ATTACHMENT A

to

City of Alhambra Comment Letter 8-5-15

Evaluation of Transportation Elements of the SR 710 North Study Draft Environmental Impact Report, Environmental Impact Statement prepared by Gibson Transportation Consulting, Inc.

Gibson transportation consulting, inc.

Patrick A. Gibson, P.E., PTOE

president

Pat Gibson has over 45 years of experience in preparing traffic and parking analyses for both public and private sector projects. He has directed the transportation sections for Environmental Impact Reports and Environmental Impact Statements for numerous large development projects, including:

Aquarium of the Pacific
Arizona Cardinals NFL Stadium
Arrowhead Pond of Anaheim
Bakersfield Commons
Century City Center
Disneyland Resort
Dodger Stadium
Downtown Disney, Disney World
Dubailand Theme Parks, United Arab Emirates
Hollywood & Highland
Honda Center
The Huntington Library Education & Visitors Center
LAX Northside Plan Update
LEGOLAND
Long Beach Convention Center
Los Angeles Convention Center
NBCUniversal Studios
Paramount Pictures Studios
PETCO Park
Phoenix Coyotes NHL Arena
Playa Vista
The Queen Mary
Rose Bowl
STAPLES Center
The Village at Westfield Topanga
University of Southern California
Wilshire Grand

Pat has directed over 50 downtown parking studies and has conducted hundreds of parking needs, feasibility, and functional design studies, as well as shared parking and parking financial analyses, for developments throughout Southern California and the United States. He has prepared traffic and parking studies for stadia and event centers, new and expanded regional shopping centers, and retail/entertainment centers throughout the United States. He spearheaded traffic, parking, access/circulation, and safety studies for over 30 schools and universities, and has spoken internationally on the topic.

Pat co-authored both editions of Shared Parking for the Urban Land Institute as well as *Parking Requirements for Shopping Centers, 2nd Edition* for the Urban Land Institute and International Council of Shopping Centers.

He teaches the transportation planning and traffic engineering courses at the University of California, Los Angeles and East Los Angeles College.

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Institute of Transportation Engineers, Fellow, Life Member

Committee Member on Design of Regional Shopping Centers

Gibson
transportation consulting, inc.

MEMORANDUM

TO: Leland Dolley, Leland C. Dolley A Law Corporation

FROM: Patrick A. Gibson, P.E., PTOE, and Eugene Tang, AICP

DATE: July 9, 2015

RE: Evaluation of Transportation Elements of the SR 710 North Study Draft Environmental Impact Report/ Environmental Impact Statement **Ref:** 1370

Gibson Transportation Consulting (GTC), on behalf of the City of Alhambra, has prepared an evaluation of the transportation analyses related to the State Route (SR) 710 North Study. GTC reviewed the documents identified below and compared the impacts of the alternatives.

The following documents and presentations were utilized in this evaluation:

- *SR 710 North Study, Draft Environmental Impact Report/Environmental Impact Statement and Draft Section 4(f) De Minimis Findings* (California Department of Transportation [Caltrans] and Los Angeles County Metropolitan Transportation Authority [Metro], March 2015) (the DEIR)
- *SR 710 North Study Transportation Technical Report (Caltrans and Metro, November 2014)* (the Transportation Report)
- *SR 710 North Study Air Quality Assessment Report (Caltrans and Metro, January 2015)* (the AQ Report)
- 710 North Public Hearings (Public Hearings)
  - May 6, 2015, La Cañada High School Auditorium, La Cañada
  - May 7, 2015, Los Angeles Christian Presbyterian Church, El Sereno

DEIR

The Statement of Purpose and Needs, as provided in all documents of the DEIR, is:

> "The purpose of the proposed action is to effectively and efficiently accommodate regional and local north-south travel demands in the study area of the western San Gabriel Valley and east/northeast Los Angeles, including the following considerations:
>
> - Improve efficiency of the existing regional freeway and transit networks.

- Reduce congestion on local arterials adversely affected due to accommodating regional traffic volumes.
- Minimize environmental impacts related to mobile sources.

"The lack of continuous north-south transportation facilities in the study area has the following consequences, which have been identified as the elements of need for the project:

- Degradation of the overall efficiency of the larger regional transportation system
- Congestion on freeways in the study area
- Congestion on the local streets in the study area
- Poor transit operations within the study area"

The Study Area for the SR 710 North Project is generally referenced as the western San Gabriel Valley and east/northeast Los Angeles. The Study Area boundaries include Interstate 210 (I-210) to the north, Interstate 605 (I-605) to the east, Interstate 10 (I-10) to the south, and Interstate 5 (I-5) and State Route 2 (SR 2) to the west.

Project Alternatives

Caltrans, in cooperation with Metro, proposed transportation improvements to improve mobility and relieve congestion in the Study Area, while minimizing the ensuing environmental impacts. In order to meet these objectives, the following Project alternatives were developed for the SR 710 North Study:

- No Build Alternative: The California Environmental Quality Act Guidelines requires that a "No Project" alternative be evaluated to provide a baseline for the comparison of impacts for the other alternatives. The No Build includes projects and planned improvements through 2035, including those contained in *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future* (Southern California Association of Governments [SCAG], April 2012), the Federal Transportation Improvement Program (FTIP), Measure R, the funded portions of Metro's 2009 Long Range Transportation Plan (LRTP), as well as the California High Speed Rail (HSR) project.

- Transportation System Management/Transportation Demand Management (TSM/TDM) Alternative: Federal Regulations require that a TSM/TDM Alternative be considered on all proposed major highway projects in urban areas. TSM/TDM is predicated on a series of surface street and operational improvements, along with active transportation and transit enhancements/refinements.

- Bus Rapid Transit (BRT) Alternative: The BRT Alternative was considered to provide high-speed, high- frequency bus service through a combination of new, dedicated bus lanes and mixed-flow traffic lanes to key destinations between East Los Angeles and Pasadena. BRT builds upon TSM/TDM and adds specific transit enhancements/refinements.

- Light Rail Transit (LRT) Alternative: The LRT Alternative includes a passenger rail line, along a dedicated route, which would serve key destinations between East Los Angeles and Pasadena. LRT similarly builds upon TSM/TDM with modifications to accommodate a light rail solution.

- Freeway Tunnel Alternative: The Tunnel Alternative would introduce a tunnel connection between Pasadena and Alhambra; this builds upon TSM/TDM with modifications to provide connectivity between the north and south stubs of the 710.

The City of Alhambra has previously expressed interest and support for a Tunnel Alternative for the SR 710 North Study. While the DEIR studied a number of tunnel variations, for the purposes of this evaluation, the Dual Bore Tunnel with Toll variation was selected due to the available roadway capacity and potential for providing a cost effective solution. Therefore, all references to the Tunnel Alternative in this evaluation are to the Dual-Bore Tunnel with Toll variation.

The Transportation Report evaluated the performance and potential impacts of each of the above alternatives for various statistical performance measures. The Transportation Report utilized the SCAG Travel Demand Model to prepare analyses for the 2035 horizon year; the model forecasts travel behavior and demand, based on a series of inputs and assumptions derived from actual data. The Transportation Report evaluated each alternative relative to overall transportation system and highway performance measures, transit performance measures and traffic operations/volumes.

COMMENTS

Based on our review of the documentation, GTC submits the following comments:

COMMENT 1: ADEQUACY OF THE ANALYSIS

GTC finds the methodology and analysis of the Transportation Report to be consistent with the state of the practice for the analysis of large-scale transportation alternatives.

COMMENT 2: DEIR UNDERESTIMATES THE BENEFITS OF THE TUNNEL ALTERNATIVE

While the DEIR provides a comprehensive analysis of the SR 710 North Study, the presentation of those results may have unintentionally deemphasized the potential benefits of the Tunnel Alternative.

GTC examined the statistical performance of the project, as documented in the DEIR, and prepared visual representations comparing the alternatives.

System Performance

The system performance measures used in this evaluation are defined below.

- Vehicular Travel Distance identifies the changes in total vehicle miles traveled (VMT) of each alternative, for both automobiles and trucks.
- Vehicular Travel Time identifies the changes in total vehicle hours traveled (VHT) by each alternative, for both automobiles and trucks.
- The Daily Person Throughput identifies the total number of person trips crossing an east-west screenline by each alternative, for both vehicular and transit trips.

Both the VMT and VHT have been calculated specific to the Study Area as well as the SCAG modeling region; in addition, these measures are provided in a daily and combined AM and PM peak period value. Much of the data presented in the DEIR is presented in terms of the number of vehicles or persons crossing a screenline drawn across the center of the Study Area. Figure 1 illustrates the east-west screenline.

Travel behavior will be affected by transportation improvements made throughout the system. Depending on the alternative, the amount of travel may increase (travelers may take longer trips to different destinations due to increased mobility) or decrease (shift from autos to transit)[1]. The increase in travel distance may not necessarily translate to an increase in travel time (more capacity may increase travel distance and decrease travel time for all travelers).

Figures 2A and 2B, respectively, illustrate the daily VMT and VHT across the SCAG region for each alternative. Figures 3A and 3B, respectively, illustrate the daily VMT and VHT within the localized Study Area. Figure 4 depicts the daily person throughput across the Study Area screenline. Table 1 provides additional detail on the comparison of the system performance measures by alternative.

Regional Analysis. The Tunnel Alternative projects a daily VMT change of +0.08%, while the VMT change of other alternatives ranges from -0.02% to +0.01%. The change in VHT is projected at -0.21% with the Tunnel Alternative, as compared to a range of -0.03% to +0.09% with the other alternatives. These patterns hold when examining the VMT and VHT of the combined AM and PM peak period; the Tunnel Alternative results in the largest percentage of change from the No Build Alternative, when compared to the other alternatives.

Study Area Analysis. Similar to the regional comparison, the Tunnel Alternative also projects the greatest percentage of change from the No Build Alternative within the Study Area. The daily VMT projects change of +1.63%, whereas the other alternatives project change ranging from +0.16% to +0.28%. Relative to VHT, a change of -3.12% is projected with the Tunnel Alternative; this compares to -0.57% to 0.0% with the other alternatives. A similar pattern exists with the combined AM and PM peak period measures. The daily person throughput across the Study Area screenline projects the greatest increase of +2.74% with the Tunnel Alternative, whereas the other alternatives range from +0.25% to +0.47%.

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[1] Transportation Report, Section 4.1.1

Summary. Relative to System Performance, the Tunnel Alternative is projected to result in increases to VMT and person throughput along with a decrease in VHT. This implies that the Tunnel Alternative is able to move more persons through the system, as demonstrated by the daily person throughput, to greater distances and in less time that the other alternatives.

The Tunnel Alternative has the potential to annually save over 6.7 million hours of travel within the region when compared to the No Build Alternative. The vast majority of that travel time savings will be felt locally. Within the Study Area, the Tunnel Alternative potentially results in over 5.7 million hours of travel time saved while serving 22.9 million more person trips annually than the No Build Alternative. No other alternative comes close to this level of travel time savings or increased person throughput.

Highway Performance

The highway performance measures used in the analysis are defined below:

- Traffic Volume Served is expressed as regional north-south vehicular travel crossing the east-west screenline on both the freeway and arterial systems. The freeway and arterial measurements provide an indication of how well the road system is working for regional and local trips.

- Traffic Diversion to Local Arterials shows the volume of traffic that uses the arterial street network instead of the freeway facilities, due to congestion or lack of freeway connectivity. This measure is applied to arterial system in the Study Area only and is expressed in VMT.

- Use of Local Arterials for Long Trips is a performance measure that provides the percentage of vehicle trips on the arterial system that cut through the Study Area (i.e., trips that do not have an origin or destination inside the Study Area).

- Travel Time Improvement is the number of regional trips in the No Build Alternative that would experience a reduction in travel time in comparison to the Build Alternatives. These trips would not have to use the improvements provided in the Build alternatives but would benefit from them.

Figure 5 illustrates the arterial and freeway traffic volumes served across the screenline for each alternative, while Figure 6 illustrates the traffic diversion to local arterials. Table 2 also details the traffic volume and VMT comparisons for the Highway Performance Measures by alternative.

An operational comparison of the alternatives is shown below:

HORIZON YEAR (2035) OPERATIONAL PERFORMANCE MEASURES BY ALTERNATIVE

Performance Measure	No Build	TSM/TDM	BRT	LRT	Tunnel
Use of Local Arterials for Long Trips PM Peak Period Percent Cut-Through	13.7%	14.3%	14.2%	14.0%	7.8%
Travel Time Improvement Percent of AM and PM Peak Period Trips More Than 2.5 Minutes Faster Than No Build	0%	0%	0%	3%	10%

Traffic Volume Served. Within the Study Area, the Tunnel Alternative is projected to result in a change of -9.19% in arterial traffic volume, whereas the other alternatives range from +1.02% to +1.14%. Thus, the Tunnel Alternative is the only Build Alternative that has the potential to reduce traffic on the arterial streets within the Study Area. Conversely, freeway volume is projected to change by +13.05% with the Tunnel Alternative, compared to -0.29% to -0.19% for the other alternatives. Again, the Tunnel Alternative is the only alternative that removes vehicular traffic from the local arterial streets and puts it back on the freeway system.

Traffic Diversion to Local Arterials. Compared to the No Build Alternative, the Tunnel Alternative is projected to result in a change in arterial VMT of -6.42% within the Study Area. The other alternatives project an arterial VMT change ranging from -0.12% to +0.49%.

Use of Local Arterials for Long Trips. Compared to the No Build Alternative, the Tunnel Alternative projects that 7.8% of PM peak hour traffic cuts through the Study Area arterials. By comparison, the other alternatives project a level of cut-through traffic of 13.7% to 14.3% on Study Area arterials. The three other Build Alternatives actually increase the use of local arterial streets for long trips as compared to the No Build Alternative.

Travel Time Improvement. During the AM and PM periods, the Tunnel Alternative projects that 10% of trips could experience a travel time reduction greater than 2.5 minutes. By comparison, the LRT Alternative projects that 3% of those AM and PM peak hour trips could experience a similar travel time improvement, while the TSM/TDM and BRT Alternatives offer no such travel time improvement.

Relative to Highway Performance, the Tunnel Alternative indicates a projected reduction in arterial street traffic and an increase in freeway volume; corresponding decreases in arterial cut-through traffic and travel time (by at least 2.5 minutes) are also projected. This suggests that the Tunnel Alternative benefits arterial streets by shifting regional traffic to the freeways and decreasing travel time.

