MOORPARK CITY COUNCIL
AGENDA REPORT

TO: **Honorable City Council**

FROM: **Dave Klotzle, City Engineer/Public Works Director**

DATE: **April 3, 2015 (CC Meeting of 04/15/15)**

SUBJECT: **Consider Feasibility Study of a Second Vehicular Access to Arroyo Vista Community Park (Project 8089)**

BACKGROUND

On March 19, 2014, the City Council authorized the City Manager to sign a consultant agreement with J.L. Patterson & Associates, Inc. (J.L. Patterson) to complete a feasibility study of a second vehicular access to Arroyo Vista Community Park (AVCP). A second access would not only improve circulation and ease traffic congestion into and out of the park, but it would also improve the ability of emergency and public safety vehicles to access the park during "high use" events.

Previously, the City Council directed staff to include the following alternative second access locations in the feasibility study:

1) An extension of Leta Yancy Road through the southeast corner of the proposed Pacific Communities development.
2) An extension of the central north-south road in the proposed Pacific Communities development in approximate alignment with Shasta Avenue.
3) An extension of Mesa Verde Drive east of the park, across SCE property and down the slope to the park.

The first two locations would require the construction of a new bridge across the Arroyo Simi. The current pedestrian/equestrian/emergency access bridge was not designed to accommodate vehicular traffic from regular park use. In addition, the access easement granted by Southern California Edison south of the existing bridge, across their property, does not allow for such traffic. It was not recommended to study second access locations from the vicinity of Moorpark Avenue or Beltramo Road due to the extensive right-of-way, grading and street improvement requirements that would be involved with these locations.

DISCUSSION

J.L. Patterson has completed the attached feasibility study. The study evaluated each second access alternative including traffic impacts, right-of-way and permitting requirements, required environmental documentation and estimated costs.

Traffic Impacts

Representative traffic volumes for existing conditions were obtained on the roadway segments directly connected to the studied second access locations including Leta Yancy Road, Mesa Verde Drive and both east/west and north/south directions of Peach Hill Road. Traffic volumes were also obtained at the intersections of Los Angeles Avenue and Shasta Avenue; Los Angeles Avenue and Leta Yancy Road; Peach Hill Road and Mesa Verde Drive; and Peach Hill Road and Spring Road. Additionally, during a large soccer tournament at AVCP, traffic volumes were obtained on the AVCP access driveway and at the intersection of the access driveway and Tierra Rejada Road to provide an understanding of the traffic volumes generated by large events at the park.

The traffic volume data was analyzed to compare the existing conditions to the condition of half of the traffic from a large event using the second access. This analysis was completed separately for each of the alternative second access locations. The analysis resulted in minor increases to the amount of traffic and no change to the level of service at the study locations as summarized in the table on the following page. While each studied alternative would result in increased traffic on the adjoining streets, the level of service on each road and at each intersection would remain at an acceptable level, which is level of service C or better.

Impacts to traffic on streets adjoining any of the second access locations would be expected to increase further during large events, such as the City's July 3rd event, where most all attending vehicles enter and exit during a short time span. This is expected to occur only once or twice per year. The extent of these occasional traffic impacts is also limited by the fixed number of total parking spaces available. There are 798 parking spaces within AVCP including the parking lots, interior access road, and the future spaces that are planned to be added with the AVCP trail and parking lot improvement project. There are an additional 43 parking spaces along the access road leading into AVCP and the three Moorpark High School (MHS) parking lots along the access road have a total of 254 parking spaces. The total number of possible parking spaces accessed from the entrance to AVCP from Tierra Rejada Road is 1,085.

The intersection of the AVCP access road and Tierra Rejada Road is controlled by law enforcement during significantly large events to improve the flow of traffic in and out of the events. While a major traffic collision at this intersection during a large event would further impact the flow of traffic, the officer-controlled traffic movements and the relatively low vehicle speeds during periods of traffic congestion, lower the possibilities

of a major collision. There has been a relatively low occurrence of six documented collisions of varying degree at this intersection over the past two and a half years. None of those collisions were reported to have closed the access to AVCP. In the unlikely event that access is closed at the intersection, an alternative emergency access route exists from the MHS administrative parking lot to the school driveway exiting onto Tierra Rejada Road, in addition to the existing pedestrian bridge.

Traffic Impact Analysis

Roadway Segment	**Existing Peak Hour Volume (vehicles)**	**Peak Hour Volume w/ Second AVCP Access during Large Event (vehicles)**	**Increase in Traffic**
Leta Yancy Road	86	107	24.4%
Mesa Verde Drive	83	103	24.1%
Peach Hill Road e/w	540	669	23.9%
Peach Hill Road n/s	322	399	23.9%

Intersection	Existing Peak Hour Level of Service	Peak Hour Level of Service w/ Second AVCP Access
L.A. Ave. & Shasta	C	C
L.A. Ave. & Leta Yancy	A	A
Peach Hill & Mesa Verde	A	A
Peach Hill & Spring	A	A

Right-of-Way and Permitting

Ownership of the properties that would be affected by each of the second access alternatives was determined, as well as permitting requirements from several agencies. Acquisition of right-of-way, slope easements and permits would be required for each alternative as summarized in the following table.

Second Access Alternative	Right-of-Way/Easement	Permits
Leta Yancy Road	SCE VCWPD Pacific Communities	VCWPD RWQCB CAF&W USF&W USACE
Pacific Communities/Shasta Ave.	SCE VCWPD Pacific Communities	VCWPD RWQCB CAF&W USF&W USACE
Mesa Verde Dr.	SCE	None

SCE – Southern California Edison
VCWPD – Ventura County Watershed Protection District
RWQCB – Regional Water Quality Control Board
CAF&W – California Fish and Wildlife
USF&W – U.S. Fish and Wildlife
USACE – U.S. Army Corps of Engineers

Coordination with Ventura County Waterworks District No. 1 and SCE will also be required with each alternative location to determine the impacts to any existing water, sewer and electrical utility facilities.

Environmental Documentation

All of the second access alternative locations would require the preparation of environmental documentation in accordance with the California Environmental Quality Act (CEQA). It is anticipated that an Initial Study leading to a Mitigated Negative Declaration would be the appropriate CEQA documentation for each alternative. Each alternative may have varying degrees of environmental impacts resulting in the need for varying levels of required documentation and technical studies.

Cost Estimate

The estimated costs associated with each of the second access alternative locations are listed in the following table. While these costs provide a general comparison between the alternatives, it should be noted that they are very preliminary study level costs and the actual costs may be different.

Description	**Leta Yancy Rd.**	**Pacific Communties Shasta Ave.**	**Mesa Verde Dr.**
Design	$400,000	$550,000	$150,000
Right-of-Way	$540,000	$1,875,000	$515,000
Environmental/Permitting	$250,000	$250,000	$250,000
Construction	$4,950,000	$6,800,000	$1,760,000
Inspection/Testing	$500,000	$700,000	$180,000
Total	**$6,640,000**	**$10,175,000**	**$2,855,000**

Note: For comparison purposes, the costs listed for the Pacific Communities/Shasta Avenue alternative includes the right-of-way and road construction costs within the proposed residential development project. If the development project dedicates the necessary right-of-way and constructs the road within the project, the cost for this alternative would be approximately $8,175,000.

Conclusion

The feasibility study has determined that all three alternative locations for a second access to AVCP are feasible with varying levels of constraints and costs. The connection to Mesa Verde Drive requires less right-of-way and easements than the other two alternatives, and is the least expensive alternative, largely because a bridge and associated permitting is not required. However, the Mesa Verde Drive alternative would increase the amount of traffic on residential streets with more homes than the other two alternatives.

The connection through Pacific Communities aligning with Shasta Avenue is the most expensive alternative, requiring more right-of-way and easement area, and a greater length of roadway than the other alternatives. This alternative would also be dependent on modifications to the layout of the Pacific Communities development to accommodate the proposed alignment, and the development project moving forward to construction, the timing of which is not certain at this point. Even if the development project was required to dedicate the right-of-way and construct the road within the development, this alternative would still be the most expensive alignment.

The connection to Leta Yancy Road is the least expensive of the alternatives requiring a bridge over the Arroyo Simi. The additional traffic from this alternative would affect fewer streets and residences than the other two alternatives. Additionally, this alternative would utilize the existing signalized intersection at Leta Yancy Road and Los Angeles Avenue.

The impacts of additional traffic from any of the second access alternatives may be cause to consider limitations on when the second access is available for use. For instance, gates could be installed to restrict the use of the second access to only heavily attended events at AVCP such as the City's 3rd of July event, large sporting events or on a case by case basis. The gates could be configured to restrict vehicle access only, allowing pedestrians and bicycles to use the second access at all times. The second access would be available for use at any time for emergency response. The existing pedestrian bridge at Villa Campesina Park continues to be available for emergency access to and from AVCP, however, the bridge has rarely been used for those purposes.

FISCAL IMPACT

The feasibility study level of estimated costs for a second access to AVCP range from approximately $10 million to $3 million. The cost of right-of-way, easements and a bridge over the Arroyo Simi are the largest cost factors of the second access. A funding source has not been identified for proceeding with a second access to AVCP.

STAFF RECOMMENDATION

Based on the cost of a second access, and the relatively infrequent occurrence of large events, it is not recommended to pursue a second access to AVCP.

Attachment: Feasibility Study of a Second Vehicular Access to AVCP, February 3, 2015

Feasibility Study for a Second Vehicular Access to Arroyo Vista Community Park City of Moorpark, CA

February 3, 2015

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Introduction

This report will study three alternatives for a second access route into the Arroyo Vista Community Park (AVCP). Currently, the only access into the AVCP is provided from a driveway connected to the Countrywood Drive and Tierra Rejada Road intersection. Secondary access for pedestrians, equestrians, and emergencies is currently provided via a bridge crossing the Arroyo Simi, located near the south end of Leta Yancy Road. However, the bridge currently cannot accommodate regular vehicular access due to its narrow width. An alternative access would improve circulation and ameliorate traffic congestion, as well as improve access for emergency vehicles during park events.

This report identifies three alternatives for the establishment of a second vehicular access to AVCP. The following three access alternatives are evaluated in this study:

- Alternative 1: Extension of Leta Yancy Road (including a new bridge)
- Alternative 2: New street access from the south extension of Shasta Avenue through the proposed Pacific Communities development (including a new bridge)
- Alternative 3: Extension of Mesa Verde Drive through the park

Alternative Routes

Three alternatives were selected for full secondary access to the AVCP as shown on the following page.

