peak			AM Peak			PM Peak		
Residential	29.55%	29.55%				30	132	162				137	67	204
Retail	37.60%	37.60%				5	3	9				15	17	32
Restaurant	29.80%	29.80%				17	15	32				26	16	42
Office	14.60%	19.90%				155	21	176				38	190	229
Subtotal Internal & Transit Reduction:						207	171	378				217	290	507
TDM Level I & Level II Reduction :														
AM Peak			PM Peak			AM Peak			PM Peak			PM Peak		
Residential (Residential Blocks)	2.8%	2.8%				2	10	12				10	5	15
Residential (MU Blocks)	4.1%	4.1%				1	4	5				4	2	6
Retail (Residential Blocks)	4.1%	4.1%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				1	0	1				2	2	4
Restaurant	5.9%	5.9%				3	3	6				5	3	8
Office	10.6%	10.6%				112	15	128				20	101	122
Subtotal TDM Reduction:						120	33	152				42	114	156
Net Adjusted Trip Generation						1,237	715	1,953				565	934	1,498
Percent Reduction from Unadjusted Trip Generation								21.4%						30.7%
Maximum Trip Threshold Allowed Under Conditions of Approval:														
														1,562
Trips Under / (Over) Maximum Allowed Trips:														
														64

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993

Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

Resident Transit Use: Average of Caltrain and BART commute mode share. Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California.

Work Trips:[Caltrain: Rail = 15.7%, Bus = 1.7%] [BART Rail = 44.3%, Bus = 0.6%]. Assuming 93% Caltrain share and 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips.

Non-work Trips: Rail/Bus = 5.3%

Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak. Source: Metropolitan Transportation Commission.

Retail and Restaurant Transit Use: 50% of El Cerrito Plaza (BART) retail center mode split. Source: Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California. Caltrans. 2004

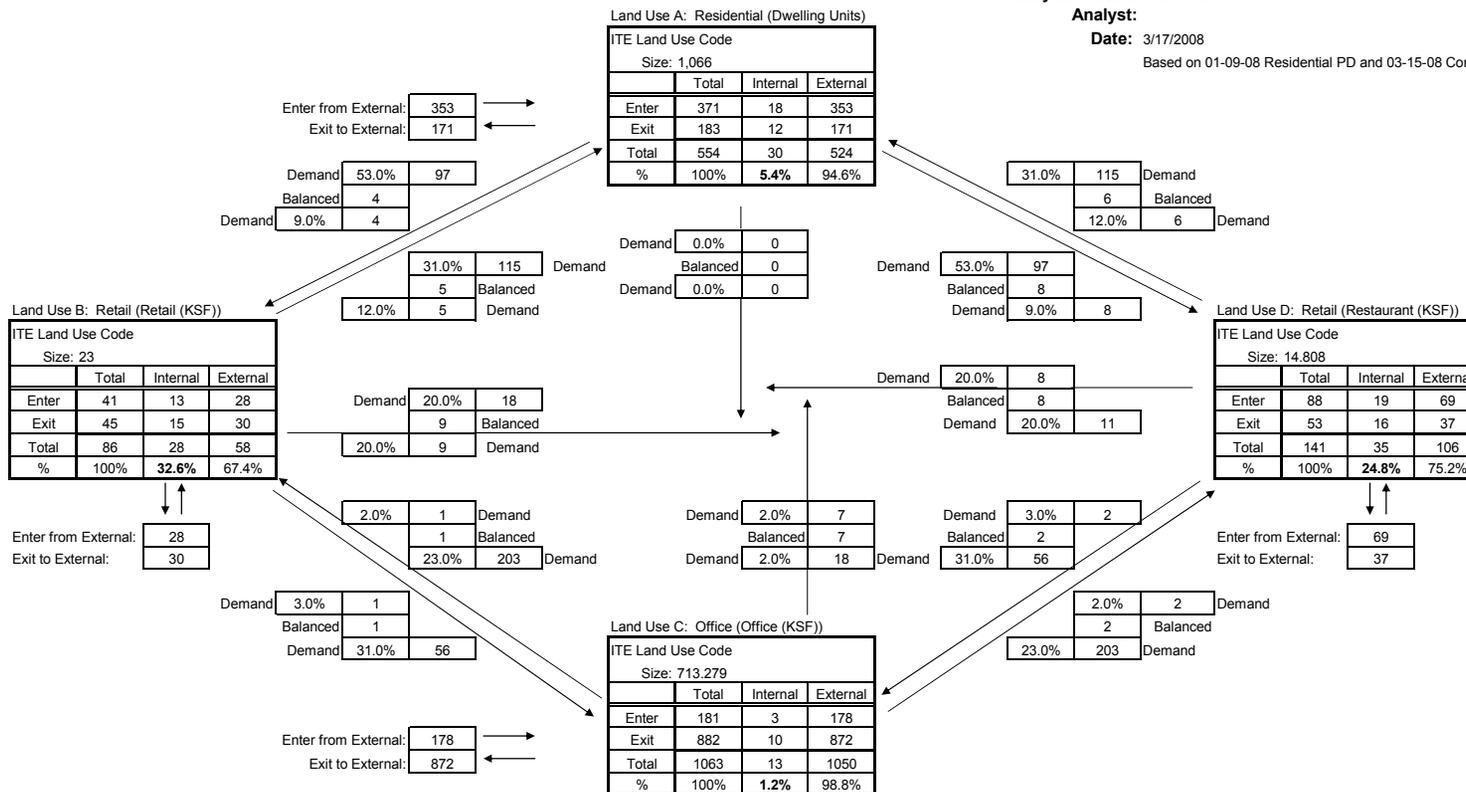
Appendix 2 - Internal Capture Worksheet for Phase I Trip Generation Analysis