Transit Performance

The transit performance measures used in this analysis are defined below:

- New Transit Trips identifies the number of new transit taken by people who choose to use transit services and who would have otherwise used a different mode for travel.
- Transit Mode Share represents the percentage of total daily person trips utilizing transit; this was calculated based on daily trips in the study area.
- North-South Transit Throughput represents the total daily person trips, using transit services, which traverse the study area screenline.
- Transit Accessibility is the percentage of the Study Area population located within 0.25 mile of a transit stop with high frequency service (peak headways less than 15 minutes).

Table 3 details the comparison of the transit performance measures.

New Transit Trips. As indicated in Table 3, the Tunnel Alternative is projected to experience an increase of 10,300 new transit trips, compared to 11,250-15,350 new transit trips for the other alternatives. Thus, all of the Build Alternatives are essentially transit neutral when it comes to the number of net new transit trips supported by the Build Alternatives. The total difference in transit patronage among all of the Build Alternatives is only 4,950 daily transit trips out of over 3 million daily person trips in the Study Area.

Transit Mode Share. During the 2035 Horizon Year, the transit mode share for each alternative is nearly identical; the largest increase would be 0.1% in the BRT and LRT Alternatives. Again, the Build Alternatives are essentially transit neutral.

North-South Transit Throughput. The number of daily person trips by transit crossing the screenline in the Tunnel Alternative is projected at 212,000 person trips. This compares to 209,000 person trips in the No Build Alternative and 211,000-215,000 person trips in the TSM/TDM, BRT, and LRT Alternatives.

Transit Accessibility. During the 2035 Horizon Year, the percentage of transit accessibility for each alternative is nearly identical; the largest increase would be 0.1% in the BRT and LRT Alternatives.

Relative to Transit Performance, the Tunnel Alternative is projected to increase transit trips and person throughput when compared to the No Build Alternative. The TSM/TDM, BRT, and LRT Alternatives would provide greater increases than the Tunnel Alternative because they are more transit intensive. These increases, however, should also be considered relative to the projected percentages of transit mode share and transit accessibility. With the exception of the minor increase in the BRT and LRT Alternatives, the transit mode share and transit accessibility measures are nearly identical across the Build Alternatives.

On-Street Parking Loss

The DEIR included a parking assessment that identified potential impacts to existing on-street parking spaces associated with each Build Alternative. The parking losses are characterized as either temporary or permanent. Temporary parking loss is associated with peak hour parking restrictions, while permanent parking loss is associated with those improvements that would not replace the lost parking. Table 4 details the parking losses across the alternatives.

As shown in Table 4, the TSM/TDM Alternative would result in 26 spaces temporarily lost during the weekday AM and PM peak periods, all in Alhambra, and 220 spaces permanently lost, the majority of which is concentrated in Alhambra and Los Angeles, with losses in San Gabriel, San Marino, and South Pasadena as well.

The BRT Alternative would result in the temporary loss of 1,047 spaces during the weekday AM and PM peak periods. A substantial portion (77%) of this temporary parking loss would occur in Monterey Park and South Pasadena; the remainder would occur in Alhambra, Los Angeles, and Pasadena. A total of 96 spaces in Alhambra, Los Angeles, Monterey Park, Pasadena, and South Pasadena would be permanently lost during all hours of the day.

The LRT Alternative would not cause the loss of AM or PM peak hour on-street parking; a total of four spaces would be permanently lost in South Pasadena.

The Tunnel Alternative would not cause the loss AM or PM peak hour on-street parking, nor would any parking spaces be permanently lost.

COMMENT 3: THE DEIR DID NOT DO A THOROUGH JOB OF PRESENTING THE OVERALL EFFECTS OF TRAFFIC SHIFTS AS A RESULT OF THE ALTERNATIVES

Although the DEIR provided a comprehensive analysis of the performance measures of each alternative, those analyses primarily focused on north-south movement through the Study Area. Little discussion was given relative to east-west movement through the Study Area, possibly understating the potential effects of each alternative.

Traffic volumes across the arterial and freeway system are the fundamental data used to calculate several of the performance measures discussed above. While the traffic volume data was provided in the DEIR, the traffic volumes themselves were not explicitly discussed.

GTC prepared a comparison of traffic volumes for select alternatives and for all directions of travel, utilizing the traffic volumes for select alternatives from Appendix D of the AQ Report, which in turn utilized the Transportation Report volumes prepared using the SCAG Travel Demand Model.

GTC compared the traffic volumes presented for the 2035 Horizon Year analyses of the TSM/TDM and Tunnel Alternatives along with the Freeway Level of Service (LOS) exhibits for the Tunnel Alternative. The Tunnel Alternative was calculated as a percentage change from TSM/TDM. A threshold of +/-5% was utilized, which represents a change of one-half LOS. The traffic volumes are presented as Average Daily Traffic (ADT) for passenger vehicles and trucks, respectively expressed as ADT and Truck ADT. This comparison illustrates the potential traffic

shifts in both the north-south and east-west directions, highlighting the potential benefits and impacts of the selected alternatives.

Tables 5A and 5B detail the arterial and freeway segments selected for this comparison along with the traffic volumes provided in the Transportation Report. Of the freeway segments identified, those labeled between points of an interchange were not included. Figures 7A and 7B illustrate the traffic volume differences across the Study Area and Figures 8A and 8B illustrate the differences in the immediate vicinity of Alhambra. The color coding represents an increase (red) or decrease (green) in the Tunnel Alternative traffic volume, relative to the TSM/TDM Alternative.

ADT

As illustrated, the effect of the Tunnel Alternative on the arterial and freeway system is consistent with the evaluation of Highway Performance discussed above; traffic volume is drawn to the freeways, relieving arterials across the Study Area. This effect is pronounced in the immediate vicinity of the north and south portals and through Alhambra. ADT volumes are projected to increase on SR 710 and I-210 with decreases projected along Huntington Drive, Main Street, and Fremont Avenue. This effect is not isolated to the immediate vicinity; ADT increases are projected on Colorado Boulevard and Foothill Boulevard. The arterial ADT reduction pattern extends to Eagle Rock Boulevard/Cypress Avenue, and Figueroa Street to the west and San Gabriel Boulevard, Rosemead Boulevard, Santa Anita Avenue, and Peck Road to the east. Also notable are segments of SR 2, I-5, and SR 110 with a projected decrease in ADT. As shown, reductions in ADT volume are apparent in the north-south direction, along with some improvements in the east-west direction.

Truck ADT

The pattern of Truck ADT is consistent with passenger ADT, where truck volume is generally drawn toward the freeways from the arterials. Again, the effect is pronounced near the portals and in Alhambra. Increased Truck ADT is projected along SR 134, I-210, and SR 710; a decrease in arterial Truck ADT is projected along Huntington Drive, Main Street, Valley Boulevard, and Fremont Avenue. The wider ranging impact of Truck ADT redistributing to the Tunnel is clear through the Study Area. Continuous segments along SR 2, I-5, I-10, I-605, and I-210 are projected to experience a decrease in Truck ADT. Similarly, continuous segments of arterials (i.e., Eagle Rock Boulevard/Cypress Avenue, Figueroa Street, Huntington Drive, San Gabriel Boulevard, Rosemead Boulevard, Santa Anita Avenue, and Peck Road) also project decreases of at least 5% in Truck ADT. Even more dramatically than the ADT volumes above, the comparison of Truck ADT indicates clear improvements to east-west movement through the Study Area, in addition to the north-south direction.

The LOS along the freeway segments should be considered in conjunction with the projected changes in ADT and Truck ADT. As provided in the Transportation Report, Figures 9A and 9B illustrate the freeway LOS respectively projected for the Study Area during the AM and PM peak periods.

LOS with ADT/Truck ADT Increase

- An increase in Truck ADT is projected for SR 134 between SR 2 and I-210. This segment is projected to operate between LOS C and D during the AM peak period and between LOS C and E during the PM peak period.

- An increase in ADT and Truck ADT is projected for I-210 north of SR 134. This segment is projected to generally operate at LOS A/B in the northbound direction and LOS D in the southbound direction in the AM peak period. Short segments of LOS E and F operation would be experienced southbound in the AM peak period. In the PM peak period, LOS D northbound and LOS C southbound would predominate. In other words, despite the increase in vehicular traffic on this section of I-210, this freeway would continue to operate at a better LOS than any other freeway in the region.

- An increase in ADT and Truck ADT is projected for SR 710 at the north and south portals. These segments are projected to operate generally at LOS C.

LOS with ADT/Truck ADT Decrease

- A decrease in ADT and Truck ADT is projected for SR 2 between I-5 and I-210. This segment is projected to generally operate between LOS A/B and C during the AM and PM peak periods.

- A decrease in ADT and Truck ADT is projected for I-5 between SR 2 and I-10. This segment is projected to primarily operate at LOS D to F.

- A decrease in Truck ADT is projected for I-10 between I-5 and SR 710. The projected operation through this segment is LOS A/B and C with short segments of LOS E.

- A decrease in Truck ADT is projected for I-210 between SR 710 and I-605. The projected operation through this segment is LOS C to F.

- A decrease in Truck ADT is projected for I-605 between I-210 and I-10. This segment is projected to primarily operate at LOS C and D with shorter segments at LOS E/F.

The volume comparison clearly illustrates the potential shifts of ADT/Truck ADT in the Study Area as a result of the Tunnel Alternative. While an increase in ADT/Truck ADT results along I-210 (north of the tunnel), that segment of freeway is projected to primarily operate at LOS D or better during the AM and PM peak hours, which is generally considered as acceptable operation within an urbanized environment. This focused increase in ADT/Truck ADT is tempered by the corresponding decreases in arterial ADT/Truck ADT that extend throughout the Study Area.

By connecting the SR 710 gap with the Tunnel, the benefits to the arterial street network increase for all directions of travel.

COMMENT 4: PARKING PROHIBITIONS NEEDED FOR THE TSM/TDM AND BRT ALTERNATIVES MAY BE DIFFICULT TO IMPLEMENT

Adjacent cities have expressed support for the TSM/TDM and BRT Alternatives. However, these two alternatives depend on significant on-street parking prohibitions (either permanently or during the peak hours) in order to implement the reversible lanes and the exclusive bus lane strategies.

The parking prohibitions are needed through the heart of the business districts in Pasadena and South Pasadena and, in our experience, these parking prohibitions are very difficult to get implemented.

If the cities' support for these alternatives does not include a commitment to prohibit peak hour parking through their business districts, the beneficial effects of the TSM/TDM and the BRT Alternatives will not be realized.

COMMENT 5: THE DEIR OVERSTATES THE EFFECTS OF THE NO BUILD ALTERNATIVE

As mentioned earlier in this memo, the No Build Alternative includes projects and planned improvements through 2035, including those contained in the SCAG RTP/SCS, FTIP, Measure R, LRTP, and HSR projects.

It is highly unlikely that ALL of the planned and programmed improvements in the SCAG RTP/SCS and the FTIP will actually be implemented by 2035. This is not a criticism of the DEIR, but it should be pointed out in the DEIR that the travel performance of the transportation system under the No Project Alternative is extremely optimistic and unlikely to be achieved. Thus, the performance of the alternatives is likely to be better than shown in the DEIR.

COMMENT 6: MOST OF THE TUNNEL ALTERNATIVES STUDIES ARE UNREALISTIC

The DEIR analyzes a number of tunnel variations even though most of the variations are unfeasible. Without a Public Private Partnership (PPP) and without tolls for travel through the tunnel, the tunnel most likely cannot be financed. Therefore, the analysis of variations that do not include tolls presents an illusionary condition that will probably never be realized and unnecessarily complicates the DEIR.

COMMENT 7: THE BENEFITS OF THE TUNNEL ALTERNATIVE ARE NOT STUDIED FOR MUCH OF EAST LOS ANGELES

The boundaries of the Study Area are drawn such that much of East Los Angeles is outside of the Study Area. Therefore, the trip-reduction effects of the Tunnel Alternative on the streets in East Los Angeles are not specified and instead are grouped into the "Regional Effects" category. This makes it difficult for the community of East Los Angeles to evaluate the positive effects of the Tunnel Alternative on its streets.

COMMENT 8: THE DUAL BORE TUNNEL WITH TOLLS IS THE ALTERNATIVE THAT BEST MEETS THE PROJECT'S STATEMENT OF PURPOSE AND NEEDS

The matrix below distills the results of these multiple transportation analyses into an evaluation against the SR 710 North Study Statement of Purpose and Needs. The results of each Build Alternative are compared against the No Build Alternative.

PURPOSE AND NEEDS	No Build	TSM/TDM	BRT	LRT	Tunnel
1. *Improve the efficiency of the existing regional freeway and arterial systems* (i.e., How much is the time spent on the road reduced?)	12,107 Vehicle Hours Traveled	-0.01% Reduction	-0.03% Reduction	+0.09% Increase	[illegible] Reduction
2. *Increase in regional transit ridership* (i.e., Are people more likely to use public transit in the region?)	New Transit Trips	+11,250 Increase	+13,500 Increase	[illegible] Increase	+10,300 Increase
3. *Increase in study area transit ridership* (i.e., Are people more likely to use public transit in the study area?)	4.2% Transit Mode Share	4.2%	[illegible]	[illegible]	4.2%
4. *Reduce congestion on local arterials adversely affected due to accommodationg regional traffic volumes* (i.e., Is there less cut-through traffic?)	13.7% PM Arterial Cut Through Traffic	+4% Increase	+4% Increase	+2% Increase	[illegible] Reduction
5. *Increase capacity; Increase north-south mobility* (i.e., Does this move more people?)	3,210,000 Daily Person Trips Across Screenline	+0.25% Increase	+0.47% Increase	+0.40% Increase	[illegible] Increase
6. *Reduce regional congestion* (i.e., Will this reduce peak hour trips by at least 2.5 minutes?)	% Peak Hour Trips with ≥ 2.5 minute Travel Time improvement	No Change	No Change	+3% Increase	[illegible] Increase

Does not meet goal >>>>>>>>>>>>>>>>> Meets goal

The Tunnel Alternative would provide a greater degree of improved regional efficiency, essentially the same degree of new transit ridership and transit mode share, a greater reduction in the percentage of arterial cut-through traffic, a greater increase in person trip capacity, and a greater increase in travel time savings.

Based on the evaluation of data presented in the DEIR, the results support the City of Alhambra's position that the Tunnel Alternative would be the most effective solution to closing the existing SR 710 gap, improving regional mobility, and supporting the goal of congestion relief.