Alternative 1: Extension of Leta Yancy Road

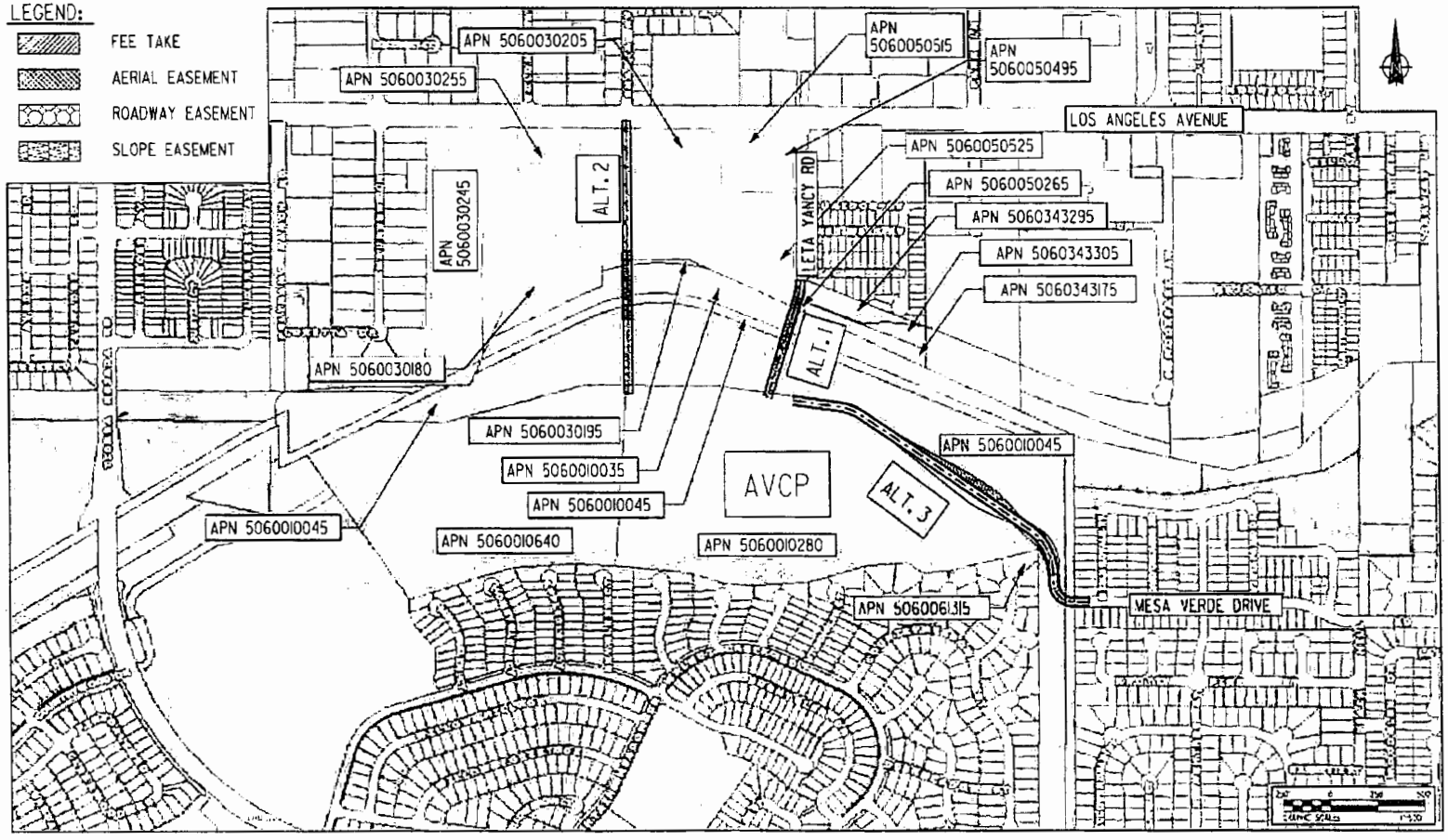
This alternative would construct a bridge across the Arroyo Simi, downstream and west of the existing pedestrian/equestrian/emergency bridge, and include a roadway extension of Leta Yancy Road into the AVCP. It would be effective from a traffic circulation perspective, as it would provide the most direct connection to the roadway system when compared to the other alternatives. However, park traffic would need to use Leta Yancy Road, which is an existing residential street, and furthermore, it would directly impact the residential streets connecting to Leta Yancy Road. In addition, construction of a bridge over the Arroyo Simi would require procurement of permits. Finally, other right-of-way and easement issues and potential impacts to water and/or sewer lines would also need to be addressed.

Alternative 2: Shasta Avenue Extension through Pacific Communities Development

This alternative would construct a bridge across the Arroyo Simi at the south extension of Shasta Avenue, and include a roadway extension of Shasta Avenue to the intersection with Los Angeles Avenue, then continue through the Pacific Communities subdivision (proposed development) and into the AVCP. This alternative is similar to Alternative 1, except that it would pass traffic through the proposed Pacific Communities subdivision rather than an existing neighborhood. This would require coordination with Pacific Communities to accommodate park access through their property.

Alternative 3: Extension of Mesa Verde Drive

This alternative would construct a roadway from the east end of the AVCP property to the western terminus of Mesa Verde Drive. This alternative does not require construction of a bridge over the Arroyo Simi, so impacts associated with the Arroyo Simi can be avoided. However, park traffic would be introduced to the existing neighborhood east of the park. In addition, this alternative would be less desirable from a traffic circulation perspective, as park users from the north side of the city would need to travel a more circuitous route from Spring Road to access the park as compared to the more direct access from Los Angeles Avenue.



PRELIMINARY DRAFT

CITY OF MOORPARK
DEPARTMENT OF PUBLIC WORKS
AVCP SECOND ACCESS FEASIBILITY STUDY

OVERALL R/W ACQUISITIONS

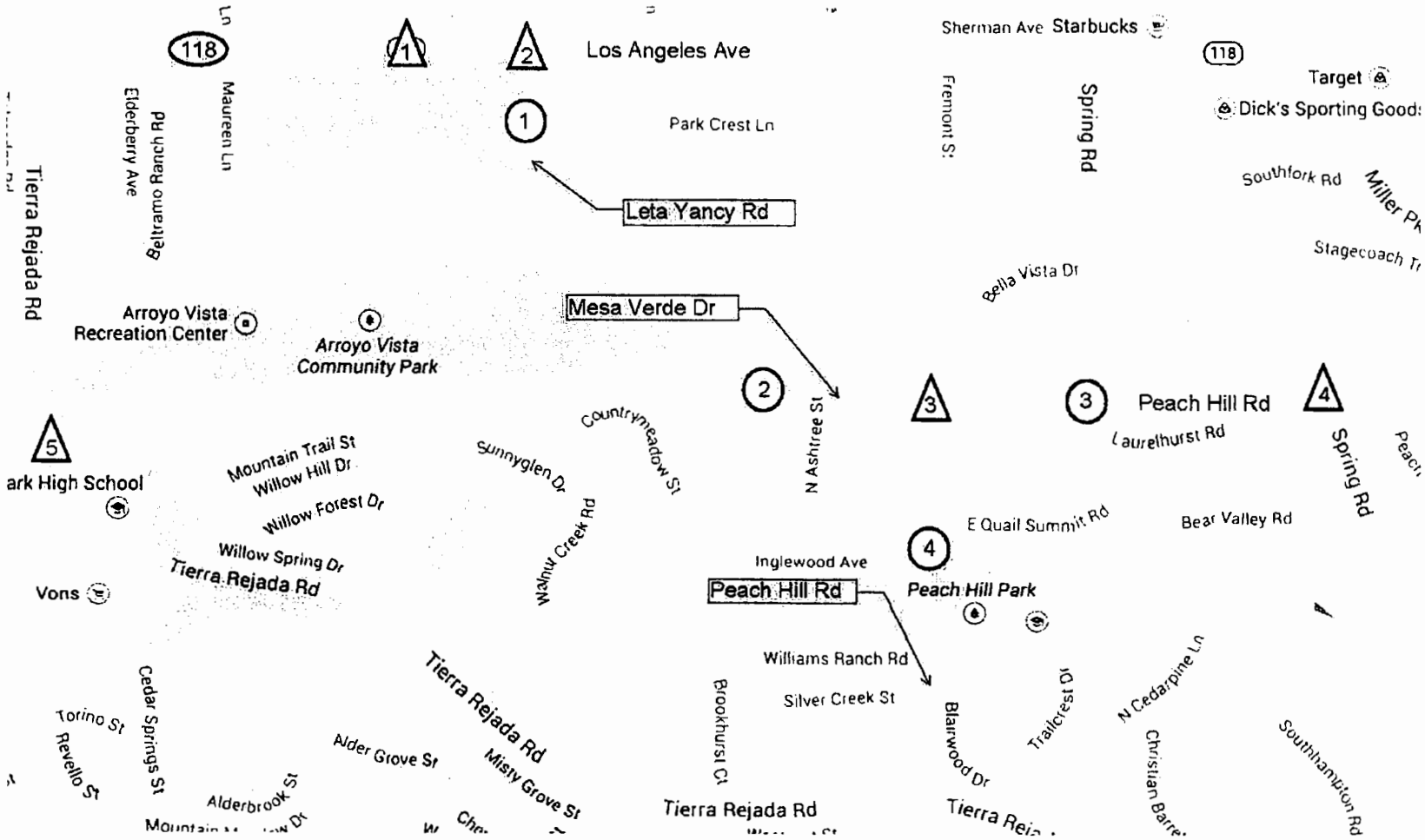
PATTERSON & ASSOCIATES, INC.

Traffic Analysis:

Traffic data was collected and analyses were completed for the 5 intersections and 4 road segments listed below for the purpose of determining if the second AVCP access improvements would have any adverse effect on traffic circulation near and around the park. These locations were studied for Volume/Capacity (V/C or delay in seconds) and Level of Service (LOS), for AM, NOON and PM peak hours, and the results are shown below. These analyses were done for the existing traffic conditions, the Future 2030 conditions without a second access, and for the Future 2030 conditions with a second access. It should be noted the City of Moorpark's threshold for LOS is C.

Roadway Segments:	Existing LOS	Year 2030 LOS	Year 2030 Plus Project Traffic
1. Leta Yancy Road (N/O Unidos)	C	C	C
2. Mesa Verde Drive	C	C	C
3. Peach Hill Road between Mesa Verde Drive and Spring Road	C	C	C
4. Peach Hill Road between Mesa Verde Drive and Christian Barrett Drive	C	C	C
Intersections			
1. Intersection of Los Angeles Avenue and Shasta Avenue	C	C	C
2. Intersection of Los Angeles Avenue and Leta Yancy Road	A	A	A
3. Intersection of Peach Hill Road and Mesa Verde Drive	A	A	A
4. Intersection of Peach Hill Road and Spring Road	A	A	A
5. Intersection of Tierra Rejada Road and existing driveway to AVCP	A	A	A

Based on the existing traffic volumes and the projected volumes for the year 2030, both with and without the proposed second access, it can be stated that none of the second access alternatives for this project will have any significant impacts on traffic circulation. The studied roadway segments and intersections will be operational at an acceptable LOS and no mitigation measures are needed at this time.



Legend:

Roadway Segment

Intersection

Studied Locations

N

Agency Coordination

Alternative 1- Extension of Leta Yancy Road:

This alternative would require coordination with the following agencies:

- Southern California Edison (SCE): A roadway easement and an aerial easement for the proposed access road and bridge, respectively, would be required from SCE. In addition, this alternative would potentially result in a conflict with two SCE power poles, resulting in coordination/relocation efforts necessary to resolve the power pole conflicts.

- Ventura County Watershed Protection District (VCWPD): Construction of a bridge over the Arroyo Simi would require an encroachment permit and an aerial easement from VCWPD since the creek is located within the VCWPD's jurisdiction.

- Environmental Regulatory Agencies: Coordination with U.S. Army Corps of Engineers, Regional Water Quality Control Board, U.S. Fish and Wildlife, and California Department of Fish and Game would be necessary to obtain environmental project approval. See a later discussion on the forecasted necessary environmental documentation for details, as contributed by BonTerra Psomas.

- Other Utility Companies: Some local utilities such as water and sewer lines operated by Ventura County Waterworks, Southern California Gas lines, AT&T telephone lines, and Time Warner cables may be in conflict with the proposed alternative and coordination with these companies would be required in the next phase.

Alternative 2 - Shasta Avenue Extension through Pacific Communities Development:

This alternative would require similar coordination efforts with the various agencies as Alternative 1.

Alternative 3 - Extension of Mesa Verde Drive:

Coordination with SCE to obtain a roadway easement and a slope easement would be necessary for the proposed access road. However, no VCWPD coordination will be required as this alternative will not include a bridge over the Arroyo Simi, and this exclusion may also have the effect of a much simpler environmental approval process.

Right- of- Way Needs and Cost Estimate:

Property acquisitions and various easements—roadway, slope, aerial, etc.—would be needed for the different alternatives. Exhibits showing the right of way needs are shown in Appendix C. A summary of the required right of way and cost estimates is shown below for each alternative. Detailed cost estimates are attached in Appendix D.

