# ATTACHMENT 17

## REFINED PROJECT TRIP GENERATION EVALUATION

May 29, 2020

Marc Magstadt
CIO
Winehaven Legacy LLC
(transmitted via email)

**RE:** ***Point Molate Mixed Use Development Project – Trip Generation Evaluation Draft Letter***

Dear Mr. Magstadt:

The project applicant is proposing a mixed-use development project on the San Pablo Peninsula in the City of Richmond, CA. This project, known as the Point Molate project, is currently under environmental review. The Draft Subsequent Environmental Impact Report (SEIR) for the Point Molate Mixed-Use Development Project was released on February 2020. Abrams Associates prepared the traffic study that was incorporated into the Transportation chapter of the EIR. The project applicant has since clarified the land uses and intensities of the proposed project (Refined Project). Kimley-Horn is being asked to provide a trip generation comparison of the Refined Project to determine how it compares to project vehicle trips identified in the Draft SEIR. Although the Draft SEIR analyzed two options (Option 1 and Option 2), Option 2 (the commercial-heavy option) resulted in the most trips and thus was used in the Draft SEIR's level of service analysis. The following discusses the methodology, analysis, and results of the traffic and parking assessment.

## PROJECT LAND USE SUMMARY

The project applicant has clarified the mix of land uses it would like approved, which falls between the two options evaluated in the Draft SEIR. **Table 1** shows the land use comparison between the Draft SEIR and the new proposed uses.

**Table 1 – Land Use Comparison: Draft SEIR vs Proposed**

| Land Use | Draft SEIR (Option 2) | Proposed | Difference |
|---|---|---|---|
| Retail and Restaurant | 40,000 SF | 55,000 SF | +15,000 SF |
| Office | 584,574 SF | 383,774 SF | -200,800 SF |
| Single-Family Residential | 274 units | 426 units | +152 units |
| Low-Rise Apartments | 636 units | 0 units | -636 units |
| Mid-Rise Apartments | 350 units | 1,026 units | +676 units |
| Ferry Parking | 100 spaces | 100 spaces | 0 spaces |
| Civic Uses | 10,000 SF | 10,000 SF | 0 SF |

## TRIP GENERATION COMPARISON

The estimated vehicle trips for the initial land use mix for Option 2 in the Draft SEIR were compared to the estimated vehicles trips for the refined land uses to determine if the refined project would result in additional vehicle trips.

### Trip Generation in Draft SEIR

The Draft SEIR details the Option 2 trip generation for the land uses in Table 4.12-5. As stated in the Draft SEIR, the trip generation was based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. In addition, a pass-by trip reduction of 25 percent was applied based on the ITE *Trip Generation Handbook*. Lastly, a 20 percent trip reduction was applied to account for internal trips within the site and a 10 percent trip reduction was applied to account for the project's transportation demand management (TDM) plan.

**Table 2** below summarizes the trip generation assumed for Option 2 in the Draft SEIR. Per the Draft SEIR, the project would result in 11,270 daily trips, 884 AM peak hour trips, and 980 PM peak hour trips.

**Table 2** is a direct copy of the trip generation in the Draft SEIR. Since then, Abrams Associates has revised the estimates, increasing inbound PM peak hour trips by 4 trips and outbound PM peak hour trips by 14 trips. Specifically, Option 2 would have 11,813 daily trips, 826 AM peak hour trips, and 998 PM peak hour trips. According to Abrams Associates, this small number of additional trips would not alter the impact conclusions in the Draft SEIR. These changes are shown in **Table 3**.

**Table 2 – Draft SEIR Project Trips**

| Land Use | Size | Units | Daily | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | Total | In | Out | Total |
| Retail and Restaurant | | | 42.7 | 0.6 | 0.36 | 0.96 | 1.78 | 1.93 | 3.71 |
| Unadjusted Trips | 40 | KSF | 1,708 | 23 | 15 | 38 | 71 | 77 | 148 |
| Pass-by (25%) | | | 427 | 6 | 4 | 10 | 18 | 19 | 37 |
| Net New Trips | | | 1,281 | 17 | 11 | 28 | 53 | 58 | 111 |
| Office | | | 8.18 | 0.81 | 0.13 | 0.94 | 0.13 | 0.71 | 0.84 |
| Unadjusted Trips | 584.574 | KSF | 4,782 | 472 | 77 | 549 | 79 | 412 | 491 |
| Single-Family Residential | | | 9.6 | 0.18 | 0.55 | 0.73 | 0.6 | 0.36 | 0.96 |
| Unadjusted Trips | 274 | DU | 2,630 | 50 | 150 | 200 | 166 | 97 | 263 |
| Low-rise Apartments/Condos | | | 7.5 | 0.09 | 0.37 | 0.46 | 0.31 | 0.17 | 0.48 |
| Unadjusted Trips | 636 | DU | 4,770 | 59 | 234 | 293 | 198 | 107 | 305 |
| Mid-rise Apartments/Condos | | | 5.45 | 0.09 | 0.24 | 0.33 | 0.31 | 0.17 | 0.48 |
| Unadjusted Trips | 350 | DU | 1,908 | 30 | 86 | 116 | 90 | 57 | 147 |
| Ferry Parking Rates | | | 2.81 | 0.33 | 0.09 | 0.42 | 0.11 | 0.32 | 0.43 |
| | 100 | Spaces | 281 | 33 | 9 | 42 | 11 | 32 | 43 |
| **Subtotal** | | | **15,652** | **661** | **566** | **1,228** | **597** | **764** | **1,361** |
| Internal Trip Reduction (20%) | | | 3,130 | 133 | 113 | 246 | 119 | 153 | 272 |
| TDM Trip Reduction (10%) | | | 1,252 | 53 | 45 | 98 | 48 | 61 | 109 |
| **Net New Trips** | | | **11,270** | **476** | **408** | **884** | **430** | **550** | **980** |