SUMMARY AND CONCLUSION

This evaluation of the DEIR focused on the transportation impacts of the TSM/TDM, BRT, LRT and Tunnel Alternatives. The "Dual Bore with Toll" operational variation of the various Tunnel Alternatives was selected for this evaluation, as it provides increased roadway capacity, the most cost effective tunnel variation, and financial construction feasibility.

Through review of the System Performance measures published in the DEIR, each of the alternatives demonstrates some level of increased mobility and decreased congestion. This was

determined through evaluation of the VMT, VHT, and daily person throughput measures. The Tunnel results in increases of up to 1.6% VMT across the region and within the Study Area. Conversely, the VHT and daily person throughput are projected to improve by approximately 3% across the region and within the Study Area. The other alternatives also result in changes to these performance measures; however, the findings indicate that the Tunnel Alternative promotes a greater magnitude of positive improvements to regional mobility, accessibility and congestion reduction.

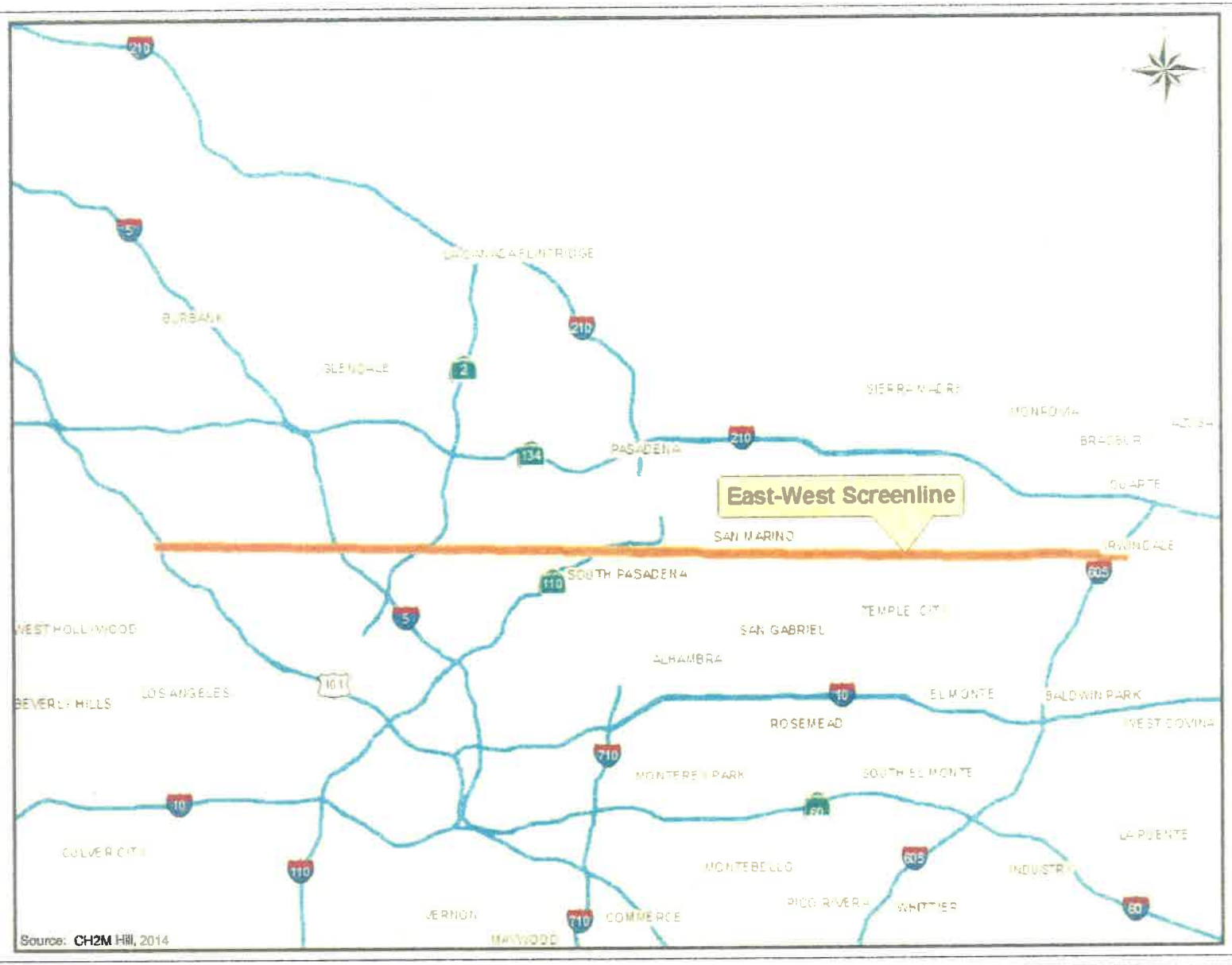
The evaluation of Highway Performance measured characteristics of traffic through the Study Area including screenline traffic volume, arterial VMT, cut-through traffic, and travel time. The Tunnel Alternative was found to reduce the arterial volume by over 9% while increasing the freeway volume by 13%, relative to overall Study Area traffic. These findings correspond to the approximately 6% reduction in arterial VMT and the approximately 40% decrease to the percentage of cut through traffic in the Study Area. The percentage of AM and PM peak hour trips with travel time savings increases by 10%. The other alternatives result in nominal changes to these performance measures. The findings continue to indicate that the Tunnel Alternative offers positive improvements to regional mobility and congestion reduction.

Transit Performance was evaluated by the number of new transit trips, mode share, Study Area person throughput, and transit accessibility. Although the Tunnel Alternative results in an improvement of over 10,000 new transit trips and an increased daily throughput of 3,000 person trips compared to the No Build Alternative, this level of change is less than those of the other alternatives. Interestingly, the levels of transit mode share and transit accessibility are effectively unchanged and the same across the alternatives. The findings indicate that the Tunnel Alternative would offer some transit performance improvements over the No Build Alternative, but suggest that the other alternatives may not offer an improvement as significant as anticipated.

A parking loss evaluation across the alternatives indicates that the Tunnel Alternative would not result in the temporary or permanent loss of any on-street parking. However, the TSM/TDM and BRT Alternatives would result in substantial loss of on-street parking spaces. In TSM/TDM, the majority of parking loss would be permanent; conversely, BRT would result in primarily peak period parking losses. The LRT Alternative would result in the permanent loss of four spaces.

A traffic volume comparison was performed, plotting the difference in traffic volume from the Tunnel Alternative relative to the TSM/TDM Alternative. This comparison utilized the ADT and Truck ADT data provided in the DEIR. Relative to ADT, the increase and decrease in traffic volume occurs in the anticipated locations, i.e., in the vicinity of each end of the tunnel and within Alhambra. The projected decreases in traffic, however, are not limited to areas within Alhambra; rather, ADT decreases are projected throughout the Study Area. This pattern is more pronounced when examining Truck ADT; the pattern of Truck ADT reduction extends from the freeways (SR 2, I-5, I-10, I-210, I-605) to continuous segments of the arterials (Eagle Rock Boulevard/Cypress Avenue, Huntington Drive, Fremont Avenue, San Gabriel Boulevard, Rosemead Boulevard, Santa Anita Avenue, Peck Road). This comparison corresponds to the results of the System Performance and Highway Performance evaluations, where the Tunnel Alternative offers improvements to regional mobility and congestion reduction.

Based on the analysis detailed above, the Dual Bore Tunnel with Tolls Alternative best meets the Project's Statement of Purpose and Needs.