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET

(Source: Chapter 7, ITE Trip Generation Handbook, June 2004)

Project Number: 097065008
Project Name: Bay Meadows II
Scenario: Nearterm
Analysis Period: PM Peak
Analyst:
Date: 3/17/2008

Based on 01-09-08 Residential PD and 03-15-08 Comm



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	353	28	872	69	1,322
Exit	171	30	178	37	416
Total	524	58	1,050	106	1,738
Single Use Trip Gen Estimate	554	86	1,063	141	1,844

Overall Internal Capture = **5.75%**

**Appendix 3 - Phase II Mid-Term Program Buildout (As per 01-09-08 Residential PD and 03-15-08 Commercial + Retail PD from WMS)
 Bay Meadows II Trip Generation Budget (Post Grade Separations with Minimum 16% Trip Reduction Goal)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)**

10/8/2012

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	10,889	KSF	0.63	0.40	1.03	7	4	11	1.80	1.94	3.74	20	21	41
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	8,769	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	8,627	KSF	0.63	0.40	1.03	5	3	9	1.80	1.94	3.74	16	17	32
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	38,177	KSF				24	15	39				69	74	143
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,120	194	1,314				319	1,068	1,386
MU 1 (Residential)	50	DUs	0.08	0.43	0.51	4	22	26	0.42	0.20	0.62	21	10	31
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	15,509	KSF	1.36	0.19	1.55	21	3	24	0.25	1.24	1.49	4	19	23
MU 2 (Retail)	11,814	KSF	0.63	0.40	1.03	7	5	12	1.80	1.94	3.74	21	23	44
MU 2 (Restaurant)	3,000	KSF	3.76	3.47	7.24	11	10	22	5.82	3.72	9.55	17	11	29
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	12,906	KSF	1.36	0.19	1.55	18	2	20	0.25	1.24	1.49	3	16	19
MU 3 (Retail)	12,361	KSF	0.63	0.40	1.03	8	5	13	1.80	1.94	3.74	22	24	46
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	5,071	KSF	1.36	0.19	1.55	7	1	8	0.25	1.24	1.49	1	6	8
MU 4 (Retail)	8,947	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	33,486	KSF				46	6	52				8	42	50
Subtotal Mixed-Use Blocks (Retail)	33,122	KSF				21	13	34				60	64	124
Subtotal Mixed-Use Blocks (Restaurant)	8,000	KSF				30	28	58				47	30	76
Subtotal Mixed-Use Blocks (Residential)	284	DUs				23	122	145				119	57	176
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						451	438	890				273	248	521
Total Unadjusted Trips:						1,657	978	2,636				964	1,501	2,465
Buildout Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:			AM Peak			AM Peak			PM Peak			PM Peak		
Residential	32.85%	32.85%				35	153	188				159	77	237
Retail	30.40%	30.40%				14	9	23				41	44	85
Restaurant	37.90%	37.90%				25	23	49				39	25	64
Office	15.20%	15.20%				168	23	191				31	152	182
Subtotal Internal & Transit Reduction:						243	209	451				270	298	568
TDM Level I & Level II Reduction :			AM Peak			AM Peak			PM Peak			PM Peak		
Residential (Residential Blocks)	4.1%	4.1%				3	14	18				15	7	22
Residential (MU Blocks)	4.1%	4.1%				1	5	6				5	2	7
Retail (Residential Blocks)	5.9%	5.9%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				3	2	4				8	8	16
Restaurant	5.9%	5.9%				4	4	8				6	4	10
Office	10.6%	10.6%				117	16	133				21	106	127
Subtotal TDM Reduction:						128	41	169				55	128	183
Adjusted Trip Generation						1,287	729	2,016				638	1,075	1,713
Percent Reduction from Unadjusted Trip Generation								23.5%						30.5%
Maximum Trip Threshold Allowed Under Conditions of Approval:														2,878
Trips Under / (Over) Maximum Allowed Trips:														1,165

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993

Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

Retail Transit Use: Average of Caltrain and BART commute mode share. Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California.

Work Trips: [Caltrain: Rail = 15.7%, Bus = 1.7%] [BART Rail = 44.3%, Bus = 0.6%]. Assuming 93% Caltrain share and 7% BART share, results in 17.7% + average of bus riders (1.15%) gives 18.85% trip reduction for work trips.