KSF = 1,000 square feet

DU = Dwelling Units

**Table 3 – Revised Draft SEIR Project Trips**

| Land Use | Size | Units | Daily | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | Total | In | Out | Total |
| Retail and Restaurant | | | **37.75** | 0.6 | 0.36 | 0.96 | 1.83 | 1.98 | 3.81 |
| Unadjusted Trips | 40 | KSF | 1,510 | 24 | 14 | 38 | 73 | 79 | 152 |
| Pass-by (25%) | | | 378 | 6 | 4 | 10 | 18 | 20 | 38 |
| Net New Trips | | | 1,132 | 18 | 10 | 28 | 55 | 59 | 114 |
| Office | | | 9.74 | 0.71 | 0.12 | 0.83 | 0.15 | 0.72 | 0.87 |
| Unadjusted Trips | 584.574 | KSF | 5694 | 417 | 68 | 485 | 86 | 423 | 509 |
| Single-Family Residential | | | Eqn | | Eqn | | | Eqn | |
| Unadjusted Trips | 274 | DU | 2,628 | 50 | 149 | 199 | 168 | 99 | 267 |
| Low-rise Apartments/Condos | | | Eqn | | Eqn | | | Eqn | |
| Unadjusted Trips | 636 | DU | 4,767 | 64 | 213 | 277 | 193 | 113 | 306 |
| Mid-rise Apartments/Condos | | | Eqn | | Eqn | | | Eqn | |
| Unadjusted Trips | 350 | DU | 1,906 | 30 | 87 | 117 | 90 | 57 | 147 |
| Ferry Parking Rates | | | 2.81 | 0.33 | 0.09 | 0.42 | 0.11 | 0.32 | 0.43 |
| | 100 | Spaces | 281 | 33 | 9 | 42 | 11 | 32 | 43 |
| **Subtotal** | | | **16,408** | **612** | **536** | **1,148** | **603** | **783** | **1,386** |
| Internal Trip Reduction (20%) | | | 3,282 | 122 | 108 | 230 | 121 | 156 | 277 |
| TDM Trip Reduction (10%) | | | 1,313 | 49 | 43 | 92 | 48 | 63 | 111 |
| **Net New Trips** | | | **11,813** | **441** | **385** | **826** | **434** | **564** | **998** |

KSF = 1,000 square feet

DU = Dwelling Units

Fitted Curve Equations:

Single-Family Residential Daily: Ln(T) = 0.92 Ln(X) + 2.71; AM peak hour: T = 0.71(X) + 4.80; PM peak hour: Ln(T) = 0.96 Ln(X) + 0.20

Low-rise Apartments/Condos Daily: T = 7.56(X) - 40.86; AM peak hour: Ln(T) = 0.95 Ln(X) - 0.51; PM peak hour: Ln(T) = 0.89 Ln(X) - 0.02

Mid-rise Apartments/Condos Daily: T = 5.45(X) - 1.75; AM peak hour: Ln(T) = 0.98 Ln(X) - 0.98; PM peak hour: Ln(T) = 0.96 Ln(X) - 0.63

## Trip Generation for Refined Project

The trip generation for the Refined Project were estimated using the same average rates and fitted curve equations as the revised trip generation for Option 2 (**Table 3**). In addition, the same trip reduction percentages are applied. The vehicle trips are shown in **Table 4**. It should be noted that the Civic uses are not estimated to generate any vehicle trips and therefore are not included in the trip generation table.

The Refined Project would result in 10,880 daily trips, 751 AM peak hour trips, and 976 PM peak hour trips.