EAST-WEST SCREENLINE

FIGURE
1

FIGURE 2A
DAILY VHT - REGIONAL

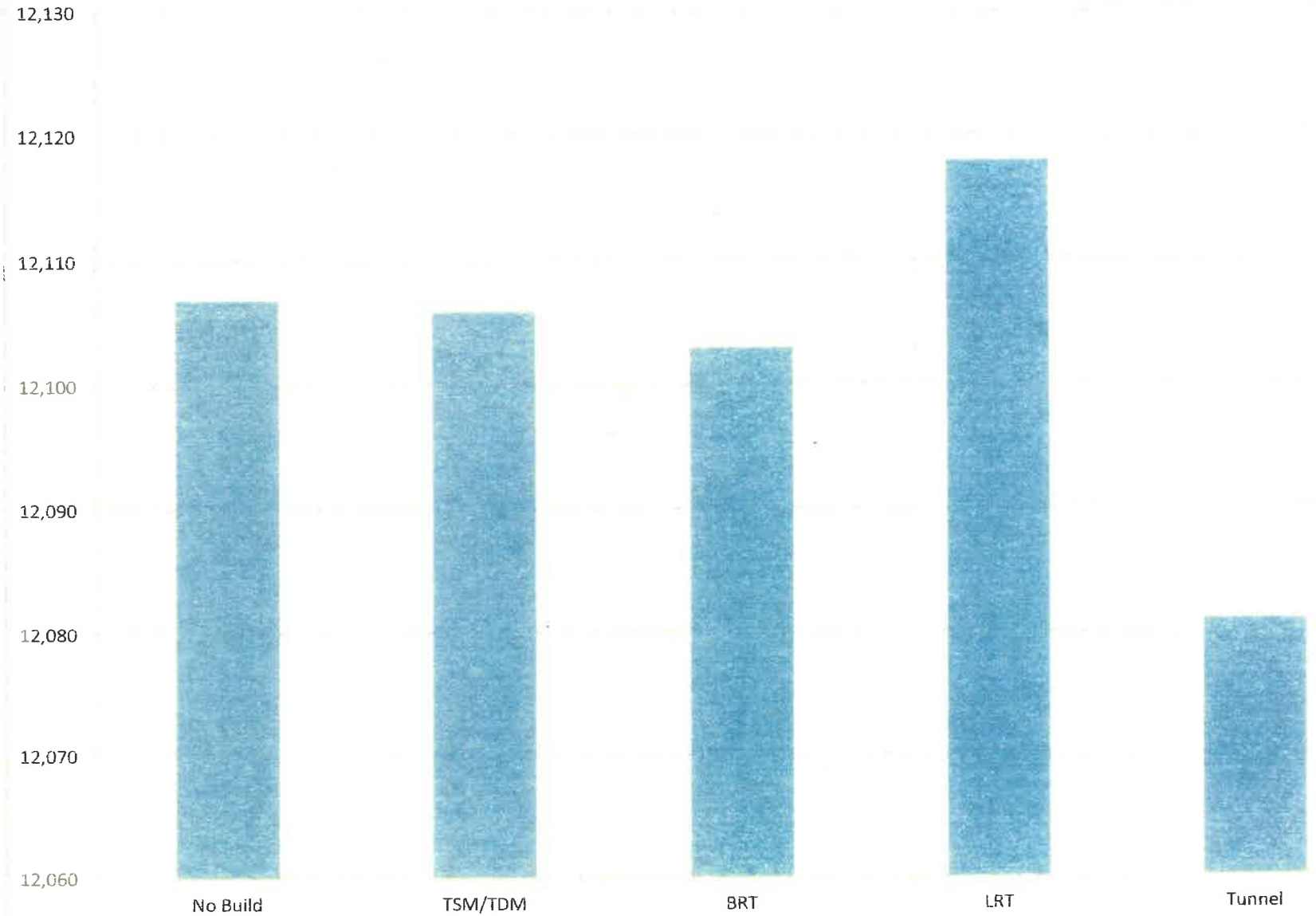


FIGURE 2B
DAILY VMT - REGIONAL

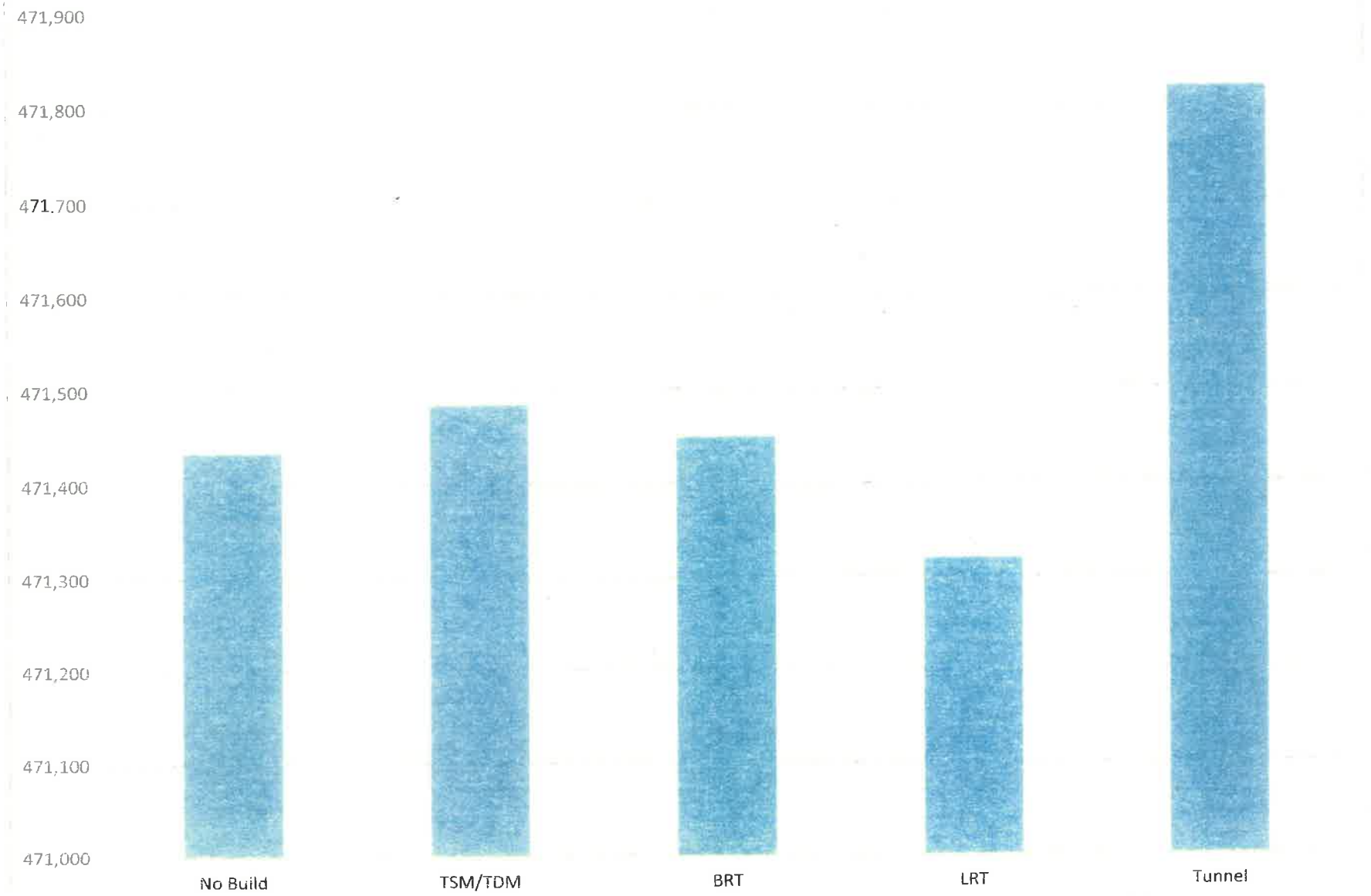


FIGURE 3A
DAILY VHT - STUDY AREA

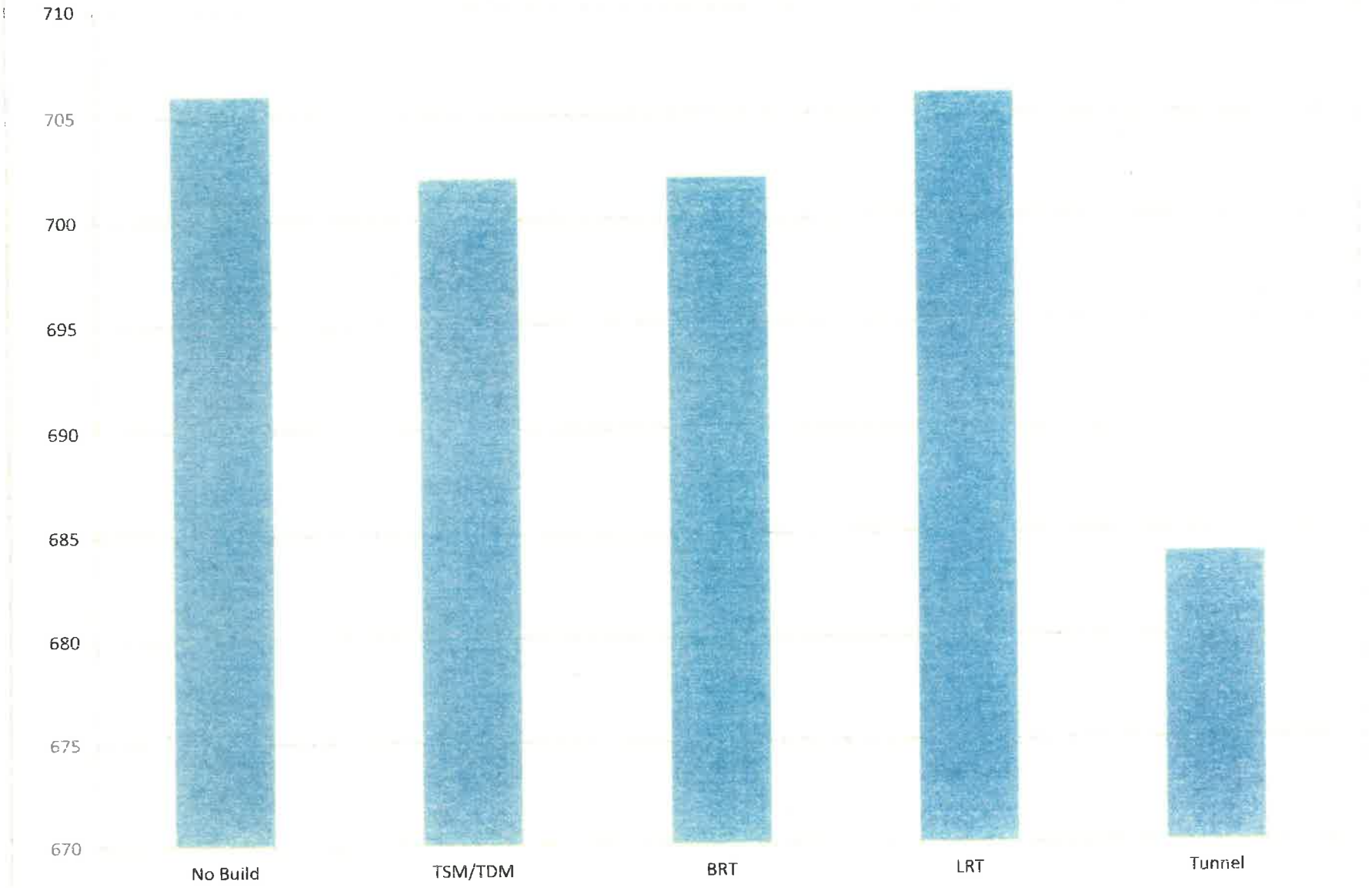


FIGURE 3B
DAILY VMT - STUDY AREA