Summary of Required Right of Way			
Description	**Alternative 1 Extension of Leta Yancy Road**	**Alternative 2 Shasta Avenue Extension through Pacific Communities Development**	**Alternative 3 Extension of Mesa Verde Drive**
Property Acquisition (SF)	580	34,700	0
Roadway Easement (SF)	12,400	17,040	16,990
Aerial Easement (SF)	14,275	20,830	0
Slope Easement (SF)	0	0	27,625

Summary of Cost Estimates			
Description	**Alternative 1 Extension of Leta Yancy Road**	**Alternative 2 Shasta Avenue Extension through Pacific Communities Development**	**Alternative 3 Extension of Mesa Verde Drive**
Final Design	$395,000	$544,000	$141,000
Environmental / Permitting	$250,000	$250,000	$250,000
Right of Way Acquisition	$539,200	$1,866,300	$510,900
Construction	$4,931,150	$6,791,600	$1,755,150
Construction Management / Inspection	$494,000	$680,000	$176,000
Total Project Cost	**$6,609,350**	**$10,131,900**	**$2,833,050**

Environmental Documentation

The following environmental overview prepared by BonTerra Psomas describes the environmental documentation that would be required for each alternative.

ENVIRONMENTAL OVERVIEW

The City of Moorpark is evaluating three alternative access routes to provide a second vehicular access to the Arroyo Vista Community Park. Located on Tierra Rejada Road in the City of Moorpark, the approximately 69-acre park includes a Recreation Center, multi-use grass play and ball fields, picnic and barbeque areas, lighted tennis, volleyball and basketball courts, baseball/softball fields, and surface parking areas. The park is open from 6:00 AM until sunset with lighted facilities operational until 10:00 PM. There are two points of access into the park. There is driveway access on Countrywood Drive at Tierra Rejada Road. Countrywood Drive runs generally southwest to northeast through and terminates within the park to the east. Bicycle and pedestrians paths traverse the park. The second point of access is an existing bridge over the Arroyo Simi is limited to pedestrians, bicyclists, and equestrians; it also provides emergency vehicle ingress/egress to the park. The bridge can be accessed from Villa Campesina Park located on Villa Campesina Avenue at Leta Yancy Road. Located north of the Arroyo Simi and Arroyo Vista Community Park, Villa Campesina Park is a ½-acre park with multipurpose fields and a surface parking area.

Three vehicular access alternatives are under consideration by the City. The purpose of the additional access route would be to accommodate two-way traffic and would improve circulation, and traffic congestion, as well as improve access for emergency vehicles during park events.

Alternative 1. Alternative 1 assumes the construction of a new bridge across the Arroyo Simi approximately 140 feet west of the existing pedestrian/equestrian/emergency access bridge. The existing bridge would be retained. Leta Yancy Road would be extended from its existing terminus at Villa Campesina Park, across the Arroyo Simi, through the Southern California Edison (SCE) easement and into Arroyo Vista Community Park. The new bridge would provide for two-way vehicular traffic.

Alternative 2. Alternative 2 also assumes the construction of new bridge across the Arroyo Simi approximately 990 feet west of the existing pedestrian/equestrian/emergency access bridge. The existing bridge would be retained. Shasta Avenue would be extended south from New Los Angeles Avenue through the proposed Pacific Communities subdivision, across the Arroyo Simi and SCE easement, and into Arroyo Vista Community Park.

Alternative 3. Alternative 3 does not include the construction of a bridge over the Arroyo Simi. Instead, East Mesa Verde Drive would be extended east from its existing terminus east of North Isle Royale Street, across the SCE easement, and connecting to Countrywood Drive within Arroyo Vista Community Park.

Alternatives 1, 2, and 3 would require the preparation required environmental documentation in accordance with the California Environmental Quality Act (CEQA) (*California Public Resources Code* §21000 et seq.) and its Guidelines (*California Code of Regulations,* Title 14, §15000 et seq.). Each access alternative may have different or varying degrees of environmental impacts which would dictate the type of CEQA documentation and/or technical studies that

would be required. It is anticipated that all of the potential impacts associated with each access alternative can be fully mitigated, and that an Initial Study leading to a Mitigated Negative Declaration (IS/MND) would be the appropriate CEQA documentation. However, this final determination cannot be made until further definition of the selected alternative is prepared and technical analyses are initiated. If it is determined that the selected alternative may result in significant unavoidable impacts, an environmental impact report (EIR) would be required.

The following describes the anticipated work effort to assess the potential environmental effects relative to each CEQA Environmental Checklist topical issue. Where different analyses would be a particular alternative, these differences are noted.

Agricultural and Forestry Resources

Each of the three access routes would cross the SCE easement which is being used as a landscape nursery. The SCE property is categorized as "Unique Farmland" on the Farmland Mapping and Monitoring Program of the California Resources Agency. Unique Farmland is defined as "Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include no irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date". The potential effects on Unique Farmland would need to be evaluated to determine if the construction of a road the area would be a significant impact. The analysis would be the same for each alternative.

Aesthetics and Visual Resources

Changes in the visual character of the area would need to be addressed. Each alternative site and the surrounding area would need to be photographed. The focus would be on determining if the alternative would result in aesthetic impacts relative to the introduction of new sources of light and glare and changes in the visual character of the area. Depending on the sensitivity of the affected community, the City could choose to prepare visual simulations to most accurately address pre- and post-development conditions. It is anticipated that aesthetic impacts would be less than significant or could be mitigated to a less than significant level. Although the introduction of a bridge and/or a road into Arroyo Vista Community Park, the park site is in a developed area. The park is an existing land use and contains lighted tennis and basketball courts; lighting is provided in the parking area and near the Recreation Center. It is assumed that the bridge would be designed to be visually compatible with the surrounding area.

Air Quality and Greenhouse Gas Emissions

An air quality analysis and a greenhouse gas (GHG) emissions analysis would be required to evaluate construction phase and operational emissions associated with each of the three alternatives. The level of effort would be similar. The Ventura County Air Pollution Control District (VCAPCD) is the agency responsible for comprehensive air pollution control in Ventura County. As a regional agency, the VCAPCD develops rules and regulations; establishes permitting requirements; inspects emissions sources; and enforces such measures though educational programs or fines, when necessary. The VCAPCD is directly responsible for reducing emissions from stationary, mobile, and indirect sources.

Fir air quality, the construction phase and operational criteria pollutant regional (mass) emissions would need to be calculated and it is recommended that the California Emissions Estimator Model (CalEEMod) be used. The model quantifies direct emissions from construction and operation (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The modeling results would be compared with the VCAPCD's thresholds to determine if the project would have significant short-term or long-term air emissions impacts.

It is expected that a screening calculation would demonstrate that the project would not cause severe congestion at a major intersection resulting in a local carbon monoxide "hotspot"; therefore, carbon monoxide "hotspot" dispersion modeling is not expected to be necessary. Exposure to toxic air contaminants and odors could be addressed qualitatively. If potential significant impacts are identified, mitigation would be required. It is anticipated that impacts could be mitigated to a less than significant level.

As noted above, the CalEEMod is recommended to be used to estimate GHG emissions. The VCAPCD has not established a quantitative threshold for GHG emissions and recommends the use of the South Coast Air Quality Management District's (SCAQMD) suggested, but not approved thresholds. Each alternative should also be assessed by considering whether implementation of the project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. It is not expected that any of the alternatives would have significant GHG impacts that could not be mitigated.

Biological Resources

Each of the three access route alternatives have the potential to impact biological resources and waters. The following analysis and studies would need to be prepared:

- Vegetation Mapping/Impact Analysis (All alternatives)

- Jurisdictional Delineation (Alternative 1, Alternative 2). A jurisdictional delineation documents the presence of "Waters of the U.S." under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB) and "Waters of the State" under the jurisdiction of the California Department of Fish and Wildlife (CDFW).

- California Rapid Assessment Method (CRAM) Analysis (Alternative 1, Alternative 2). The CRAM is a wetland monitoring tool that was developed in response to a monitoring framework recommended by the U.S. Environmental Protection Agency to help States meet monitoring requirements stated in the Clean Water Act. CRAM scores four attributes. The score is a relative measurement to indicate how an individual site compares to the best achievable conditions for that wetland type in the State. It is assumed that the same scores for different wetlands of the same type represent the same overall condition and functional capacity. Therefore, these scores may be used to track the progress of restoration efforts over time; to compare impacted sites to their in-kind mitigation sites; or to compare an individual wetland to the status and trends in ambient condition of its wetland type.

- Focused survey for Special Status Plants (marginally suitable habitat associated with Alternative1 and Alternative 2; suitable habitat associated with Alternative 3). During vegetation mapping, it is usually possible to better determine if focused surveys are required.

- Focused survey for Burrowing Owl. (All Alternatives with Alternative 2 having the highest potential). During vegetation mapping, it is usually possible to better determine if focused surveys are required.

- Focused survey for Least Bell's Vireo. There is possible marginally suitable habitat associated with Alternative 1 and Alternative 2. There is no suitable habitat visible from an aerial view of the sites but this fact would need to be verified while on the site.

- Focused survey for California gnatcatcher (Alternative 3)

- Focused survey for special status fish. There is possibly marginally suitable habitat associated with Alternative 1 and Alternative 2. More research would be required but it should be noted that there are arroyo chub and steelhead in this watershed.

The following permits are expected to be needed:

- USACE Section 404 Permit (Alternative 1 and Alternative 2)

- CDFW Stream or Lakebed Alteration Agreement – Section 1602 (Alternative 1 and Alternative 2)

- RWQCB 401 Water Quality Certification (Alternative 1 and Alternative 2)

- Biological Assessment (only if gnatcatcher, Least Bell's Vireo, or steelhead would be impacted)

- USFWS Section 7 Consultation (only if the gnatcatcher, vireo, or steelhead would be impacted)

- CDFW Consistency Determination or Incidental Take Permit (only if vireo would be impacted)

Cultural Resources

For each alternative, a cultural resources records search would need to be conducted in the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The SCCIC is the State-designated repository for records concerning archaeological and historic resources in Ventura, Los Angeles, and Orange Counties. The purpose of the CHRIS records search is to determine if any previously recorded cultural resources are known to exist within or near the project site. Data sources at the SCCIC include historic maps; reports from previous studies; and the Historic Resource Inventory maintained by the California Office of Historic Preservation for Ventura County. Additionally, a paleontologic records search and literature review for the

project site from the Vertebrate Paleontology Section of the Los Angeles County Museum would be required. A walk-over survey would also need to be conducted. The results of the literature searches will be summarized in the IS. BonTerra Psomas will respond to the CEQA checklist questions based on the literature reviews and identify mitigation measures, as required.

Given the disturbed nature of the project area, it is not expected that archaeological, historic, or paleontological resources will be identified on the project site. The City of Moorpark has Standard Conditions and Requirements that would be applicable to the project and are intended to mitigate any potential impacts to cultural resources.

It should be noted that Alternative 1 or Alternative 2 may require a Section 404 Permit under the Clean Water Act from the USACE associated with potential impacts to "Waters of the U.S". Should a Section 404 permit be required, the proposed project would have a federal nexus which requires compliance with Section 106 of the National Historic Preservation Act. The USACE cannot issue a Section 404 Permit without the agency's fulfillment of its Section 106 responsibilities. This Cultural Resources Assessment is typically done as a part of the permit application not the CEQA document.

Geology and Soils

Sufficient soils and geotechnical data would need to be prepared to address the CEQA Environmental Checklist questions including but not limited to seismic activity, soil stability, and geological conditions. It is not expected that the construction of the two-lane road associated with all of the Alternatives would have significant geological or soils impacts and there may be sufficient existing City information to substantiate that conclusion. However, Alternative 1 and 2 include the construction of a bridge over the Arroyo Simi. It is assumed that the bridge would be designed to span the Arroyo Simi. As a part of the design of the bridge, preliminary geotechnical, soils, seismic evaluations would need to be conducted to determine the appropriate bridge structure and foundation. This additional technical analysis is related to ensuring the engineering feasibility of the bridge and would therefore be used as a part of the CEQA analysis.