**Table 4 – Refined Project Trips**

| Land Use | Size | Units | Daily | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | Total | In | Out | Total |
| Retail and Restaurant | | | **37.75** | 0.6 | 0.36 | 0.96 | 1.83 | 1.98 | 3.81 |
| Unadjusted Trips | 55 | KSF | 2,076 | 33 | 20 | 53 | 101 | 109 | 210 |
| Pass-by (25%) | | | 519 | 8 | 5 | 13 | 25 | 28 | 53 |
| Net New Trips | | | 1,557 | 25 | 15 | 40 | 76 | 81 | 157 |
| Office | | | 9.74 | 0.71 | 0.12 | 0.83 | 0.15 | 0.72 | 0.87 |
| Unadjusted Trips | 383.774 | KSF | 3738 | 274 | 45 | 319 | 57 | 277 | 334 |
| Single-Family Residential | | | Eqn | Eqn | | | Eqn | | |
| Unadjusted Trips | 426 | DU | 3,945 | 77 | 230 | 307 | 257 | 151 | 408 |
| Low-rise Apartments/Condos | | | Eqn | Eqn | | | Eqn | | |
| Unadjusted Trips | 0 | DU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mid-rise Apartments/Condos | | | Eqn | Eqn | | | Eqn | | |
| Unadjusted Trips | 1026 | DU | 5,590 | 87 | 248 | 335 | 253 | 161 | 414 |
| Ferry Parking Rates | | | 2.81 | 0.33 | 0.09 | 0.42 | 0.11 | 0.32 | 0.43 |
| | 100 | Spaces | 281 | 33 | 9 | 42 | 11 | 32 | 43 |
| **Subtotal** | | | **15,111** | **496** | **547** | **1,043** | **654** | **702** | **1,356** |
| Internal Trip Reduction (20%) | | | 3,022 | 99 | 110 | 209 | 131 | 140 | 271 |
| TDM Trip Reduction (10%) | | | 1,209 | 40 | 43 | 83 | 52 | 57 | 109 |
| **Net New Trips** | | | **10,880** | **357** | **394** | **751** | **471** | **505** | **976** |

KSF = 1,000 square feet

DU = Dwelling Units

Fitted Curve Equations:

Single-Family Residential Daily: Ln(T) = 0.92 Ln(X) + 2.71; AM peak hour: T = 0.71(X) + 4.80; PM peak hour: Ln(T) = 0.96 Ln(X) + 0.20

Low-rise Apartments/Condos Daily: T = 7.56(X) - 40.86; AM peak hour: Ln(T) = 0.95 Ln(X) - 0.51; PM peak hour: Ln(T) = 0.89 Ln(X) - 0.02

Mid-rise Apartments/Condos Daily: T = 5.45(X) - 1.75; AM peak hour: Ln(T) = 0.98 Ln(X) - 0.98; PM peak hour: Ln(T) = 0.96 Ln(X) - 0.63

## Trip Generation Comparison

**Table 5** shows the comparison of the vehicle trips between the previous Draft SEIR trips and the Refined Project trips. The Refined Project would result in 390 fewer daily trips, 133 fewer AM peak hour trips, and 4 fewer PM peak hour trips.

**Table 5** also shows the comparison of the vehicle trips between the revised Draft SEIR trips and the Refined Project trips. The Refined Project would result in 933 fewer daily trips, 75 fewer AM peak hour trips, and 22 fewer PM peak hour trips.

**Table 5 – Trip Generation Comparison**

| Scenario | Daily | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | Total | In | Out | Total | In | Out |
| **Previous Draft SEIR vs Refined Project Trips** | | | | | | | |
| Previous Draft SEIR Trips | 11,270 | 476 | 408 | 884 | 430 | 550 | 980 |
| Refined Project Trips | 10,880 | 357 | 394 | 751 | 471 | 505 | 976 |
| Difference | **-390** | **-119** | **-14** | **-133** | **41** | **-45** | **-4** |
| **Revised Draft SEIR vs Refined Project Trips** | | | | | | | |
| Revised Draft SEIR Trips | 11,813 | 441 | 385 | 826 | 434 | 564 | 998 |
| Refined Project Trips | 10,880 | 357 | 394 | 751 | 471 | 505 | 976 |
| Difference | **-933** | **-84** | **9** | **-75** | **37** | **-59** | **-22** |

## CONCLUSIONS

In comparing the Refined Project trip generation to the Draft SEIR trip generation, the project would be expected to generate 390 fewer daily trips, 133 fewer AM peak hour trips, and 4 fewer PM peak hour trips. Therefore, the Refined Project should result in no additional impacts than identified in the Draft SEIR for the AM peak hour and PM peak hour trips.

In comparing the trip generation from the Refined Project to the revised Draft SEIR trip generation, the Refined Project is expected to generate 933 fewer daily trips, 84 fewer AM peak hour trips, and 22 fewer PM peak hour trips than Option 2. Therefore, the Refined Project would not result in impacts greater than Option 2.

Sincerely,

Ben Huie, P.E.
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