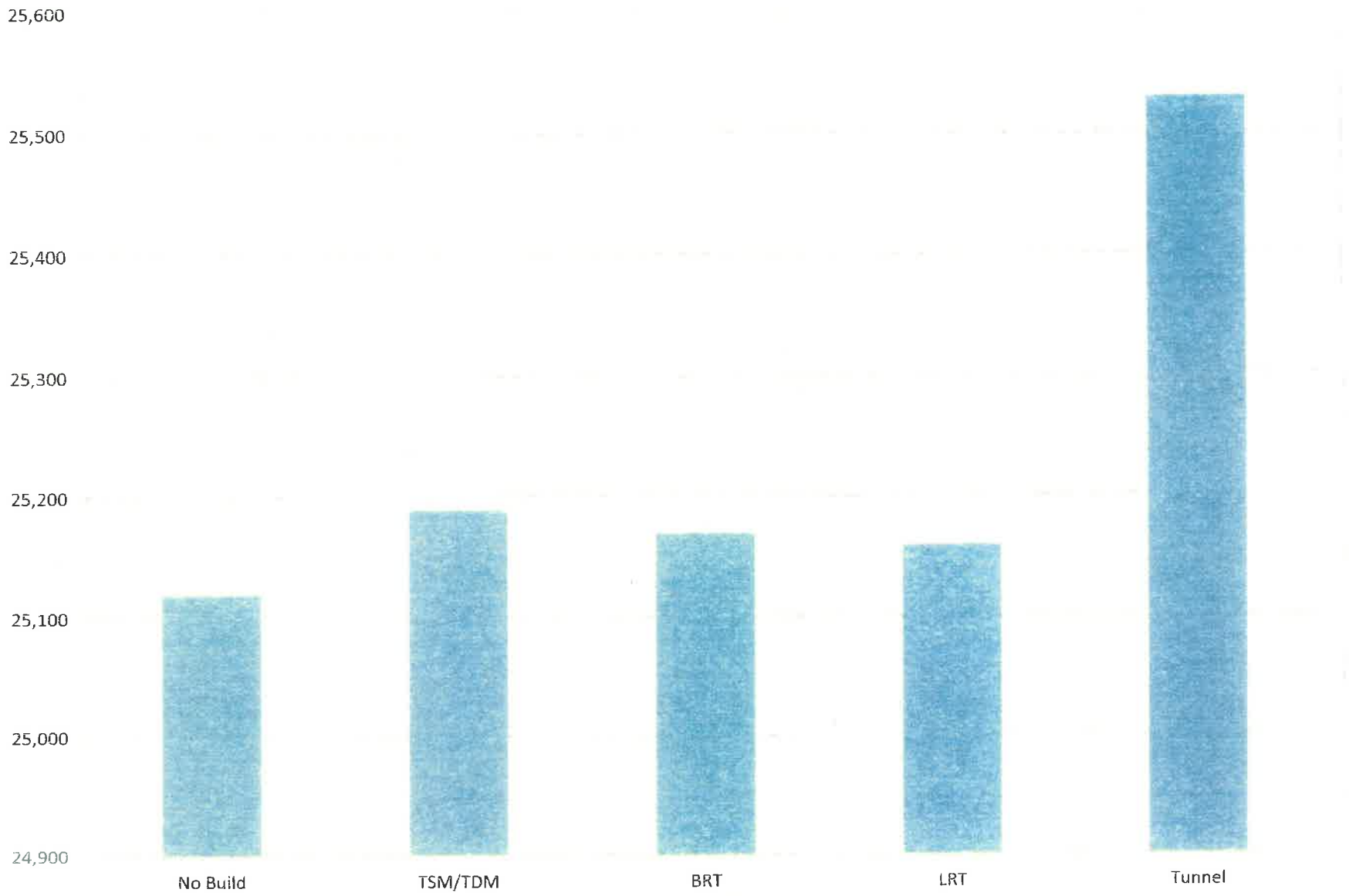


FIGURE 4
DAILY PERSON THROUGHPUT - STUDY AREA

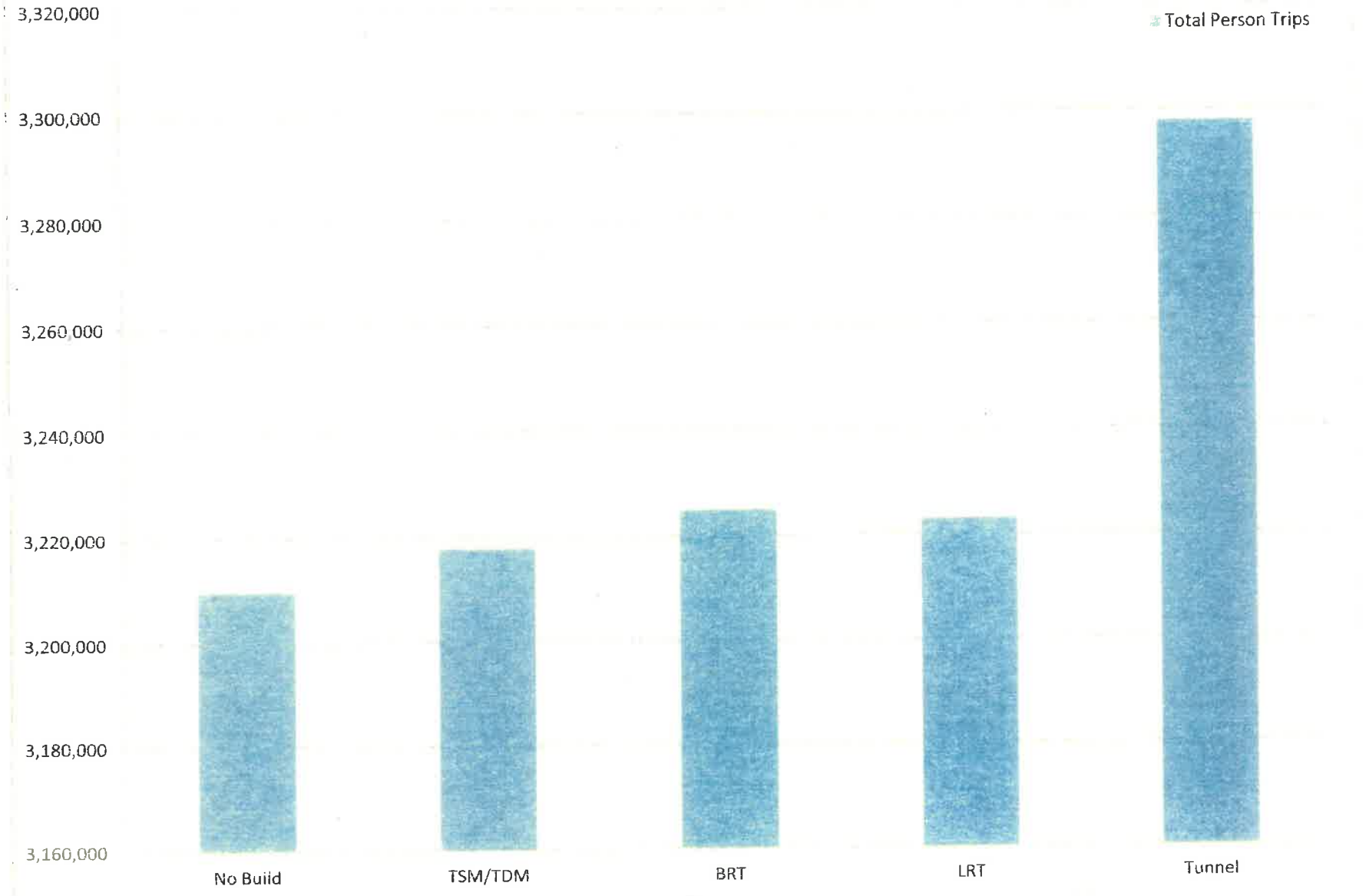


FIGURE 5
DAILY TRAFFIC VOLUME ACROSS SCREENLINE

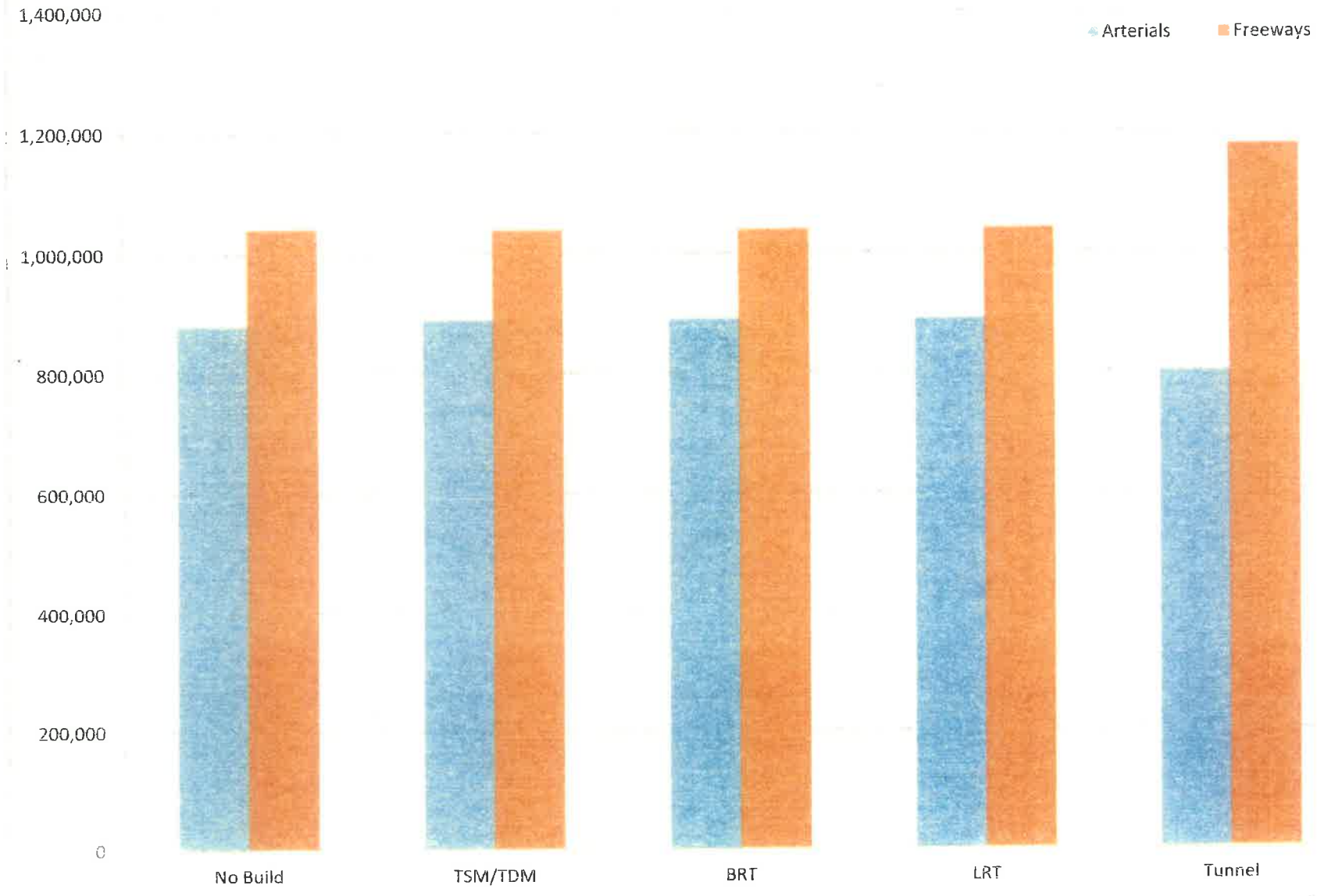
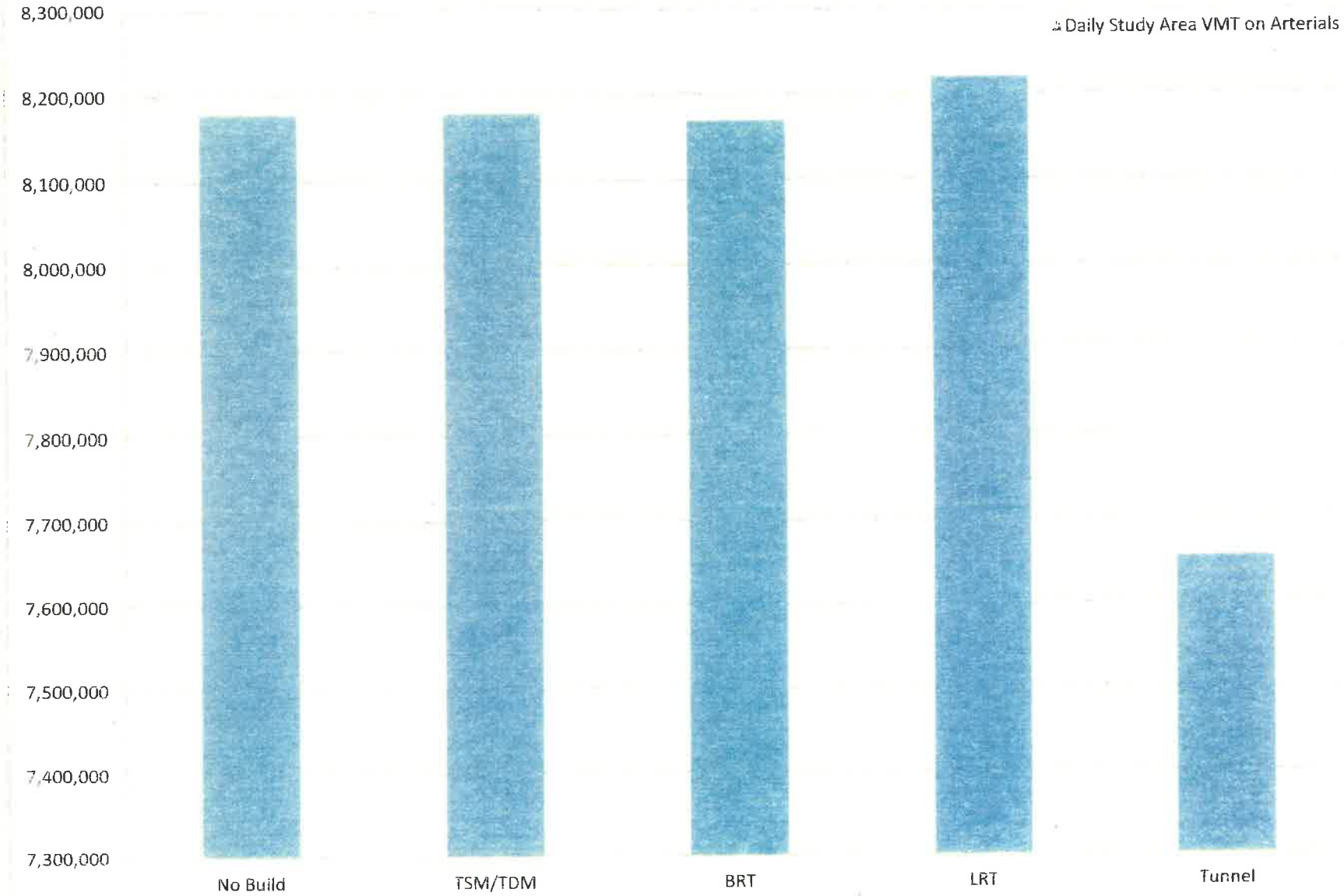
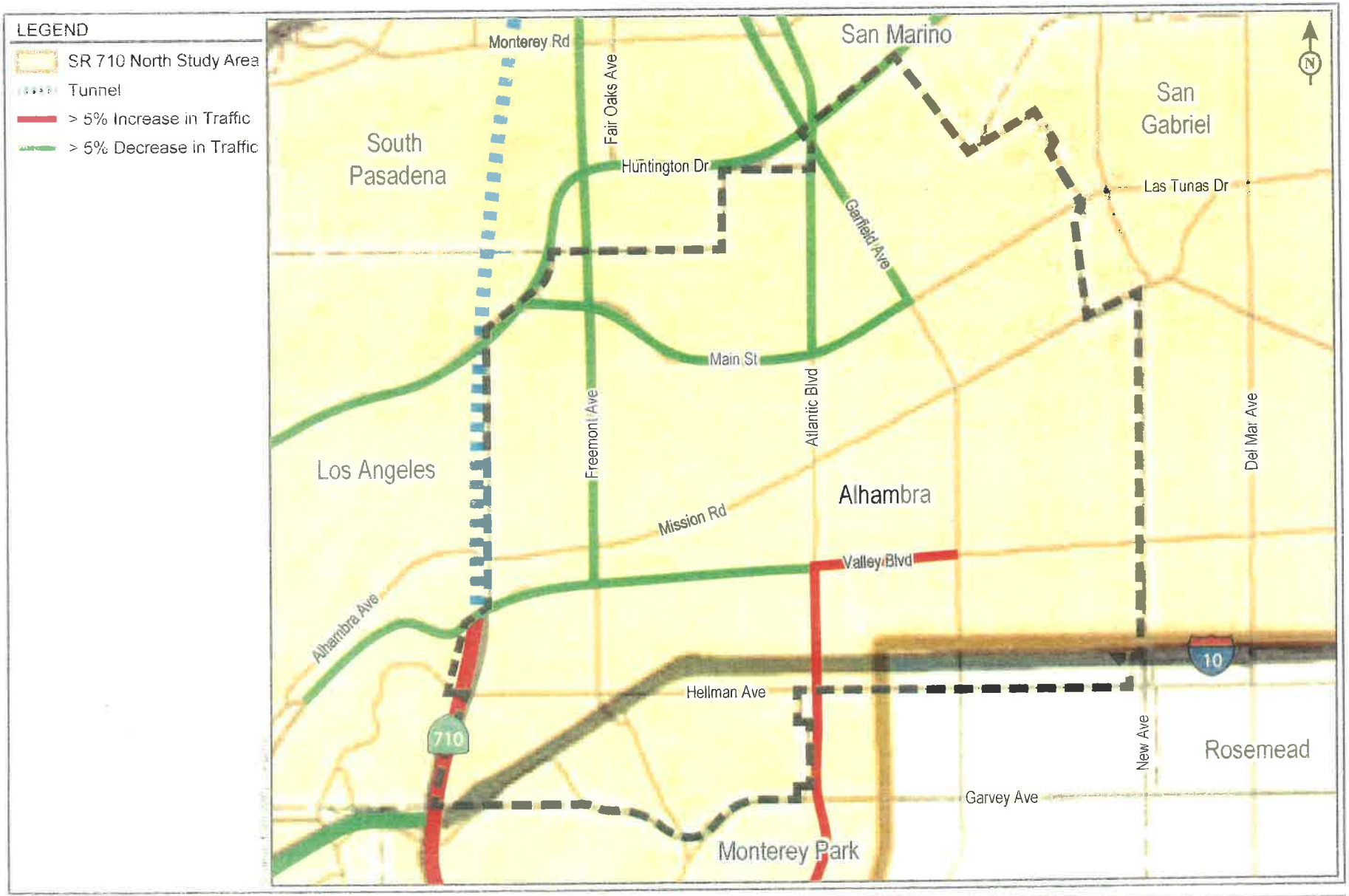