Non-work Trips: Rail/Bus = 5.3%

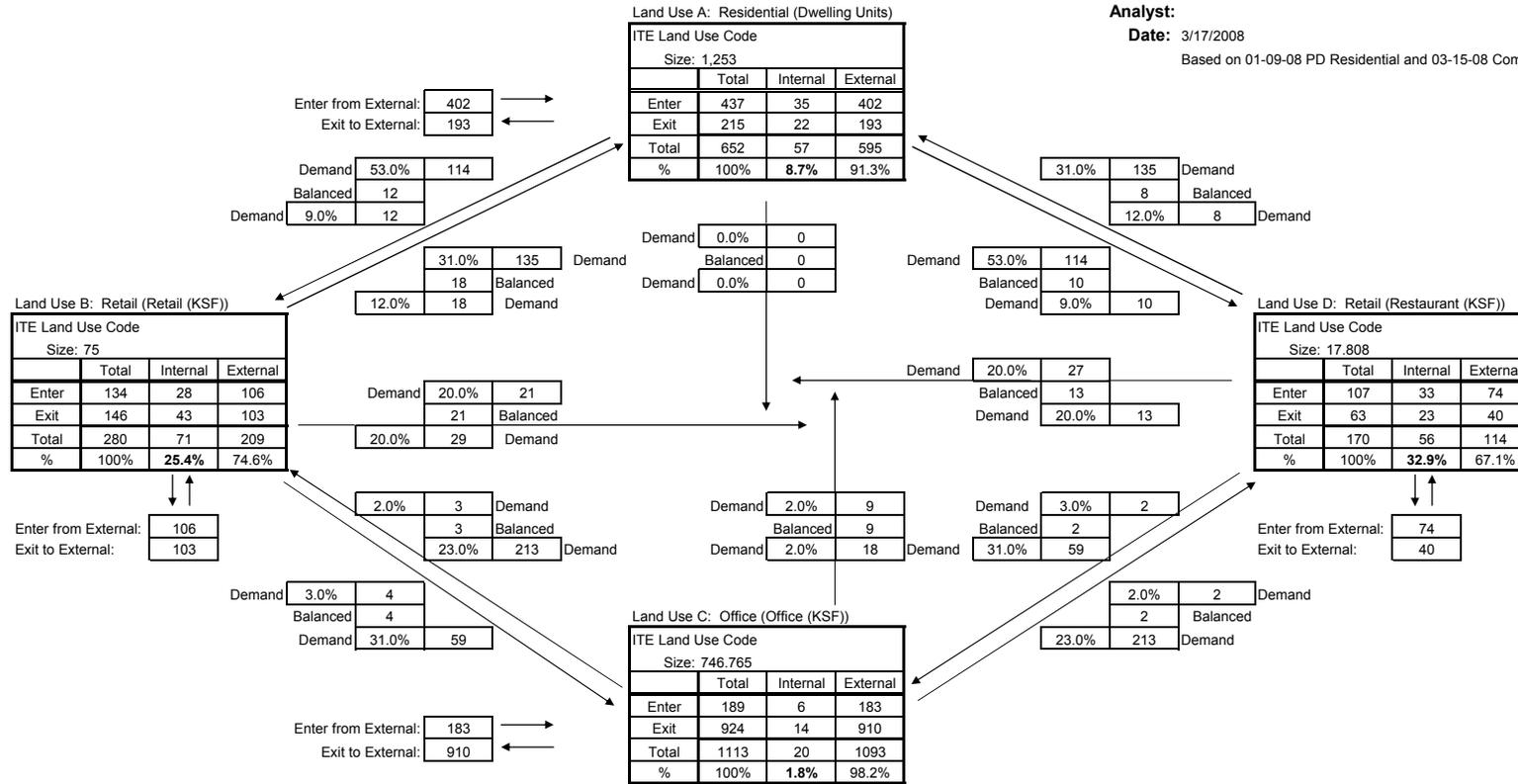
Percent of Home-Based trips that are work trips = 56% in AM peak and 51% in PM peak. Source: Metropolitan Transportation Commission.

Retail and Restaurant Transit Use: 50% of El Cerrito Plaza (BART) retail center mode split. Source: Cervero, Robert Lund, Willson. Travel Characteristics of Transit-Oriented Development in California. Caltrans. 2004

Appendix 4 - Internal Capture Worksheet for Phase II and III Trip Generation Analysis

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET
 (Source: Chapter 7, ITE Trip Generation Handbook, June 2004)

Project Number: 097065008
Project Name: Bay Meadows II
Scenario: Buildout
Analysis Period: PM Peak
Analyst:
Date: 3/17/2008
 Based on 01-09-08 PD Residential and 03-15-08 Commercial PD



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	402	106	910	74	1,492
Exit	193	103	183	40	519
Total	595	209	1,093	114	2,011
Single Use Trip Gen Estimate	652	280	1,113	170	2,215

Overall Internal Capture = 9.21%

**Appendix 5 - Phase II Full Program Buildout (As per 01-09-08 Residential PD and 03-15-08 Commercial + Retail PD from WMS)
 Bay Meadows II Trip Generation Budget (Post Grade Separations with Minimum 25% Trip Reduction Goal)
 (Institute of Transportation Engineers' Rates from Hexagon Phasing Analysis Table 4)**