Hazards and Hazardous Materials

For each alternative, a regulatory records search would need to be prepared to identify whether there are recognized environmental conditions located within the project site or adjacent properties that could present material risk of harm to public health or to the environment. If the report identifies potential contamination, additional technical review would be required. Due to the proximity of the three access route alternatives, it is anticipated that a similar level of effort would be required for each of the three alternatives.

Hydrology and Water Quality

The CEQA analysis must address the potential for impacts associated with surface water runoff and water quality. This includes pre- and post-development site drainage; available capacity of existing storm drain infrastructure and whether new or upgraded infrastructure is required; and drainage and water quality Best Management Practices that would be installed as part of the project for both short-term construction and long-term operations. The project would have to show compliance with the Los Angeles Regional Water Quality Control Board's Stormwater

Quality Management Plan as a part of the City's MS4 Permit. The potential for impacts to the Arroyo Simi associated with Alterative 1 and Alternative 2 would require more analysis than Alternative 3 which would extend an existing road onto the park site.

Assuming that each alternative would disturb one or more acre, a Storm Water Pollution Prevention Plan (SWPPP) would be required as a part of the National Pollutant Discharge Elimination System (NPDES) Program.

Land Use and Related Planning Programs

Unlike many of the environmental topics addressed above, Alternatives 1, 2, and 3 would have distinct effects on existing and planned land uses. Because none of the alternatives would require a General Plan Amendment or a zone change, the focus would need to be on the compatibility of the bridge and/or road alignment with adjacent land uses, particularly residential development. "Compatibility" would need to be considered in context to whether the project would cause impacts including but not limited to noise and night lighting that would significantly impact sensitive receptors including residents.

While each route alternative may affect different users, the level of CEQA analysis would be similar. For Alternative 1, the focus of the analysis would be expected to be to residents in the single-family residences located along and abutting LetaYancy Road between New Los Angeles Avenue and Villa Campesina Park.

For Alternative 2, Pacific Communities has proposed the construction of 157 single-family residences and 300 condominiums on 37 acres south of New Los Angeles Avenue. Alternative 2 assumes the extension of Shasta Avenue south from New Los Angeles Avenue through the proposed Pacific Communities subdivision and across the Arroyo Simi and SCE easement, and into Arroyo Vista Community Park. If the currently proposed the Pacific Communities project does not accommodate a road in this location, the City will need to work with Pacific Communities to determine if the residential development plan can be modified. The City will need to have an agreement with Pacific Communities in order to provide park access through the property.

Alternative 3 does not include the construction of a bridge over the Arroyo Simi which would limit land use compatibility issues to the existing residential neighborhood east of the park. Where there is no existing vehicular, pedestrian, or bicycle access into Arroyo Vista Community Park from the east, the extension of East Mesa Verde Drive to the east into the park would create a continuous roadway connection from Tierra Rejada Road at the west to East Mesa Verde Drive to the west.

Noise

A noise study would be required for each alternative. The level of analysis associated with each alternative would be similar. Noise-sensitive receptors would need to be identified and short-term existing ambient noise measurements would need to be taken. The analysis would need to address noise and vibration impacts from construction and construction traffic as well as vehicular traffic using the road and bridge. Although roads and bridges do not create noise, the project would allow for a redistribution and/or increase in vehicular traffic in new locations with

existing and planned sensitive land uses where vehicular access into the park is currently not provided.

Population and Housing

The proposed project would not result in the displacement of any existing residences or businesses. It is assumed that should the City pursue Alternative 2, the City would work with Pacific Communities prior to the initiation of CEQA documentation associated with Alternative 2 to assume that the access road would be permitted through the property. No impacts would be expected.

Public Services and Utilities: Fire, Libraries, Parks, Police Protection, Schools, Wastewater, Water, Stormwater Drainage, and Solid Waste

The alternatives would not be expected to negatively impact libraries, schools, or parks due to the nature of the project. Should utilities need to be relocated or placed on the bridge across the Arroyo Simi, it is anticipated that additional coordination with the affected utilities would be required. Potential impacts to public services and utilities would need to occur through outreach to City and County agencies and service providers.

Traffic

It is our understanding that a traffic impact study has been prepared for each of the proposed alternatives. The traffic study would need to include all information necessary to adequately address the Checklist questions related to traffic and parking.

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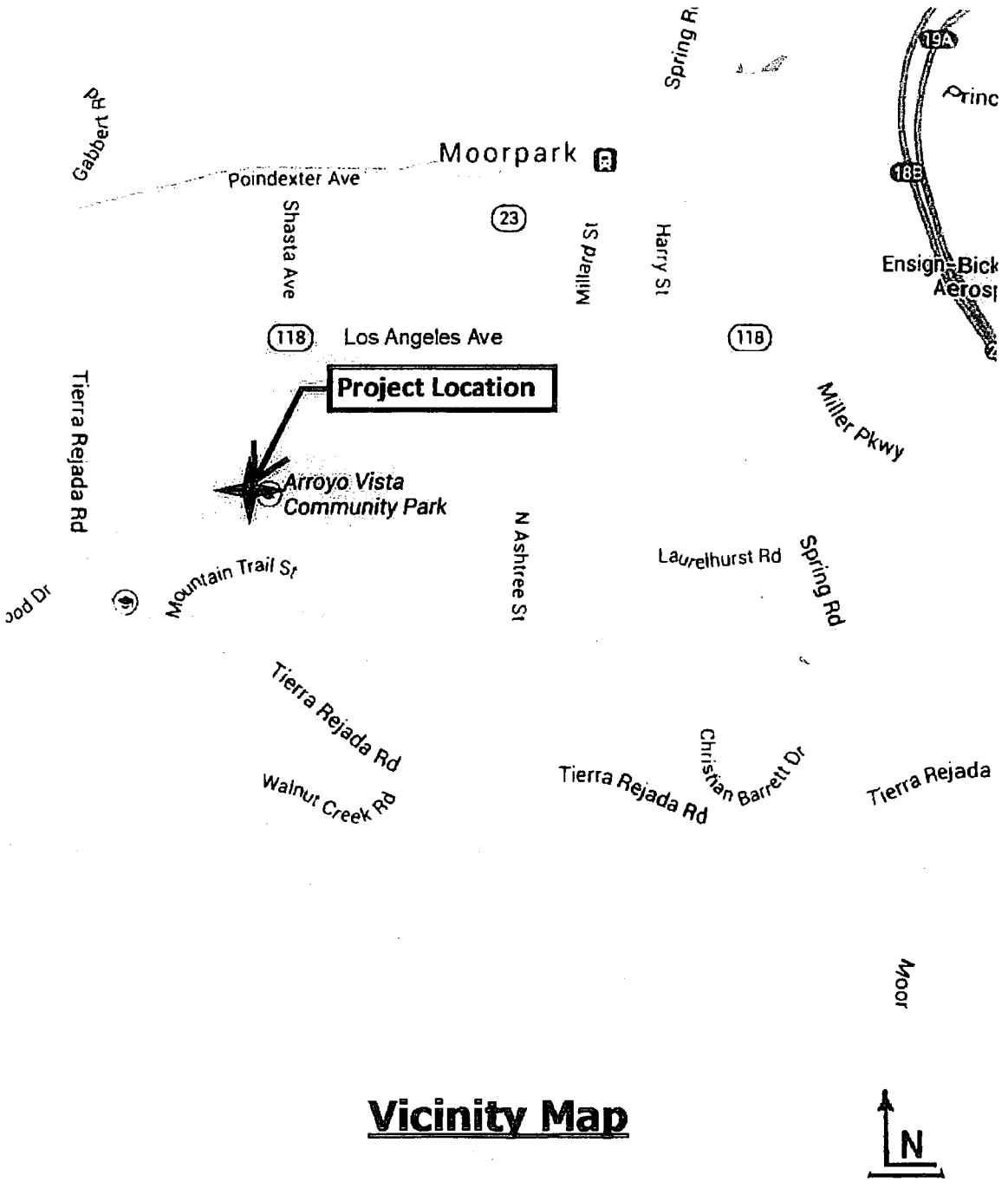
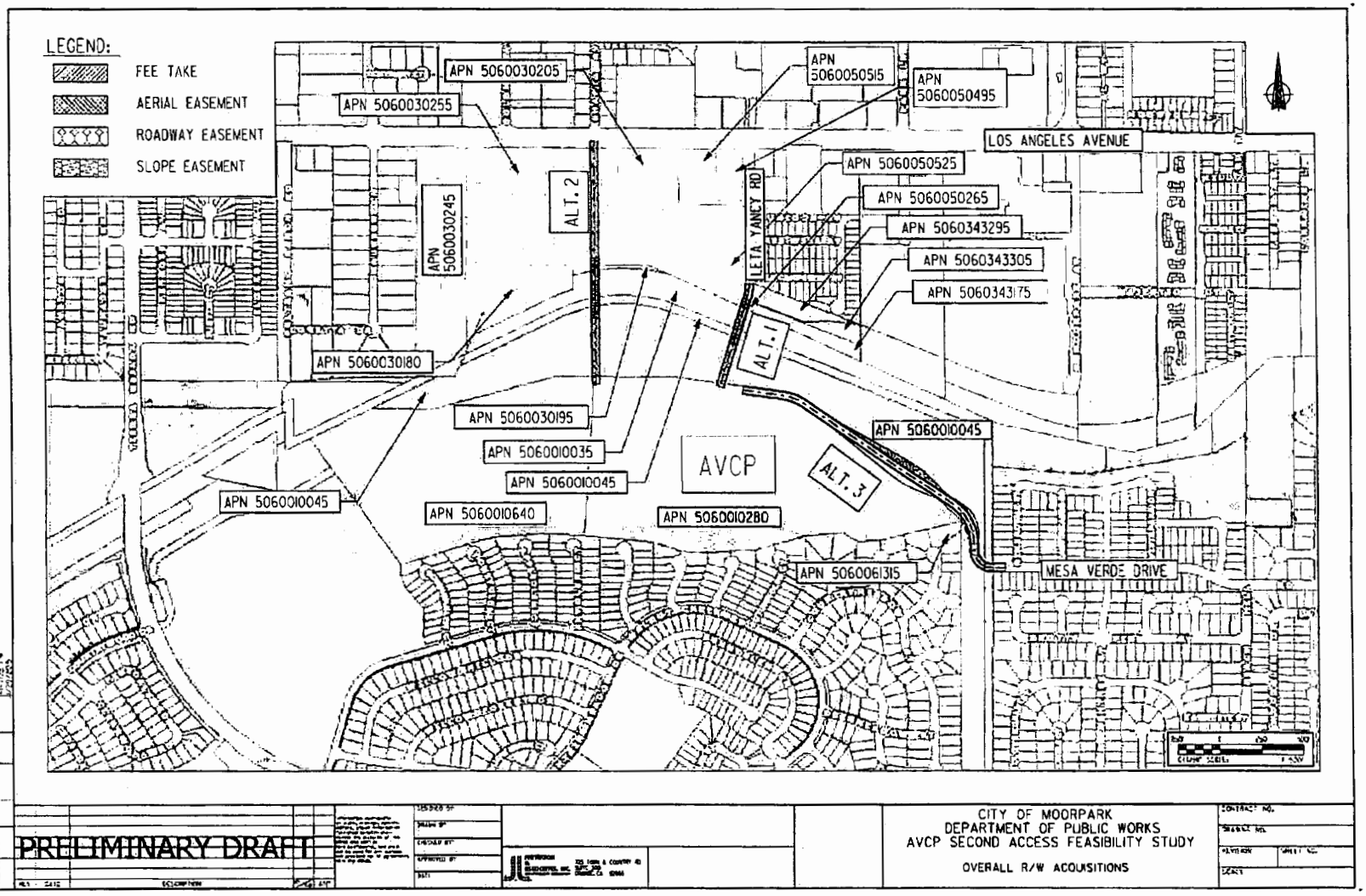
APPENDICES