FIGURE 6
TRAFFIC DIVERSION TO LOCAL ARTERIALS



2035 AVERAGE DAILY TRAFFIC
TUNNEL VS TSM/TDM

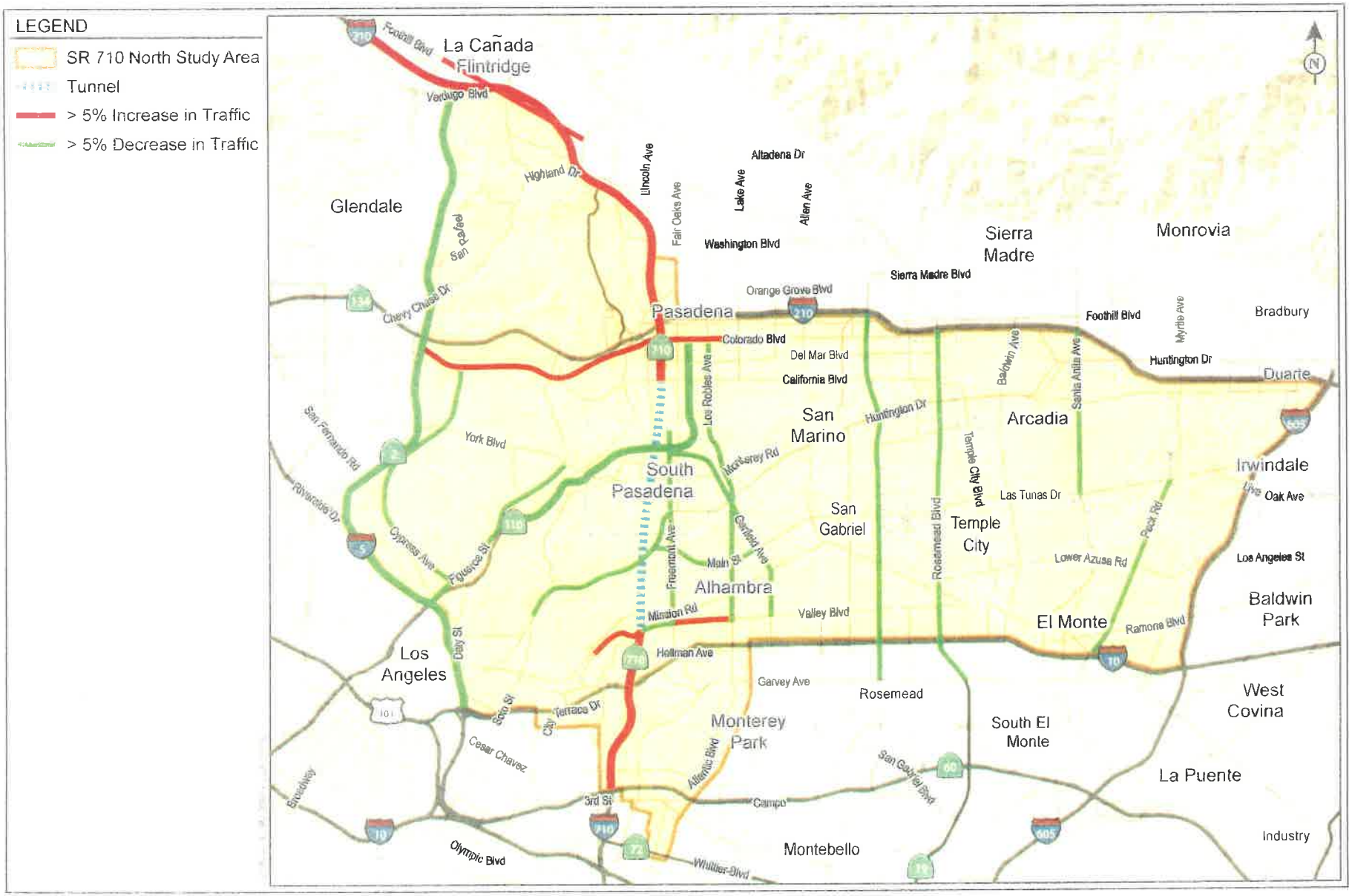
FIGURE
7A



2035 TRUCK TRAFFIC
TUNNEL VS TSM/TDM

FIGURE
7B

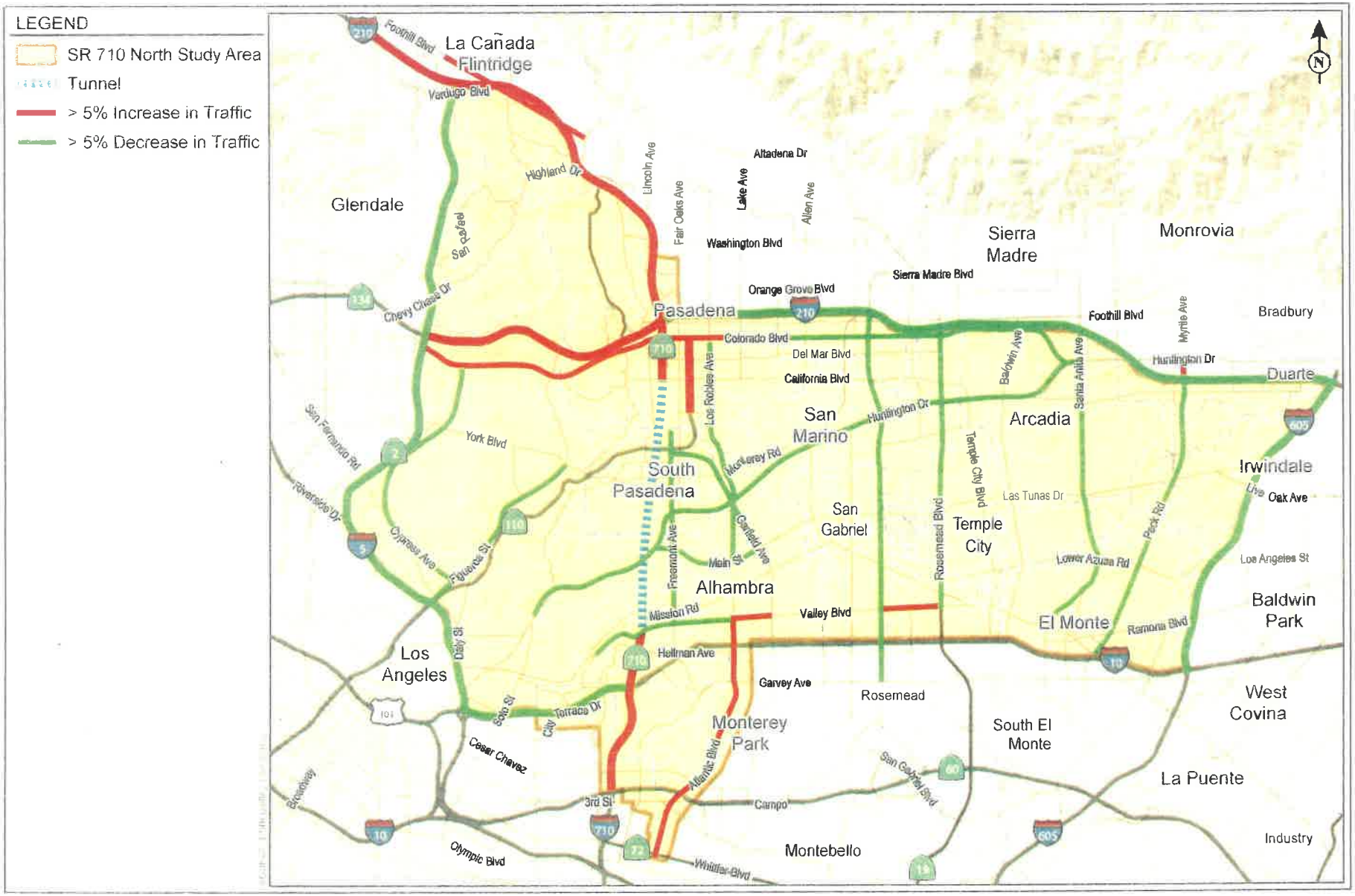
Gibson transportation consulting, llc



2035 AVERAGE DAILY TRAFFIC
TUNNEL VS TSM/TDM

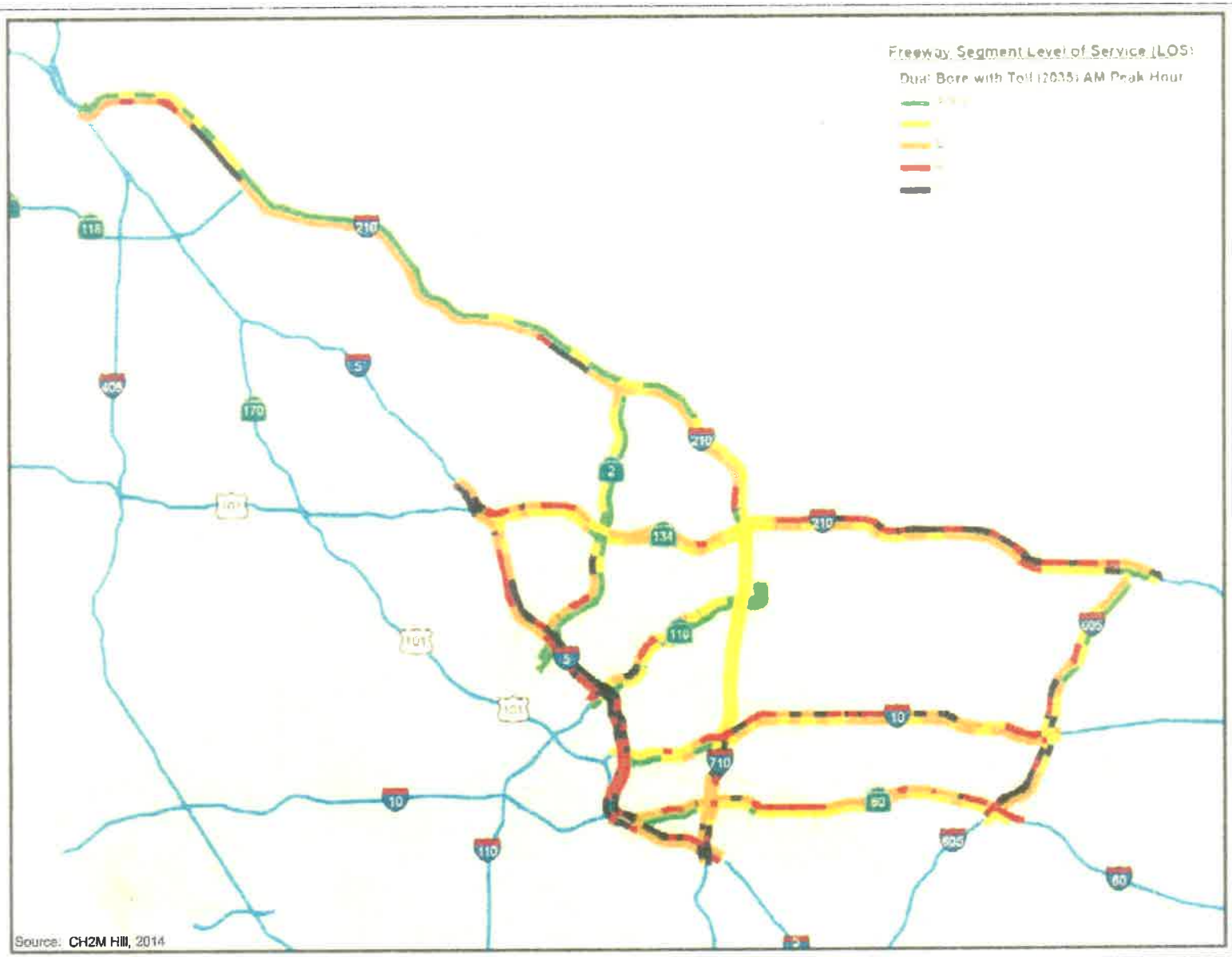
FIGURE 8A

Gibson transportation consulting, inc



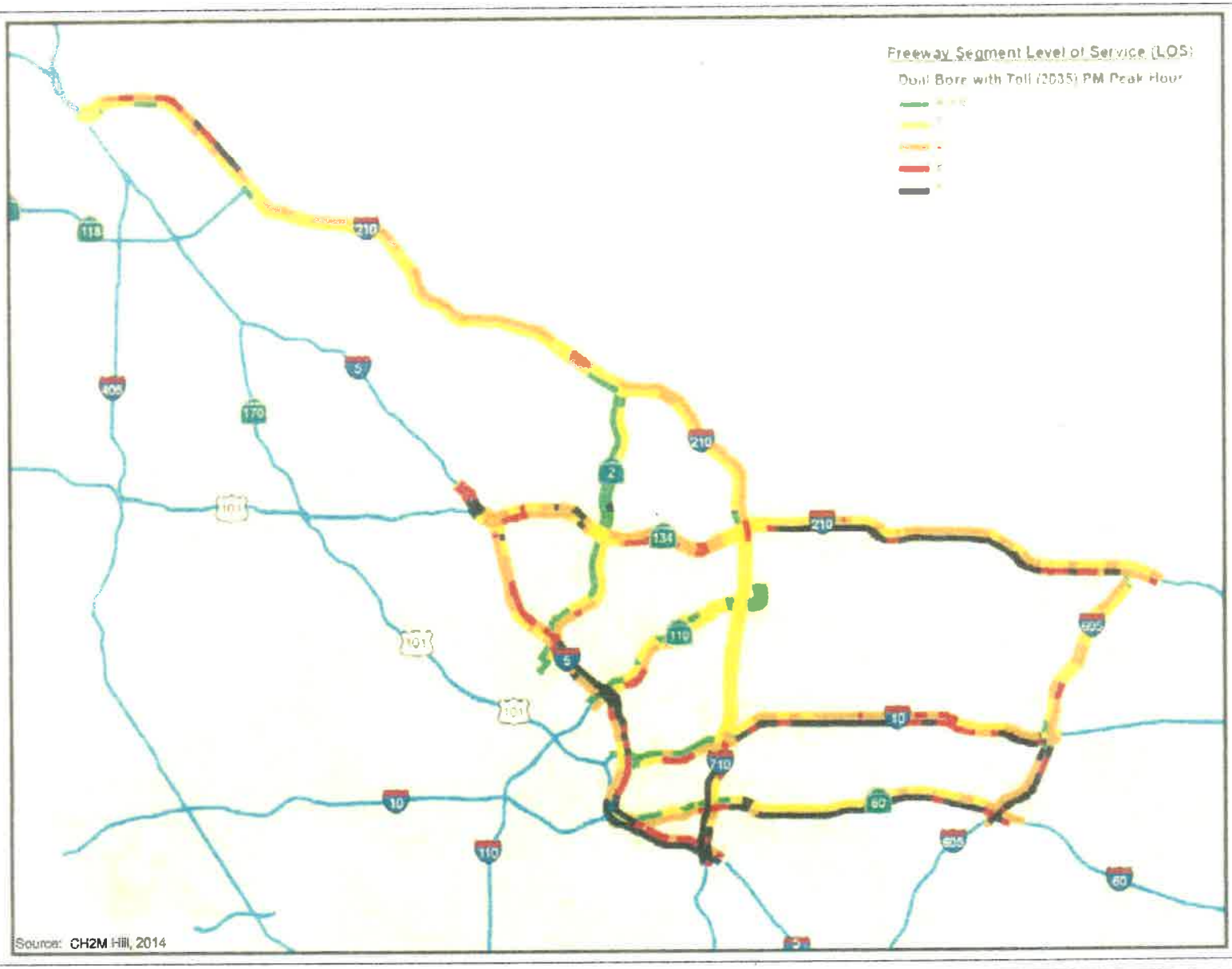
2035 TRUCK TRAFFIC
TUNNEL VS TSM/TDM

FIGURE
8B



2035 FREEWAY LOS -- AM PEAK HOUR -- TUNNEL

FIGURE 9A



2035 FREEWAY LOS -- PM PEAK HOUR -- TUNNEL

FIGURE
9B

TABLE 1

HORIZON YEAR (2035) SYSTEM AND ROADWAY PERFORMANCE MEASURES BY ALTERNATIVE

Performance Measure	No Build	TSM/TDM			BRT			LRT			Tunnel		
	Value	Value	+ / -	%	Value	+ / -	%	Value	+ / -	%	Value	+ / -	%
Regional VMT/VHT [a]													
Daily VMT	471,435	471,485	50	0.01%	471,450	15	0.00%	471,320	-115	-0.02%	471,820	385	0.08%
Daily VHT	12,107	12,106	-1	-0.01%	12,103	-4	-0.03%	12,118	11	0.09%	12,081	-26	-0.21%
Combined AM and PM Peak Period VMT	190,110	190,140	30	0.02%	190,120	10	0.01%	190,175	65	0.03%	190,360	250	0.13%
Combined AM and PM Peak Period VHT	4,985	4,985	0	0.00%	4,984	-1	-0.02%	4,999	14	0.28%	4,981	-4	-0.08%
Study Area VMT/VHT [a]													
Daily VMT	25,120	25,190	70	0.28%	25,170	50	0.20%	25,160	40	0.16%	25,530	410	1.63%
Daily VHT	706	702	-4	-0.57%	702	-4	-0.57%	706	0	0.00%	684	-22	-3.12%
Combined AM and PM Peak Period VMT	10,320	10,350	30	0.29%	10,340	20	0.19%	10,345	25	0.24%	10,520	200	1.94%
Combined AM and PM Peak Period VHT	291	290	-1	-0.34%	290	-1	-0.34%	292	1	0.34%	284	-7	-2.41%
Daily Person Throughput [b]													
Total Person Trips	3,210,000	3,218,000	8,000	0.25%	3,225,000	15,000	0.47%	3,223,000	13,000	0.40%	3,298,000	88,000	2.74%

Notes:

Source: Table 3.5.11 from *SR 710 North Study EIR/EIS*, California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, March 2014

Change in value / % change calculated from No Build alternative

[a] Vehicle Miles Travelled (VMT)/ Vehicle Hours Travelled (VHT) values are expressed as 1,000's.

[b] Daily Person Throughput are daily person trips on East-West Screenline for Autos and Transit.

[c] Daily Traffic Volumes are vehicles crossing the East-West screenline in the Study Area.

TABLE 2

HORIZON YEAR (2035) SYSTEM AND ROADWAY PERFORMANCE MEASURES BY ALTERNATIVE

Performance Measure	No Build	TSM/TDM			BRT			LRT			Tunnel		
	Value	Value	+/-	%	Value	+/-	%	Value	+/-	%	Value	+/-	%
Daily Traffic Volumes													
Arterials Crossing East-West Screenlines	881,000	890,000	9,000	1.02%	891,000	10,000	1.14%	890,000	9,000	1.02%	800,000	-81,000	-9.19%
Freeways Crossing East-West Screenlines	1,042,000	1,039,000	-3,000	-0.29%	1,039,000	-3,000	-0.29%	1,040,000	-2,000	-0.19%	1,178,000	136,000	13.05%
	1,923,000	1,929,000	6,000	0.31%	1,930,000	7,000	0.36%	1,930,000	7,000	0.36%	1,978,000	55,000	2.86%
Traffic Diversion to Local Arterials													
Daily Study Area VMT on Arterials	8,180,000	8,180,000	0	0.00%	8,170,000	-10,000	-0.12%	8,220,000	40,000	0.49%	7,655,000	-525,000	-6.42%

Notes:

Source: Table 4.5 from *SR 710 North Study EIR/EIS,* California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, March 2014.