10/8/2012

Land Use	Size	Units	AM Peak Hour						PM Peak Hour					
			Rate			Trips			Rate			Trips		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
RES 1 (Flats/Townhomes)	108	DUs	0.08	0.43	0.51	9	46	55	0.42	0.20	0.62	45	22	67
RES 2 (Townhomes)	80	DUs	0.08	0.43	0.51	6	34	41	0.42	0.20	0.62	34	16	50
RES 3 (Tuckunder/Townhomes)	156	DUs	0.08	0.43	0.51	12	67	80	0.42	0.20	0.62	66	31	97
RES 4 (Luxury Flats)	71	DUs	0.08	0.43	0.51	6	31	36	0.42	0.20	0.62	30	14	44
RES 5 (Tuckunder/Townhomes)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
RES 6 (Luxury Flats)	54	DUs	0.08	0.43	0.51	4	23	28	0.42	0.20	0.62	23	11	33
RES 7 (Stacked Flats)	158	DUs	0.08	0.43	0.51	13	68	81	0.42	0.20	0.62	66	32	98
RES 7 (Retail)	3,472	KSF	0.63	0.40	1.03	2	1	4	1.80	1.94	3.74	6	7	13
RES 8 (Tuckunder/Townhomes)	74	DUs	0.08	0.43	0.51	6	32	38	0.42	0.20	0.62	31	15	46
RES 9 (Cluster detached)	55	DUs	0.39	0.19	0.58	21	11	32	0.72	0.42	1.14	39	23	63
Subtotal Residential Blocks (Retail)	3,472	KSF				2	1	4				6	7	13
Subtotal Residential Blocks (Residential)	832	DUs				84	345	428				366	179	544
Total Residential Blocks						86	346	432				372	185	557
STA 1 (Office)	92,267	KSF	1.37	0.19	1.56	127	17	144	0.25	1.24	1.49	23	114	137
STA 1 (Retail)	5,794	KSF	0.63	0.40	1.03	4	2	6	1.80	1.94	3.74	10	11	22
STA 1 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
STA 2 (Office)	190,235	KSF	1.37	0.19	1.56	261	36	297	0.25	1.24	1.49	48	236	283
STA 2 (Retail)	10,889	KSF	0.63	0.40	1.03	7	4	11	1.80	1.94	3.74	20	21	41
STA 2 (Restaurant)	3,050	KSF	3.76	3.47	7.24	11	11	22	5.82	3.72	9.55	18	11	29
STA 3 (Office)	174,445	KSF	1.37	0.19	1.56	239	33	272	0.25	1.24	1.49	44	216	260
STA 3 (Retail)	8,769	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
STA 3 (Restaurant)	3,281	KSF	3.76	3.47	7.24	12	11	24	5.82	3.72	9.55	19	12	31
STA 4 (Office)	216,428	KSF	1.37	0.19	1.56	297	41	338	0.25	1.24	1.49	54	268	322
STA 4 (Retail)	8,627	KSF	0.63	0.40	1.03	5	3	9	1.80	1.94	3.74	16	17	32
STA 4 (Restaurant)	3,477	KSF	3.76	3.47	7.24	13	12	25	5.82	3.72	9.55	20	13	33
STA 5 (Office)	98,338	KSF	1.37	0.19	1.56	135	18	153	0.25	1.24	1.49	25	122	147
STA 5 (Retail)	4,098	KSF	0.63	0.40	1.03	3	2	4	1.80	1.94	3.74	7	8	15
STA 5 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
Subtotal Station Blocks (Office)	771,713	KSF				1,059	144	1,204				193	957	1,150
Subtotal Station Blocks (Retail)	38,177	KSF				24	15	39				69	74	143
Subtotal Station Blocks (Restaurant)	9,808	KSF				37	34	71				57	37	94
Total Station Blocks						1,120	194	1,314				319	1,068	1,386
MU 1 (Residential)	50	DUs	0.08	0.43	0.51	4	22	26	0.42	0.20	0.62	21	10	31
MU 1 (High School)	450	Students	n/a	n/a	n/a	332	269	601	n/a	n/a	n/a	39	56	95
MU 2 (Office)	15,509	KSF	1.36	0.19	1.55	21	3	24	0.25	1.24	1.49	4	19	23
MU 2 (Retail)	11,814	KSF	0.63	0.40	1.03	7	5	12	1.80	1.94	3.74	21	23	44
MU 2 (Restaurant)	3,000	KSF	3.76	3.47	7.24	11	10	22	5.82	3.72	9.55	17	11	29