APPENDIX A
Vicinity Map

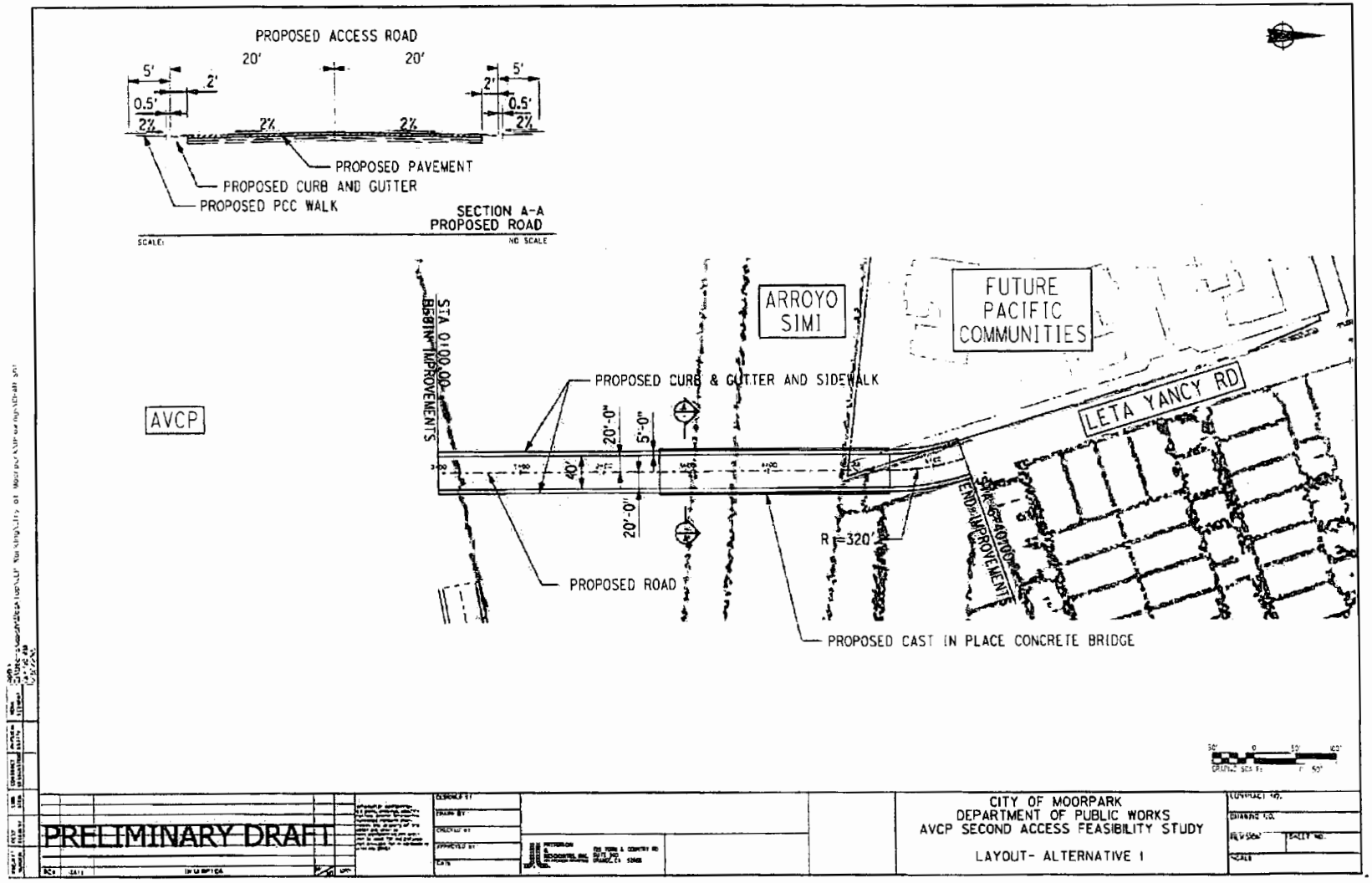


Vicinity Map

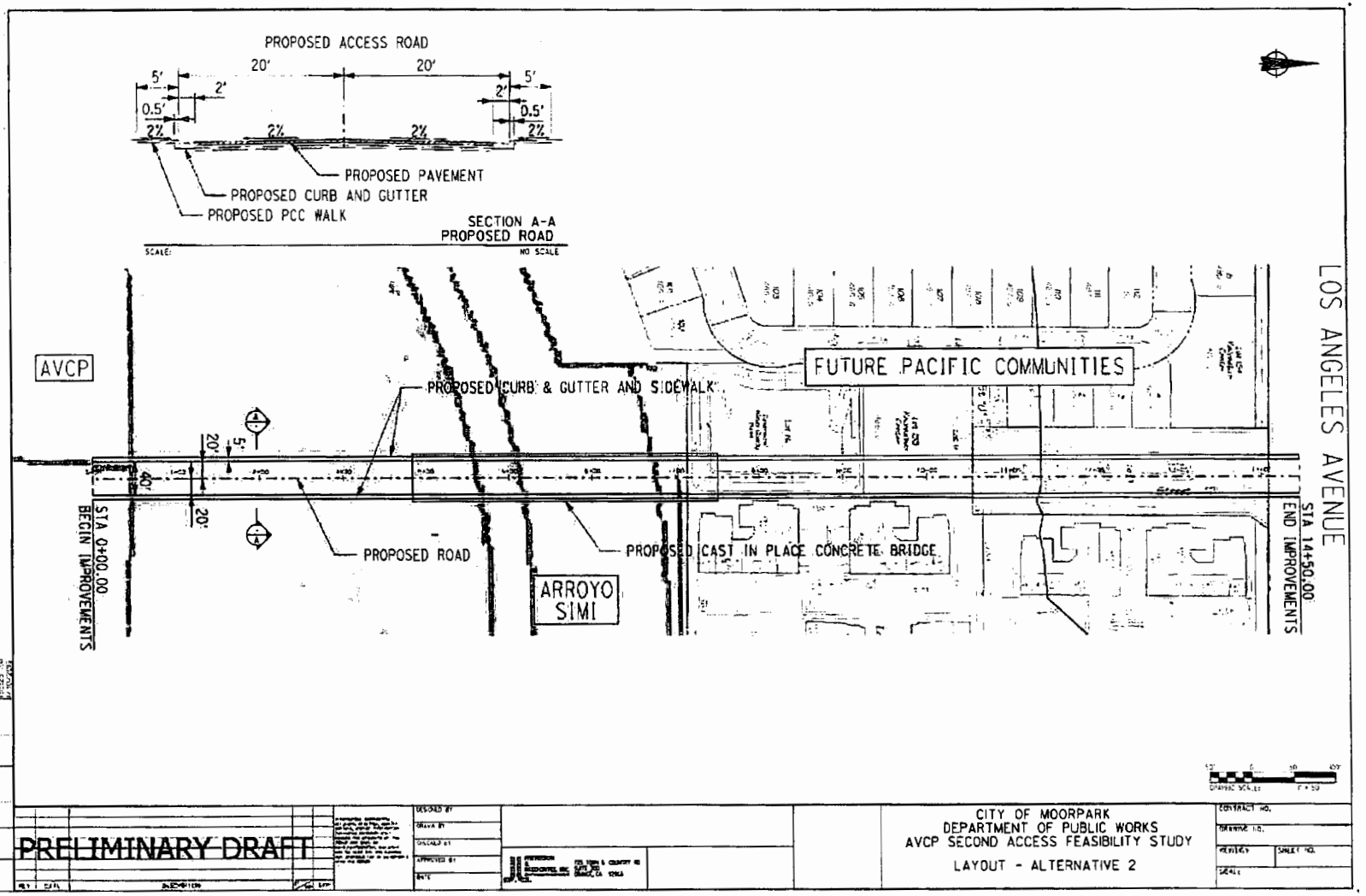
APPENDIX B
AVCP Second Access
Preliminary Alignment Alternatives Exhibits

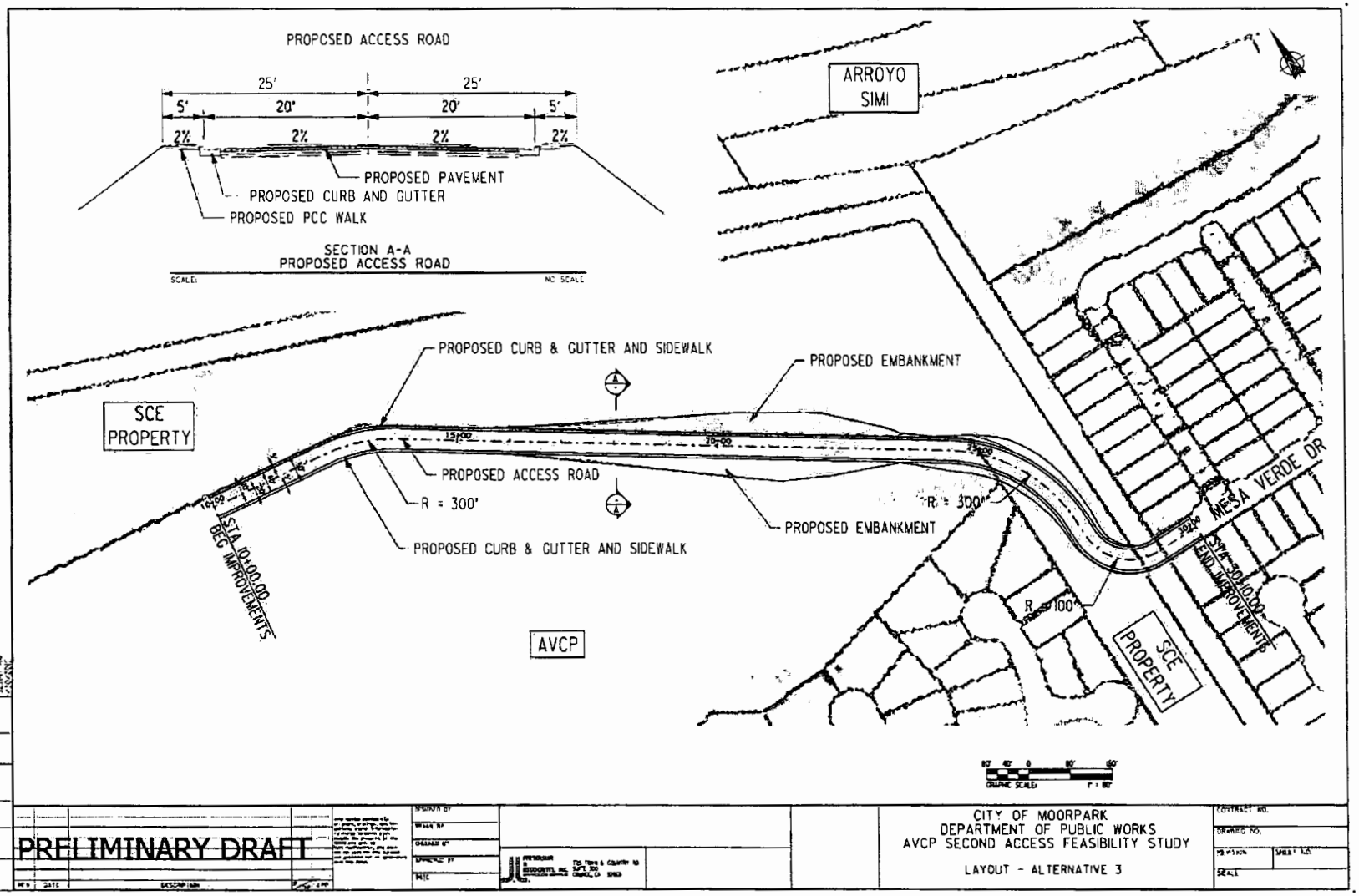


PATTERSON & ASSOCIATES, INC.