TABLE 3

HORIZON YEAR (2035) TRANSIT PERFORMANCE BY ALTERNATIVE

Performance Measure	No Build	TSM/TDM	BRT	LRT	Tunnel
New Transit Trips Change in Total Daily Linked Transit Trips in the SCAG Region	--	11,250	13,500	15,350	10,300
Transit Mode Share Study Area Mode Share	4.20%	4.20%	4.30%	4.30%	4.20%
North-South Transit Throughput Daily Person Trips by Transit Crossing East-West Screenline	209,000	211,000	215,000	214,000	212,000
Transit Accessibility Percent of Study Area Population and Employment within 0.25 Mile of High Frequency Service	80.60%	80.60%	80.60%	80.70%	80.60%

Notes:

Source: Table 4-10 from *SR 710 North Study EIR/EIS,* California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, March 2014.

TABLE 4
PARKING LOSS SUMMARY

	Weekday AM/PM Peak Period Parking Loss [a]				Permanent Parking Loss [b]			
City	TSM/TDM	BRT	LRT	Dual Bore w/Toll	TSM/TDM	BRT	LRT	Dual Bore w/Toll
Los Angeles/Alhambra	0	-	0	0	135	-	0	0
Los Angeles	0	118	0	0	0	4	0	0
San Gabriel	0	0	0	0	18	0	0	0
San Marino	0	0	0	0	40	0	0	0
Monterey Park	0	417	0	0	0	23	0	0
Alhambra	26	28	0	0	2	16	0	0
South Pasadena	0	394	0	0	25	27	4	0
Pasadena	0	90	0	0	0	26	0	0
Total	26	1,047	0	0	220	96	4	0

Notes:
Source: Tables 6-2, 6-5, and 6-7 in *SR 710 North Study EIR/EIS Transportation Technical Report* , California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, November 2014.
[a] Permanent parking loss during weekday AM and PM peak periods (estimated to be 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM). Parking will be available off-peak hours.
[b] Permanent parking loss due to final implementation of project. It has been assumed that this loss will not be restored after completion of project.

TABLE 5A
TRAFFIC VOLUMES OF SELECTED ARTERIAL AND FREEWAY SEGMENTS

Selected Facility	Start	End	No Build (2035)		TSM/TDM (2035)		LRT (2035)		ART (2035)		Dual Bore w/Toll (2035)	
			ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
Freeways												
I-210	I-210/I-605 IC West	Rosemead Bl	295,814	38,555	294,679	38,502	296,000	38,299	294,564	38,461	288,219	36,100
	Rosemead Bl	San Gabriel Bl	335,022	39,350	334,241	39,250	335,139	39,068	334,036	39,252	325,990	36,307
	San Gabriel Bl	I-210/I-710 IC East	361,358	39,529	360,719	39,599	361,593	39,366	360,632	39,568	355,734	37,220
	I-210/I-710 IC East	I-210/I-710 IC Mid	263,492	22,591	263,374	22,587	264,836	22,408	263,531	22,552	264,934	21,791
	I-210/I-710 IC Mid	I-210/I-710 IC North	50,507	941	52,553	1,102	51,594	1,024	52,895	1,119	101,408	9,233
	I-210/I-710 IC North	Lincoln Av	170,308	20,388	172,426	20,531	171,474	20,377	172,266	20,505	205,905	26,318
	Lincoln Av	SR 2	162,521	20,231	163,400	20,299	163,074	20,183	163,295	20,277	189,675	25,919
	SR 2	La Crescenta Bl	162,485	21,[illegible]	162,457	21,599	162,763	21,362	162,375	21,524	180,065	25,371
SR 2	I-210/SR 2	SR 2/SR 134 IC North	39,364	7,538	97,909	7,433	98,371	7,123	97,909	7,543	81,144	4,370
	SR 2/ SR 134 IC South	SR 2/I-5 IC North	190,493	13,717	189,176	13,589	190,027	13,543	188,962	13,594	168,397	9,432
I-5	I-5/SR-2 IC South	I-5/SR 110 IC North	291,456	31,923	290,952	31,746	291,013	32,248	290,892	31,544	285,228	27,502
	I-5/SR 110 IC South	I-5/I-10 IC North	306,879	34,894	306,669	34,444	306,452	34,831	306,050	34,116	293,340	28,549
	I-5/I-10 IC South	E Cesar Chavez Av	290,538	27,172	289,925	28,562	290,731	28,153	290,739	27,542	289,392	29,603
SR 134	SR 134/I-210/SR 710 IC	N Figueroa St	285,947	21,157	286,554	21,374	287,982	20,954	285,768	21,094	291,750	22,672
	N Figueroa St	SR 134/SR 2 IC East	288,237	21,138	287,768	21,130	289,538	20,911	288,055	21,047	293,331	22,765
SR 710	SR 710/I-210 IC Mid	SR 710/I-210 IC South	59,507	941	52,553	1,102	51,594	1,024	52,895	1,119	101,308	9,233
	SR 710 North Portal	SR 710 South Portal	-	-	-	-	-	-	-	-	166,501	13,206
	SR 710 South Portal	SR 710/I-10 IC North	61,191	2,215	100,796	3,473	64,213	2,356	99,740	3,485	154,140	14,549
	SR 710/I-10 IC South	SR 710/SR 60 IC	166,381	13,775	174,492	12,314	167,006	12,494	173,758	13,496	195,254	14,768
I-10	I-10/I-5 IC East	I-10/I-710 IC West	311,759	22,303	313,585	20,659	309,157	21,292	312,900	21,401	306,747	15,516
	I-10/I-710 IC West	I-10/I-710 IC East	240,281	13,376	238,512	13,002	236,459	13,116	238,114	13,267	235,516	12,690
	I-10/I-710 IC East	Rosemead Bl	302,894	15,822	300,955	15,871	298,867	15,861	300,814	15,965	309,459	15,903
	Rosemead Bl	I-10/I-605 IC West	256,382	14,372	257,092	14,966	250,355	14,955	257,067	14,926	260,709	14,903
I-605	I-605/I-210 IC South	Los Angeles St	153,766	24,114	152,709	24,170	153,824	23,470	153,270	24,221	148,671	22,552
	Los Angeles St	I-605/I-10 IC North	185,228	25,252	184,323	25,343	185,460	26,033	184,840	25,395	180,360	24,757
SR 110	Glenarm St	S Avenue 52	101,431	0	100,861	0	101,470	0	100,751	0	94,806	0
	S Avenue 52	SR 110/I-5 IC North	154,974	0	153,427	0	155,187	0	153,539	0	147,050	0
Arterials												
Colorado Bl	Ventugo Rd	N Figueroa St	26,004	269	26,263	270	26,486	283	26,246	282	14,055	335
	N Figueroa St	N Lake Av	10,345	156	10,349	151	10,510	154	10,373	148	12,395	186
	N Lake Av	N Hill Av	3,782	11	3,592	0	3,912	0	3,936	0	5,548	0
	N Hill Av	San Gabriel Bl	10,266	76	10,045	94	10,913	93	10,707	95	8,060	98
	San Gabriel Bl	Rosemead Bl	9,627	64	9,355	95	9,686	79	9,364	68	6,330	46
	Rosemead Bl	Huntington Dr	16,281	193	15,359	177	16,353	195	15,784	177	13,483	117
Huntington Dr	Crestfield Dr	Santa Anita Av	21,660	391	21,531	387	21,364	397	21,594	385	20,749	379
	Santa Anita Av	Rosemead Bl	40,766	833	41,577	913	41,856	854	41,675	813	41,316	705
	Rosemead Bl	San Gabriel Bl	50,334	1,174	52,820	1,214	52,557	1,265	52,792	1,230	53,318	1,128
	San Gabriel Bl	Garfield Av	55,827	740	59,541	766	59,894	780	59,661	761	56,224	691
	Garfield Av	Fremont Av	49,744	866	48,400	891	49,266	910	48,603	899	46,139	793
	Fremont Av	Eastern Av	58,511	1,129	59,929	1,203	58,870	1,197	59,954	1,203	47,418	685
	Eastern Av	N Mission Rd	42,645	737	41,344	724	42,224	750	42,087	693	37,650	677
N Broadway	Huntington Dr/N Mission Rd	Avenue 20 San Fernando Rd	40,930	449	39,179	444	40,631	467	39,546	427	18,084	475
E Live Oak Av	Commerce Dr	Peck Rd	36,972	1,107	35,710	1,062	36,977	1,079	36,676	1,100	36,226	1,078
	Peck Rd	Santa Anita Av	24,229	461	23,912	363	24,368	399	23,915	361	23,559	360
Las Tunas Dr	Santa Anita Av	Rosemead Bl	18,918	272	18,502	237	18,855	273	18,512	233	18,611	226
	Rosemead Bl	Garfield Av	24,440	371	24,045	241	24,071	471	23,977	341	23,628	239
	Garfield Av	Palm Av	21,591	222	21,704	237	21,656	223	21,565	253	19,126	171
	Palm Av	Huntington Dr	23,941	414	24,289	499	23,374	443	24,312	493	17,285	287
Valley Bl	I-605	Santa Anita Av	40,305	622	40,156	625	40,671	618	40,131	617	37,975	617
	Santa Anita Av	Rosemead Bl	32,294	406	30,252	391	30,723	396	30,277	390	29,830	379
	Rosemead Bl	San Gabriel Bl	27,019	210	27,750	249	28,299	255	27,766	250	27,903	280
	San Gabriel Bl	Garfield Av	20,725	133	20,717	137	20,595	133	20,684	139	21,413	136
	Garfield Av	Atlantic Bl	11,373	89	11,329	82	11,758	81	11,330	81	13,559	100
	Atlantic Bl	Fremont Av	13,645	179	12,473	124	13,339	171	12,592	132	15,935	125
	Fremont Av	SR 710 Ramps	52,242	1,577	50,758	1,487	56,595	1,577	50,358	1,506	31,931	388
	SR 710 Ramps	N Mission Rd	16,497	559	8,317	293	16,191	536	8,503	299	3,097	114
Myrtle Av	Colorado Bl	I-210	15,369	264	15,736	268	15,845	256	15,759	268	15,358	286
	I-210	Live Oak Av	32,664	737	32,395	742	32,368	736	32,363	735	30,885	689
Peck Rd	Live Oak Av	Valley Bl	28,328	505	27,729	504	27,743	501	27,727	503	25,737	436
	Valley Bl	Garvey Av	41,349	485	41,080	477	41,340	483	41,062	478	41,196	495
Santa Anita Av	Colorado Bl	Las Tunas Dr	26,373	461	26,133	450	26,426	443	26,184	436	24,362	350
	Las Tunas Dr	Valley Bl	29,317	506	28,952	491	29,108	491	28,933	480	27,389	423
	Valley Bl	Garvey Av	42,010	1,415	40,795	1,377	40,271	1,370	40,827	1,381	39,030	1,360
Rosemead Bl	Orange Grove Bl	Huntington Dr	34,413	514	34,592	519	34,698	504	34,691	512	31,508	454
	Huntington Dr	Las Tunas Dr	35,803	730	36,214	744	36,592	758	36,382	761	31,568	516
	Las Tunas Dr	Valley Bl	45,415	839	51,538	943	51,907	956	51,603	952	46,681	848
	Valley Bl	Garvey Av	68,999	1,422	72,376	1,503	72,726	1,552	72,449	1,512	68,135	1,513
San Gabriel Bl	I-210	Huntington Dr	12,512	378	12,472	363	12,437	379	12,487	384	12,424	350
	Huntington Dr	Las Tunas Dr	45,013	731	44,245	736	44,507	752	44,246	763	40,236	602
	Las Tunas Dr	Valley Bl	41,267	614	39,836	603	40,264	638	39,684	635	36,422	575
	Valley Bl	Garvey Av	39,043	626	38,451	601	38,918	623	38,549	633	36,383	557
Fremont Av	Valley Bl	Huntington Dr	50,255	1,451	53,047	1,513	52,908	1,520	52,788	1,549	37,958	1,251
	Huntington Dr	Garfield Av	25,538	555	29,385	650	29,435	582	29,304	582	23,619	402
	Garfield Av	Columbia St	24,052	408	25,225	550	24,947	547	25,271	552	18,181	341
Garfield Av	Fremont Av	Huntington Dr	12,429	37	13,246	34	12,212	30	13,423	33	12,491	18
	Huntington Dr	W Main St	37,543	417	37,716	444	37,824	453	37,742	473	37,050	372
	W Main St	Valley Bl	43,933	441	43,313	407	44,206	454	43,234	435	39,430	408
N Atlantic Bl	Huntington Dr	Main St	45,934	954	47,236	988	46,475	920	47,038	940	36,948	522
	Main St	Valley Bl	53,439	917	51,976	819	53,156	965	52,469	869	47,918	671
	Valley Bl	I-10	50,915	859	50,169	810	52,077	923	50,548	854	50,726	695
	I-10	SR 60	40,267	548	39,862	539	40,211	556	38,751	556	40,368	533
	SR 60	Whittier Bl	41,565	809	41,629	818	41,666	895	41,460	833	42,114	863
S Arroyo Pkwy	Colorado Bl	Glenarm St	55,371	372	55,050	319	54,418	317	54,935	306	47,466	183
S Los Robles	Corson St	Huntington Dr	18,199	206	18,472	211	18,934	231	18,405	236	15,771	167
Eagle Rock Bl	Colorado Bl	Cypress Av	26,705	362	27,283	354	27,371	411	27,194	382	25,369	302
Cypress Av	N Figueroa St	Eagle Rock Bl	23,407	368	23,431	337	23,996	344	23,440	369	23,451	405
N Figueroa	York Bl	I-5	26,010	1,120	25,533	1,029	25,957	1,047	25,465	1,030	23,956	901
York Bl	Eagle Rock Bl	N Figueroa St	18,360	135	18,739	141	18,773	141	18,761	140	18,737	140
N Mission Rd	Huntington Dr	Marengo St	21,292	306	20,023	337	21,088	364	20,151	395	19,709	183
Foothill Bl	Rosemont Av	SR 2	16,381	109	16,392	109	16,409	109	16,266	108	17,268	172
"	SR 2	Angeles Crest Hwy	10,394	62	10,495	62	10,437	62	10,333	61	13,251	78
	Angeles Crest Hwy	Oak Grove Dr	7,621	71	7,701	43	7,429	39	7,691	41	14,015	306
Angeles Crest Hwy	SR 2	Angeles Forest Hwy	33,750	1,479	33,701	1,320	33,677	1,313	32,664	1,315	32,743	1,772