MU 2 (Residential)	88	DUs	0.08	0.43	0.51	7	38	45	0.42	0.20	0.62	37	18	55
MU 3 (Office)	12,906	KSF	1.36	0.19	1.55	18	2	20	0.25	1.24	1.49	3	16	19
MU 3 (Retail)	12,361	KSF	0.63	0.40	1.03	8	5	13	1.80	1.94	3.74	22	24	46
MU 3 (Restaurant)	0,000	KSF	3.76	3.47	7.24	0	0	0	5.82	3.72	9.55	0	0	0
MU 3 (Residential)	76	DUs	0.08	0.43	0.51	6	33	39	0.42	0.20	0.62	32	15	47
MU 4 (Office)	5,071	KSF	1.36	0.19	1.55	7	1	8	0.25	1.24	1.49	1	6	8
MU 4 (Retail)	8,947	KSF	0.63	0.40	1.03	6	4	9	1.80	1.94	3.74	16	17	33
MU 4 (Restaurant)	5,000	KSF	3.76	3.47	7.24	19	17	36	5.82	3.72	9.55	29	19	48
MU 4 (Residential)	70	DUs	0.08	0.43	0.51	6	30	36	0.42	0.20	0.62	29	14	43
Subtotal Mixed-Use Blocks (Office)	33,486	KSF				46	6	52				8	42	50
Subtotal Mixed-Use Blocks (Retail)	33,122	KSF				21	13	34				60	64	124
Subtotal Mixed-Use Blocks (Restaurant)	8,000	KSF				30	28	58				47	30	76
Subtotal Mixed-Use Blocks (Residential)	284	DUs				23	122	145				119	57	176
Subtotal Mixed-Use Blocks (High School)	450	Students				332	269	601				39	56	95
Total Mixed-Use Blocks						451	438	890				273	248	521
Total Unadjusted Trips:						1,657	978	2,636				964	1,501	2,465
Buildout Trip Reduction:														
Internal Capture & Transit Reduction [1][2]:			AM Peak			AM Peak			PM Peak			PM Peak		
Residential	32.85%	32.85%				35	153	188				159	77	237
Retail	30.40%	30.40%				14	9	23				41	44	85
Restaurant	37.90%	37.90%				25	23	49				39	25	64
Office	15.20%	15.20%				168	23	191				31	152	182
Subtotal Internal & Transit Reduction:						243	209	451				270	298	568
TDM Level I & Level II Reduction :			AM Peak			AM Peak			PM Peak			PM Peak		
Residential (Residential Blocks)	4.1%	4.1%				3	14	18				15	7	22
Residential (MU Blocks)	4.1%	4.1%				1	5	6				5	2	7
Retail (Residential Blocks)	5.9%	5.9%				0	0	0				0	0	1
Retail (Station and MU Blocks)	5.9%	5.9%				3	2	4				8	8	16
Restaurant	5.9%	5.9%				4	4	8				6	4	10
Office	10.6%	10.6%				117	16	133				21	106	127
Subtotal TDM Reduction:						128	41	169				55	128	183
Adjusted Trip Generation						1,287	729	2,016				638	1,075	1,713
Percent Reduction from Unadjusted Trip Generation								23.5%						30.5%
Maximum Trip Threshold Allowed Under Conditions of Approval:														2,569
Trips Under / (Over) Maximum Allowed Trips:														856

Source: Program based on Residential and Mixed-Use Programming Overview dated 01-09-08 and Commercial Program dated 03-15-08 by WMS.
 Prepared by Kimley-Horn and Associates, Inc.

[1] Source of Mixed-Use Reductions: Institute of Transportation Engineers Trip Generation Handbook (Multi-Use Internalization Methodology).

[2] Source of Transit Adjustments:

Office Transit Use: Cervero, Robert. Ridership Impacts of Transit-Focused Development in California. Institute of Urban and Regional Development. 1993

Average commute mode split of station area workers for Caltrain and BART systems, assumes 90% of office trips are commute trips.

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