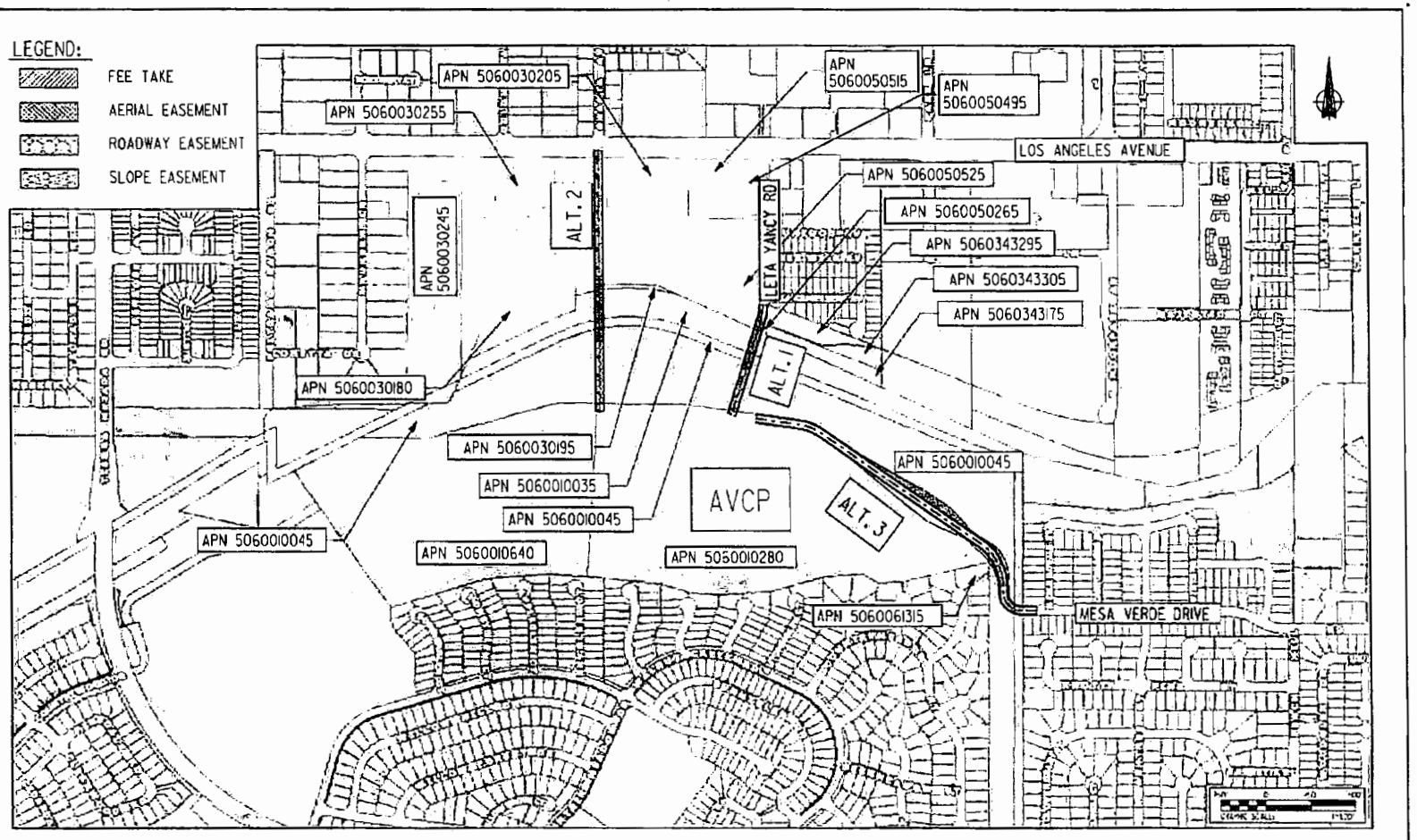
PATTERSON & ASSOCIATES, INC.


PROPOSED ACCESS ROAD
20'
20'
5'
2'
0.5'
2%
PROPOSED PAVEMENT
PROPOSED CURB AND GUTTER
PROPOSED PCC WALK
SECTION A-A
PROPOSED ROAD
SCALE:
NO SCALE
AVCP
PROPOSED CURB & GUTTER AND SIDEWALK
FUTURE PACIFIC COMMUNITIES
LOS ANGELES AVENUE
STA 14+50.00
END IMPROVEMENTS
STA 0+00.00
BEGIN IMPROVEMENTS
PROPOSED ROAD
PROPOSED CAST IN PLACE CONCRETE BRIDGE
ARROYO SIMI
40'
20'
5'
PRELIMINARY DRAFT
CITY OF MOORPARK
DEPARTMENT OF PUBLIC WORKS
AVCP SECOND ACCESS FEASIBILITY STUDY
LAYOUT - ALTERNATIVE 2
PATTERSON & ASSOCIATES, INC.



PATTERSON & ASSOCIATES, INC.

APPENDIX C
Right-of-Way Needs

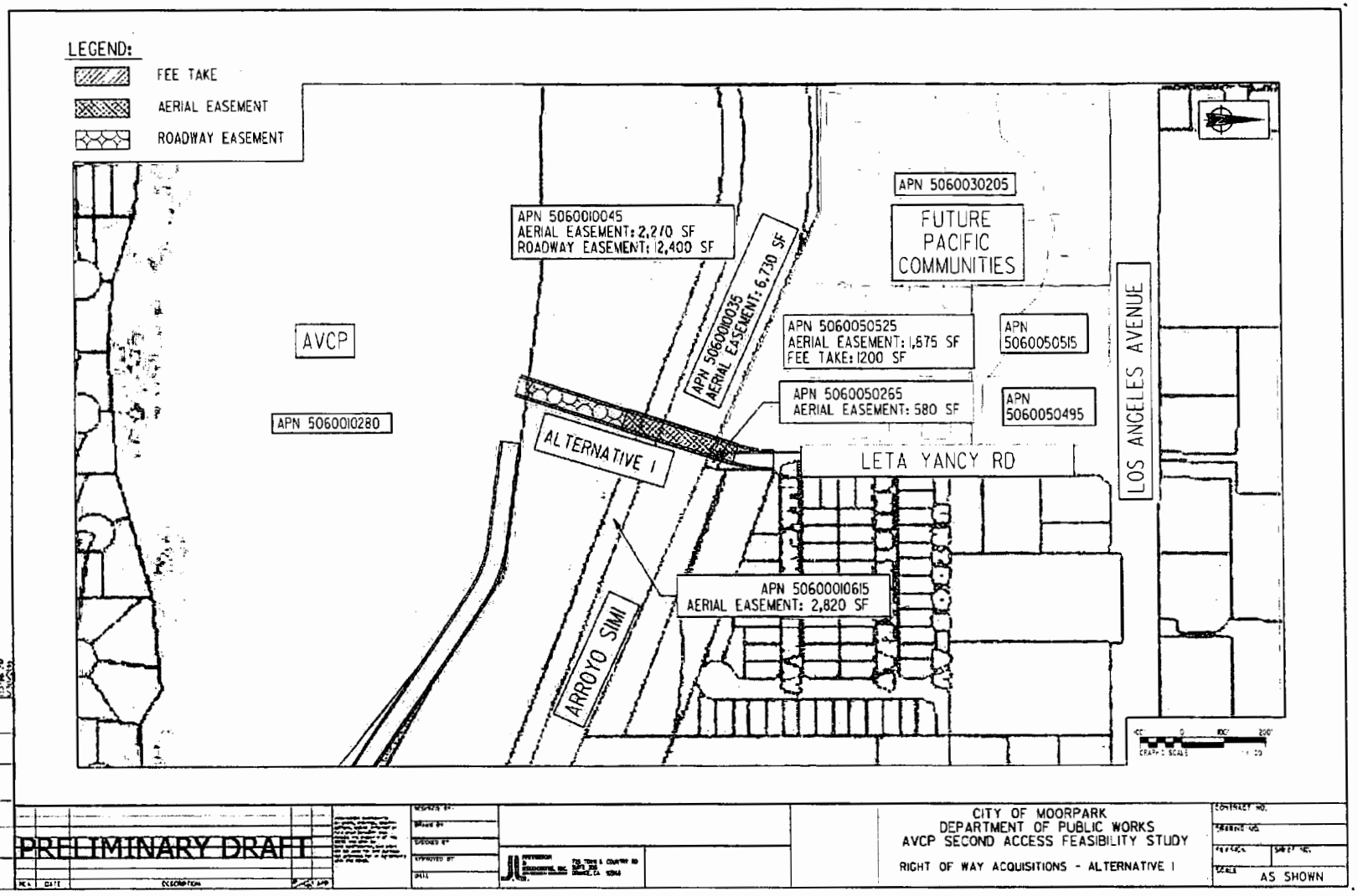


PRELIMINARY DRAFT

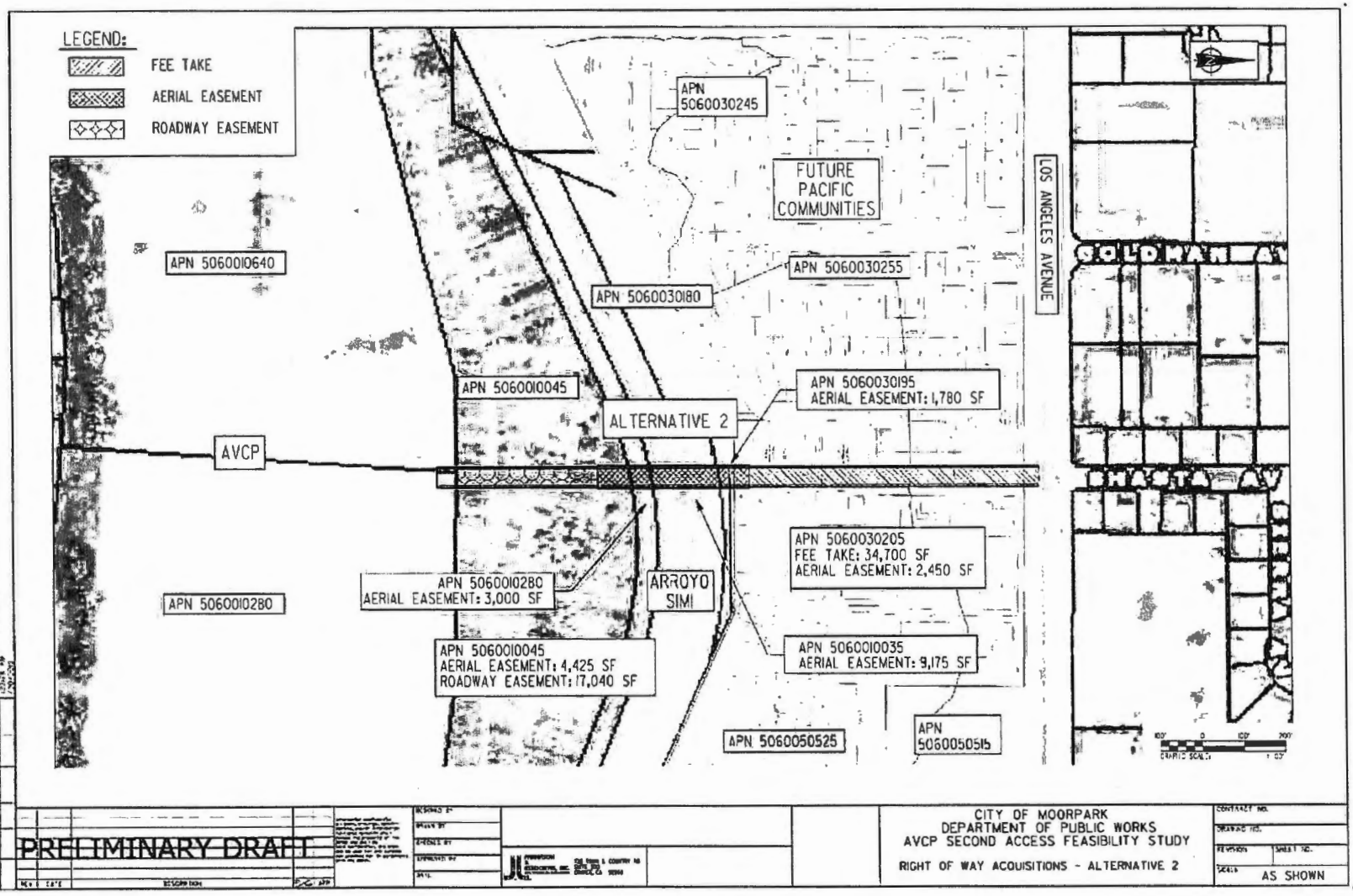
CITY OF MOORPARK
DEPARTMENT OF PUBLIC WORKS
AVCP SECOND ACCESS FEASIBILITY STUDY

OVERALL R/W ACQUISITIONS

PATTERSON & ASSOCIATES, INC.