Source: Appendix D, Tables 7.9 & 17 of *SR 710 North Study Air Quality Assessment Report*. California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, 2015

TABLE 3B

TRAFFIC VOLUME COMPARISON OF TUNNEL ALTERNATIVE VERSUS THE BUILD ALTERNATIVES

Selected Facility	Start	End	Dual Bore w/Toll (2035)		vs. TSM/TDM (2035)		vs. LRT (2035)		vs. BRT (2035)	
			ADT	Truck ADT	% Δ ADT	% Δ Truck ADT	% Δ ADT	% Δ Truck ADT	% Δ ADT	% Δ Truck ADT
Freeways										
I-210	I-210/605 IC West	Rosemead Bl	289,210	36,100	2.2%	-6.2%	-2.6%	-5.7%	-2.2%	-6.1%
	Rosemead Bl	San Gabriel Bl	325,990	36,307	2.5%	-6.3%	2.8%	-5.8%	2.4%	-6.2%
	San Gabriel Bl	I-210/I-710 IC East	355,734	37,220	1.4%	-6.0%	-1.6%	-5.5%	-1.4%	-5.9%
	I-210/I-710 IC East	I-210/I-710 IC Mid	268,434	21,791	2.1%	3.5%	1.5%	2.8%	2.0%	3.4%
	I-210/I-710 IC Mid	I-210/I-710 IC North	101,308	9,233	93.7%	737.8%	97.3%	801.7%	93.2%	725.1%
	I-210/I-710 IC North	Lincoln Av	205,305	26,310	19.4%	28.2%	20.1%	29.2%	19.5%	28.3%
	Lincoln Av	SR 2	189,575	25,939	16.1%	27.8%	16.3%	28.5%	16.2%	27.9%
	SR 2	La Crescenta Bl	180,065	25,971	10.8%	20.2%	10.6%	21.6%	10.9%	20.1%
SR 2	I-210/SR 2	SR 2/SR 134 IC North	31,144	4,373	17.1%	-41.2%	-17.9%	-38.6%	-17.1%	-42.0%
	SR 2/ SR 134 IC South	SR 2/I-5 IC North	163,397	8,932	11.0%	-34.3%	-11.4%	-31.5%	-10.9%	-34.8%
I-5	I-5/SR-2 IC South	I-5/SR 110 IC North	235,228	27,509	-2.0%	-13.1%	-2.0%	-14.7%	1.9%	-12.8%
	I-5/SR 110 IC South	I-5/I-10 IC North	293,340	29,649	-4.2%	-14.2%	-4.3%	-15.2%	-4.1%	-13.4%
	I-5/I-10 IC South	E Cesar Chavez Av	289,392	29,604	-0.2%	-3.6%	-0.5%	-5.1%	-0.5%	-2.5%
SR 134	SR 134/I-210/SR 710 IC	N Figueroa St	191,750	22,672	1.4%	-7.1%	1.3%	-8.2%	2.1%	-7.5%
	N Figueroa St	SR 134/SR 2 IC East	293,331	22,765	1.9%	-7.7%	1.8%	-8.9%	1.8%	-8.2%
SR 710	SR 710/I-210 IC Mid	SR 710/I-210 IC South	101,308	9,233	93.7%	737.8%	97.3%	801.7%	93.2%	725.1%
	SR 710 South Portal	SR 710/I-10 IC North	194,140	14,249	92.6%	310.3%	202.2%	502.2%	95.6%	308.7%
	SR 710/I-10 IC South	SR 710/SR 60 IC	195,251	14,768	11.9%	19.9%	16.3%	14.5%	12.4%	9.4%
I-10	I-10/I-5 IC East	I-10/I-710 IC West	306,747	15,518	-2.2%	-24.3%	-0.8%	-27.1%	1.9%	-27.5%
	I-10/I-710 IC West	I-10/I-710 IC East	235,516	12,690	1.3%	2.4%	0.4%	3.3%	-1.1%	-0.3%
	I-10/I-710 IC East	Rosemead Bl	205,459	15,903	1.5%	0.2%	1.3%	0.3%	1.5%	0.2%
	Rosemead Bl	I-10/I-605 IC West	260,709	14,903	1.4%	-0.4%	1.1%	0.3%	1.4%	-0.2%
I-605	I-605/I-210 IC South	Los Angeles St	148,375	22,552	-2.7%	-6.7%	-3.3%	-5.5%	-3.0%	-6.3%
	Los Angeles St	I-605/I-10 IC North	130,360	24,757	2.2%	-5.0%	-2.7%	-4.9%	-2.4%	-6.2%
SR 110	Glenarm St	S Avenue 52	94,306	0	-6.0%	0.0%	-6.6%	0.0%	-5.8%	0.0%
	S Avenue 52	SR 110/I-5 IC North	147,250	0	-4.2%	0.0%	-4.8%	0.0%	-4.2%	0.0%
Arterials										
Colorado Bl	Verdugo Rd	N Figueroa St	28,955	335	10.3%	24.1%	9.3%	18.4%	10.3%	14.8%
	N Figueroa St	N Lake Av	12,395	186	19.8%	23.2%	17.6%	20.8%	19.5%	25.7%
	N Lake Av	N Hill Av	6,633	7	-23.1%	0.0%	-25.9%	0.0%	-25.9%	0.0%
	N Hill Av	San Gabriel Bl	8,050	46	24.3%	-28.1%	-26.1%	-37.0%	-24.7%	-30.4%
	San Gabriel Bl	Rosemead Bl	6,330	46	-32.3%	-29.2%	-44.6%	-41.8%	-32.4%	-32.6%
	Rosemead Bl	Huntington Dr	12,363	112	-18.8%	-36.7%	-21.3%	-42.6%	-18.4%	-36.7%
Huntington Dr	Crestfield Dr	Santa Anita Av	10,749	279	-3.6%	-2.1%	-5.1%	-4.5%	-3.7%	-1.8%
	Santa Anita Av	Rosemead Bl	11,316	705	-0.9%	-13.3%	1.3%	-12.4%	-0.9%	-13.3%
	Rosemead Bl	San Gabriel Bl	53,813	2,128	1.9%	-7.1%	2.4%	-12.2%	1.9%	-8.3%
	San Gabriel Bl	Garfield Av	56,224	691	-9.6%	-9.8%	4.5%	-11.4%	-5.8%	-12.7%
	Garfield Av	Fremont Av	46,139	793	-4.7%	-11.0%	-6.3%	-12.4%	-4.1%	-11.8%
	Fremont Av	Eastern Av	47,412	385	20.9%	-16.7%	-19.5%	-26.1%	-20.9%	-26.4%
	Eastern Av	N Mission Rd	37,330	638	-9.5%	-11.9%	-10.7%	-14.2%	-10.1%	-7.9%
N Broadway	Huntington Dr/N Mission Rd	Avenue 20 San Fernando Rd	38,844	425	-1.8%	-4.3%	-4.7%	-9.0%	2.2%	-0.5%
E Live Oak Av	Commerce Dr	Peck Rd	36,216	1,078	1.3%	1.6%	2.1%	-0.1%	1.3%	2.0%
	Peck Rd	Santa Anita Av	23,556	360	-1.5%	-0.8%	3.4%	-9.8%	-1.5%	-0.3%
Las Tunas Dr	Santa Anita Av	Rosemead Bl	18,611	226	0.6%	-4.6%	1.3%	-11.7%	0.5%	-3.0%
	Rosemead Bl	Garfield Av	23,628	239	1.3%	1.6%	1.9%	-11.5%	1.5%	6.8%
	Garfield Av	Palm Av	18,126	171	-16.5%	-27.8%	-16.3%	-21.1%	-15.9%	-32.4%
	Palm Av	Huntington Dr	17,285	267	-28.8%	-46.5%	-25.7%	-39.7%	-29.0%	-46.5%
Valley Bl	I-605	Santa Anita Av	39,976	617	-0.4%	-1.3%	1.7%	-0.3%	-0.4%	0.0%
	Santa Anita Av	Rosemead Bl	29,830	379	-1.4%	-3.1%	2.9%	-4.3%	-1.5%	-2.3%
	Rosemead Bl	San Gabriel Bl	27,903	280	0.6%	-12.4%	-1.4%	-9.8%	0.5%	-12.0%
	San Gabriel Bl	Garfield Av	21,418	136	3.4%	-0.7%	4.0%	-2.3%	3.5%	-2.2%
	Garfield Av	Atlantic Bl	13,559	109	19.7%	-32.9%	-14.9%	-32.9%	19.7%	-34.0%
	Atlantic Bl	Fremont Av	15,935	115	-27.3%	-7.3%	-19.5%	-32.7%	-26.5%	-12.9%
	Fremont Av	SR 710 Ramps	31,931	983	-37.1%	-33.6%	-43.7%	-47.4%	-37.3%	-38.5%
	SR 710 Ramps	N Mission Rd	9,097	114	-9.4%	-61.1%	-43.8%	-78.7%	7.0%	-41.8%
Myrtle Av	Colorado Bl	I-210	35,358	286	-2.4%	-8.7%	-1.8%	-10.9%	-2.8%	-8.7%
	I-210	Live Oak Av	30,389	689	4.7%	-7.1%	-4.6%	-6.4%	-4.6%	-9.3%
Peck Rd	Live Oak Av	Valley Bl	35,737	436	-7.2%	-13.5%	-7.4%	-13.0%	-7.2%	-14.0%
	Valley Bl	Garvey Av	41,169	495	0.2%	-3.8%	-0.1%	-1.2%	0.3%	-3.9%
Santa Anita Av	Colorado Bl	Las Tunas Dr	24,362	350	-6.8%	-22.2%	-7.8%	-21.0%	-6.9%	-19.7%
	Las Tunas Dr	Valley Bl	37,389	423	-3.7%	-13.9%	-4.2%	-13.8%	-3.6%	-11.9%
	Valley Bl	Garvey Av	39,030	1,360	-4.3%	-1.2%	-3.1%	-0.7%	-4.1%	-1.5%
Rosemead Bl	Orange Grove Bl	Huntington Dr	31,506	154	-8.0%	-12.5%	-9.2%	-9.9%	-8.9%	-11.5%
	Huntington Dr	Las Tunas Dr	31,568	616	-13.1%	-17.2%	-13.7%	-18.7%	-13.2%	-18.1%
	Las Tunas Dr	Valley Bl	46,681	848	-9.4%	-10.1%	-10.1%	-11.3%	-9.3%	-10.3%
	Valley Bl	Garvey Av	66,135	1,513	-5.9%	0.3%	-6.3%	-2.5%	-6.0%	0.1%
San Gabriel Bl	I-210	Huntington Dr	37,824	550	-14.3%	-24.7%	-14.2%	-26.1%	-14.4%	-17.1%
	Huntington Dr	Las Tunas Dr	40,186	602	-9.2%	-18.2%	-9.7%	-19.9%	-9.2%	-21.1%
	Las Tunas Dr	Valley Bl	36,422	475	-8.1%	-21.2%	-9.8%	-25.5%	-8.2%	-15.1%
	Valley Bl	Garvey Av	36,383	557	-5.4%	-9.1%	-6.5%	-10.6%	-5.6%	-12.0%
Fremont Av	Valley Bl	Huntington Dr	37,958	1,251	28.4%	-17.4%	-28.3%	-20.8%	-28.4%	-21.3%
	Huntington Dr	Garfield Av	23,510	403	-21.2%	-38.0%	-19.8%	-40.9%	-21.0%	-39.0%
	Garfield Av	Columbia St	18,161	345	28.3%	-45.6%	-27.2%	-47.0%	-28.1%	-47.4%
Garfield Av	Fremont Av	Huntington Dr	12,191	13	-5.7%	-47.1%	2.3%	-40.0%	-6.9%	-45.5%
	Huntington Dr	W Main St	42,950	372	-10.0%	-16.2%	-10.2%	-17.9%	-10.0%	-21.4%
	W Main St	Valley Bl	39,930	803	-8.1%	0.2%	-9.9%	-12.5%	-7.9%	8.3%
N Atlantic Bl	Huntington Dr	Main St	36,048	522	-21.5%	-24.1%	-20.5%	-27.5%	-22.4%	-29.5%
	Main St	Valley Bl	47,915	813	-7.8%	0.9%	-10.0%	-15.1%	-8.7%	-6.5%
	Valley Bl	I-10	50,728	895	1.1%	10.9%	-4.2%	3.0%	0.4%	4.3%
	I-10	SR 60	30,363	637	1.3%	17.4%	0.4%	13.8%	4.2%	14.3%
	SR 60	Whittier Bl	42,134	869	2.4%	6.2%	1.3%	8.0%	1.6%	4.3%
S Arroyo Pkwy	Colorado Bl	Glenarm St	47,466	182	-13.8%	-51.4%	-12.8%	-52.4%	-13.6%	-57.8%
S Los Robles	Corson St	Huntington Dr	15,221	167	-14.6%	-20.9%	-14.3%	-27.7%	-14.3%	-29.2%
Eagle Rock Bl	Colorado Bl	Cypress Av	25,369	302	-7.0%	-16.2%	-7.3%	-26.5%	-6.7%	-20.3%
Cypress Av	N Figueroa St	Eagle Rock Bl	19,451	405	-17.0%	-7.3%	-15.4%	-25.6%	-17.0%	-13.6%
N Figueroa	York Bl	I-5	23,956	301	-6.2%	-22.2%	-7.7%	-24.2%	-5.9%	-22.2%
York Bl	Eagle Rock Bl	N Figueroa St	18,767	147	0.7%	4.3%	0.0%	4.3%	0.0%	3.0%
N Mission Rd	Huntington Dr	Marengo St	19,709	433	1.8%	-0.9%	-6.5%	-6.7%	-3.2%	0.6%
Foothill Bl	Rosemont Av	SR 2	17,268	112	5.3%	2.8%	5.2%	1.8%	6.0%	3.7%
	SR 2	Angeles Crest Hwy	13,251	76	27.5%	22.5%	27.0%	22.6%	27.6%	22.6%
	Angeles Crest Hwy	Oak Grove Dr	11,015	106	43.0%	27.7%	44.4%	34.2%	43.2%	27.7%
Angeles Crest Hwy	SR 2	Angeles Forest Hwy	23,945	1,973	0.7%	2.7%	0.8%	3.1%	0.8%	3.0%