PATTERSON & ASSOCIATES, INC.



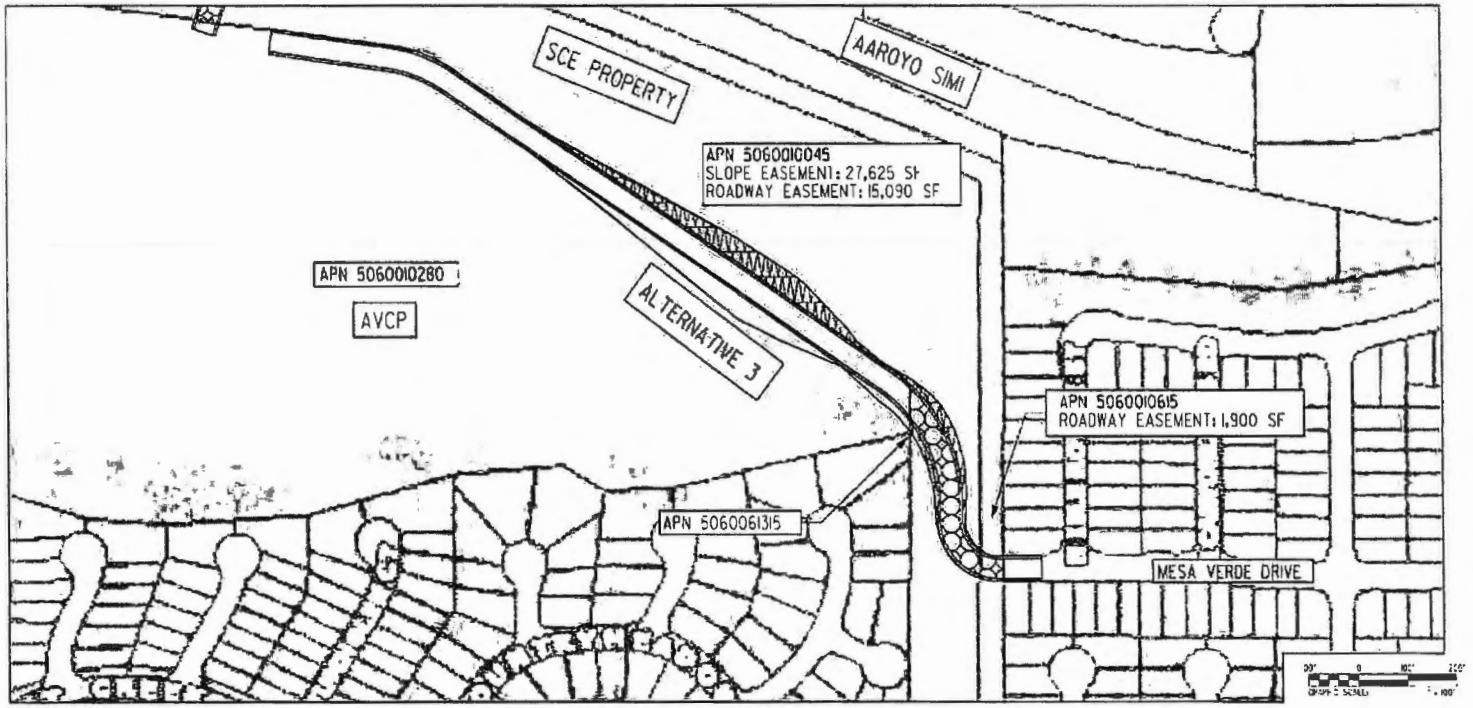
PATTERSON & ASSOCIATES, INC.

PATTERSON & ASSOCIATES, INC.

LEGEND:

ROADWAY EASEMENT

SLOPE EASEMENT



PRELIMINARY DRAFT

CITY OF MOORPARK
DEPARTMENT OF PUBLIC WORKS
AVCP SECOND ACCESS FEASIBILITY STUDY

RIGHT OF WAY ACQUISITIONS - ALTERNATIVE 3

SCALE: AS SHOWN

APPENDIX D
Cost Estimate

City of Moorpark
Department of Public Works
Arroyo Vista Community Park Second Access Study
Preliminary Engineering Cost Estimate

No.	Item	Unit of Measurement	Unit Price	Alternative 1 Extension of Leta Yancy Road		Alternative 2 Shasta Avenue Extension through Pacific Communities Development		Alternative 3 Extension of Mesa Verde Drive	
				Quantity	Total Price	Quantity	Total Price	Quantity	Total Price
1	Mobilization	LS	$1	344,900	$344,900	475,000	$475,000	122,800	$122,800
2	Roadway Excavation	CY	$10	1,400	$14,000	3,840	$38,400	6,300	$63,000
3	Roadway Embankment	CY	$15	2,100	$31,500	5,760	$86,400	15,750	$236,250
4	Asphalt Concrete Pavement	Ton	$70	700	$49,000	2,000	$140,000	3,200	$224,000
5	Aggregate Base	CY	$50	700	$35,000	1,920	$96,000	3,150	$157,500
6	Curb & Gutter	LF	$15	750	$11,250	2,100	$31,500	4,100	$61,500
7	Sidewalk	SF	$10	3,750	$37,500	10,500	$105,000	20,500	$205,000
8	Bridge	SF	$200	15,100	$3,020,000	20,510	$4,102,000	0	$0
9	Drainage Improvements	LS	$1	50,000	$50,000	100,000	$100,000	150,000	$150,000
10	Utility Relocations	LS	$1	200,000	$200,000	50,000	$50,000	130,000	$130,000
	Construction Subtotal				**$3,793,150**		**$5,224,300**		**$1,350,050**
	Contingency (30%)				$1,138,000		$1,567,300		$405,100
	Construction Total				**$4,931,150**		**$6,791,600**		**$1,755,150**
	Fee Take	SF	$25	580	$14,500	34,700	$867,500	0	$0
	Roadway Easement	SF	$15	12,400	$186,000	17,040	$255,600	16,990	$254,850
	Aerial Easement	SF	$15	14,275	$214,125	20,830	$312,450	0	$0
	Slope Easement	SF	$5	0	$0	0	$0	27,625	$138,125
	Right of Way Subtotal				**$414,700**		**$1,435,600**		**$393,000**
	Contingency (30%)				$124,500		$430,700		$117,900
	Right of Way Total				**$539,200**		**$1,866,300**		**$510,900**
	Environmental / Permitting				$250,000		$250,000		$250,000
	Final Design (8%)				$395,000		$544,000		$141,000
	Construction Management (10%)				$494,000		$680,000		$176,000
	Engineering Total				**$1,139,000**		**$1,474,000**		**$567,000**
	Total Project Cost				**$6,609,350**		**$10,131,900**		**$2,833,050**

APPENDIX E
Traffic Data

- Average Daily Data
- Intersection Data
- Roadway Volumes

1 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	LETA YANCY
From/To	N/O UNIDOS
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	86	veh/h
Directional split	50 / 50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	86	pc/h
Highest directional split proportion (note-2)	43	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	86	pc/h
Highest directional split proportion (note-2)	43	
Base percent time-spent-following, BPTSF	7.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	7.3	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

1 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	LETA YANCY
From/To	N/O UNIDOS
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 98 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	98	pc/h
Highest directional split proportion (note-2)	49	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	98	pc/h
Highest directional split proportion (note-2)	49	
Base percent time-spent-following, BPTSF	8.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	8.3	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

1 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	LETA YANCY
From/To	N/O UNIDOS
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	107	veh/h
Directional split	50 / 50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	107	pc/h
Highest directional split proportion (note-2)	54	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	107	pc/h
Highest directional split proportion (note-2)	54	
Base percent time-spent-following, BPTSF	9.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	9.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

1 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	LETA YANCY
From/To	N/O UNIDOS
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	79			veh/h
Directional split	50	/	50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	79	pc/h
Highest directional split proportion (note-2)	40	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	79	pc/h
Highest directional split proportion (note-2)	40	
Base percent time-spent-following, BPTSF	6.7	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	6.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.02	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

2 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	MESA VERDE
From/To	ASHTREE/PEACH HILL
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 82 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	82	pc/h
Highest directional split proportion (note-2)	41	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	82	pc/h
Highest directional split proportion (note-2)	41	
Base percent time-spent-following, BPTSF	7.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	7.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

2 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	MESA VERDE
From/To	ASHTREE/PEACH HILL
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	103	veh/h		
Directional split	50 /	50 %		

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	103	pc/h
Highest directional split proportion (note-2)	52	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	103	pc/h
Highest directional split proportion (note-2)	52	
Base percent time-spent-following, BPTSF	8.7	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	8.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

2 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	MESA VERDE
From/To	ASHTREE/PEACH HILL
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	103	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	103	pc/h
Highest directional split proportion (note-2)	52	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	103	pc/h
Highest directional split proportion (note-2)	52	
Base percent time-spent-following, BPTSF	8.7	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	8.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

2 Roadway

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	MESA VERDE
From/To	ASHTREE/PEACH HILL
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 83 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	83	pc/h
Highest directional split proportion (note-2)	42	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	83	pc/h
Highest directional split proportion (note-2)	42	
Base percent time-spent-following, BPTSF	7.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	7.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS+: Unsignalized Intersections Release 5.2

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 10/25/2014
Analysis Time Period: 2030
Intersection: LOS ANGELES/SHASTA
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2014
Project ID: NOON PEAK HOUR
East/West Street: LOS ANGELES
North/South Street: SHASTA
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	25	1138			1118	15
Peak-Hour Factor, PHF	1.00	1.00			1.00	1.00
Hourly Flow Rate, HFR	25	1138			1118	15
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						No
Lanes	1	2			2	1
Configuration	L	T			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				10		25
Peak Hour Factor, PHF				1.00		1.00
Hourly Flow Rate, HFR				10		25
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
Lanes				1	1	
Configuration				L	R	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L					L		R
v (vph)	25					10		25
C(m) (vph)	624					158		478
v/c	0.04					0.06		0.05
95% queue length	0.13					0.20		0.17
Control Delay	11.0					29.3		12.9
LOS	B					D		B
Approach Delay							17.6	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.2

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 10/25/2014
Analysis Time Period: EXISTING
Intersection: LOS ANELES/SHASTA
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2014
Project ID: NOON PEAK HOUR
East/West Street:
North/South Street: SHASTA
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	25	919			903	13
Peak-Hour Factor, PHF	1.00	1.00			1.00	1.00
Hourly Flow Rate, HFR	25	919			903	13
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						No
Lanes	1	2			2	1
Configuration	L	T			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				8		20
Peak Hour Factor, PHF				1.00		1.00
Hourly Flow Rate, HFR				8		20
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes				1	1	
Configuration				L	R	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L					L		R
v (vph)	25					8		20
C(m) (vph)	753					127		560
v/c	0.03					0.06		0.04
95% queue length	0.10					0.20		0.11
Control Delay	9.9					35.2		11.7
LOS	A					E		B
Approach Delay							18.4	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.2

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.:
Date Performed: 10/25/2014
Analysis Time Period: EXISTING
Intersection: LOS ANELES/SHASTA
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2014
Project ID: NOON PEAK HOUR + PROJECT TRAFFIC
East/West Street:
North/South Street: SHASTA
Intersection Orientation: EW Study period (hrs): 1.00

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	25	919			903	13
Peak-Hour Factor, PHF	1.00	1.00			1.00	1.00
Hourly Flow Rate, HFR	25	919			903	13
Percent Heavy Vehicles	0	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						No
Lanes	1	2			2	1
Configuration	L	T			T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				8		20
Peak Hour Factor, PHF				1.00		1.00
Hourly Flow Rate, HFR				8		20
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L					L		R
v (vph)	25					8		20
C(m) (vph)	753					127		560
v/c	0.03					0.06		0.04
95% queue length	0.10					0.20		0.11
Control Delay	9.9					35.2		11.7
LOS	A					E		B
Approach Delay							18.4	
Approach LOS							C	

3

HCS+: Unsignalized Intersections Release 5.2

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 10/25/2014
Analysis Time Period: EXISTING
Intersection: MESA VERDE/PEACH HILL
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2014
Project ID: NOON PEAK HOUR
East/West Street: MESA VERDE
North/South Street: PEACH HILL

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	26	7	109	27	0	10	0	89	0	0	0

% Thrus Left Lane

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR			
PHF	1.00		1.00		1.00			
Flow Rate	33		136		99			
% Heavy Veh	0		0		0			
No. Lanes	1		1		1			
Opposing-Lanes	1		1		0			
Conflicting-lanes	1		1		1			
Geometry group	1		1		1			

Duration, T 1.00 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	33		136		99			
Left-Turn	0		109		10			
Right-Turn	7		0		89			
Prop. Left-Turns	0.0		0.8		0.1			
Prop. Right-Turns	0.2		0.0		0.9			
Prop. Heavy Vehicle	0.0		0.0		0.0			
Geometry Group	1		1		1			
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2			
hRT-adj	-0.6		-0.6		-0.6			
hHV-adj	1.7		1.7		1.7			
hadj, computed	-0.1		0.2		-0.5			

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	33		136		99			
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.03		0.12		0.09			
hd, final value	4.12		4.30		3.76			
x, final value	0.04		0.16		0.10			
Move-up time, m	2.0		2.0		2.0			
Service Time	2.1		2.3		1.8			

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	33		136		99			
Service Time	2.1		2.3		1.8			
Utilization, x	0.04		0.16		0.10			
Dep. headway, hd	4.12		4.30		3.76			
Capacity	283		386		349			
Delay	7.28		8.13		7.19			
LOS	A		A		A			
Approach:								
Delay	7.28		8.13		7.19			
LOS	A		A		A			

Intersection Delay 7.68 Intersection LOS A

3

HCS+: Unsignalized Intersections Release 5.2

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst:
Agency/Co.:
Date Performed: 10/25/2014
Analysis Time Period: 2030
Intersection: MESA VERDE/PEACH HILL
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2014
Project ID: NOON PEAK HOUR
East/West Street: MESA VERDE
North/South Street: PEACH HILL

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	32	9	135	34	0	12	0	110	0	0	0

% Thrus Left Lane

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	TR		LT		LR			
PHF	1.00		1.00		1.00			
Flow Rate	41		169		122			
% Heavy Veh	0		0		0			
No. Lanes	1		1		1			
Opposing-Lanes	1		1		0			
Conflicting-lanes	1		1		1			
Geometry group	1		1		1			

Duration, T 1.00 hrs.

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	41		169		122			
Left-Turn	0		135		12			
Right-Turn	9		0		110			
Prop. Left-Turns	0.0		0.8		0.1			
Prop. Right-Turns	0.2		0.0		0.9			
Prop. Heavy Vehicle	0.0		0.0		0.0			
Geometry Group	1		1		1			
Adjustments Exhibit 17-33:								
hLT-adj	0.2		0.2		0.2			
hRT-adj	-0.6		-0.6		-0.6			
hHV-adj	1.7		1.7		1.7			
hadj, computed	-0.1		0.2		-0.5			

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	41		169		122			
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.04		0.15		0.11			
hd, final value	4.20		4.36		3.86			
x, final value	0.05		0.20		0.13			
Move-up time, m	2.0		2.0		2.0			
Service Time	2.2		2.4		1.9			

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	41		169		122			
Service Time	2.2		2.4		1.9			
Utilization, x	0.05		0.20		0.13			
Dep. headway, hd	4.20		4.36		3.86			
Capacity	291		419		372			
Delay	7.42		8.48		7.43			
LOS	A		A		A			
Approach:								
Delay	7.42		8.48		7.43			
LOS	A		A		A			

Intersection Delay 7.96 Intersection LOS A

4

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	PEACH HILL
From/To	W/O SPRING
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	540	veh/h
Directional split	50 / 50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	540	pc/h
Highest directional split proportion (note-2)	270	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	45.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	540	pc/h
Highest directional split proportion (note-2)	270	
Base percent time-spent-following, BPTSF	37.8	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	37.8	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.17	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

4

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	PEACH HILL
From/To	W/O SPRING
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	626	veh/h
Directional split	50 / 50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	626	pc/h
Highest directional split proportion (note-2)	313	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	45.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	626	pc/h
Highest directional split proportion (note-2)	313	
Base percent time-spent-following, BPTSF	42.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	42.3	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.20	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

4

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	PEACH HILL
From/To	W/O SPRING
Jurisdiction	
Analysis Year	2014
Description P M PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	669	veh/h
Directional split	50 / 50	%

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	669	pc/h
Highest directional split proportion (note-2)	335	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	55	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	55.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	669	pc/h
Highest directional split proportion (note-2)	335	
Base percent time-spent-following, BPTSF	44.5	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	44.5	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.21	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

4

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	PEACH HILL
From/To	W/O SPRING
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 506 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	506	pc/h
Highest directional split proportion (note-2)	253	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	50	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	50.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	46.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	506	pc/h
Highest directional split proportion (note-2)	253	
Base percent time-spent-following, BPTSF	35.9	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	35.9	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.16	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

S

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	COMMUNITY PARK RD
From/To	
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 722 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	722	pc/h
Highest directional split proportion (note-2)	361	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	55	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	55.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	722	pc/h
Highest directional split proportion (note-2)	361	
Base percent time-spent-following, BPTSF	47.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	47.0	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.23	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

5

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	2030
Highway	COMMUNITY PARK RD
From/To	
Jurisdiction	
Analysis Year	2014
Description AM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V	894	veh/h	
Directional split	50 / 50	%	

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	894	pc/h
Highest directional split proportion (note-2)	447	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	55	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	55.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	48.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	**1.00**	
PCE for trucks, ET	**1.1**	
PCE for RVs, ER	**0.0***	
Heavy-vehicle adjustment factor, fHV	**1.000**	
Two-way flow rate,(note-1) vp	**894**	pc/h
Highest directional split proportion (note-2)	**447**	
Base percent time-spent-following, BPTSF	**54.4**	%
Adj.for directional distribution and no-passing zones, fd/np	**0.0**	
Percent time-spent-following, PTSF	**54.4**	%

Level of Service and Other Performance Measures

Level of service, LOS	**C**	
Volume to capacity ratio, v/c	**0.28**	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

5

HCS+: Two-Lane Highways Release 5.2

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	10/25/2014
Analysis Time Period	EXISTING
Highway	COMMUNITY PARK RD
From/To	
Jurisdiction	
Analysis Year	2014
Description PM PEAK	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	0	%
Segment length	0.0	mi	% Recreational vehicles	0	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	0	/mi
Up/down		%			

Two-way hourly volume, V 715 veh/h
Directional split 50 / 50 %

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.0*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	1.000	
Two-way flow rate,(note-1) vp	715	pc/h
Highest directional split proportion (note-2)	358	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	55	mi/h
Observed volume, Vf	0	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	-	mi/h
Adj. for lane and shoulder width, fLS	-	mi/h
Adj. for access points, fA	-	mi/h
Free-flow speed, FFS	55.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	49.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	0.0*	
Heavy-vehicle adjustment factor, fHV	1.000	
Two-way flow rate,(note-1) vp	715	pc/h
Highest directional split proportion (note-2)	358	
Base percent time-spent-following, BPTSF	46.7	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	46.7	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.22	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

2 Roadway

N

WB

EB

	EB	WB
AM PEAK →	43 (54)	39 (49)
PM PEAK →	31 (38)	52 (65)

MESA VERDE, ASHTREE TO PEACH HILL

NO PROJECT TRIPS

Use 25 MPH for
a 2-Lane undivided road

3 Roadway

← WB

DOUBLE-YELLOW ℄

→ EB

	EB	WB
AM PEAK →	266 (329)	240 (297)
PM PEAK →	246 (305)	294 (364)

PEACH HILL W/O SPRING

(NO PMPST TRIPS)

Use 25 MPH for a 2-lane undivided Road

1 Roadway

Leta Yancy Road, N/O UNIDAS AVENUE (60)

ADT – NB – 329 (407) AM PEAK – 31 NB, 48 SB (38)
SB – 424 (525) PM PEAK – 38 NB, 48 SB (47) (60)

2 ARROYO VISTA COMMUNITY PARK INTERNAL ROAD

ADT – NB – 2,390 (3,959) AM PEAK – 386 NB, 336 SB (478) (416)
SB – 2,388 (3,948) PM PEAK – 300 NB, 415 SB (371) (514)

3 Roadway

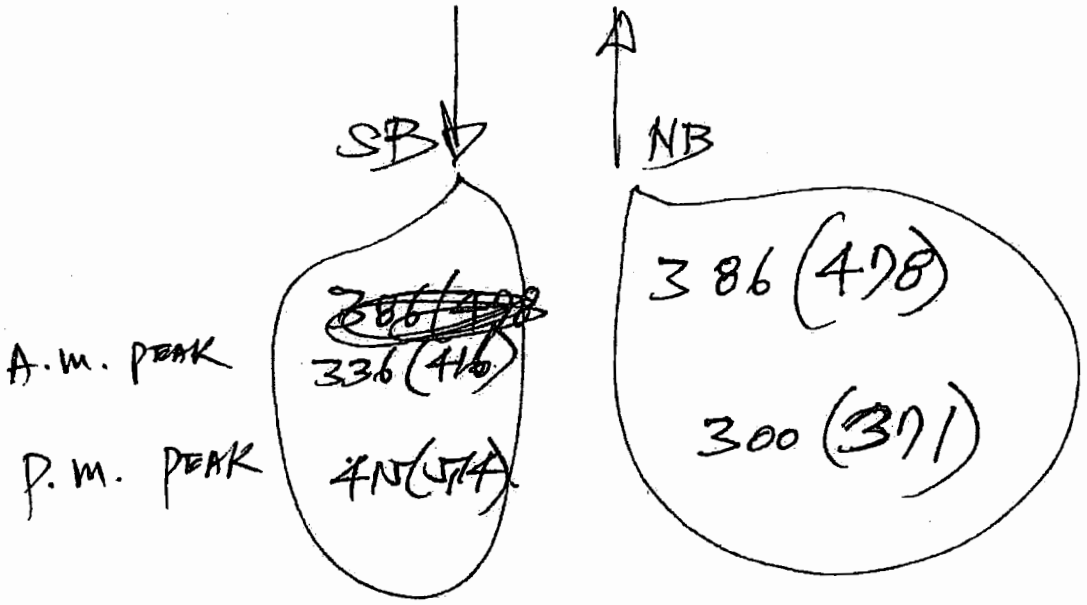
MESA VERDE DRIVE Between ASH TREE & PEACH HILL

ADT – EW NB – 472 (585) AM PEAK – 43 EB, 39 WB (54) (49)
WB – 486 (602) PM PEAK – 31 EB, 52 WB (38) (65)

4 Roadway Peach Hill Road W/O SPRING ROAD (297)

ADT – EB – 3,194 (3,954) AM PEAK – 266 EB, 290 WB (329)
WB – 3,305 (4,092) PM PEAK – 246 EB, 294 WB (305) (364)

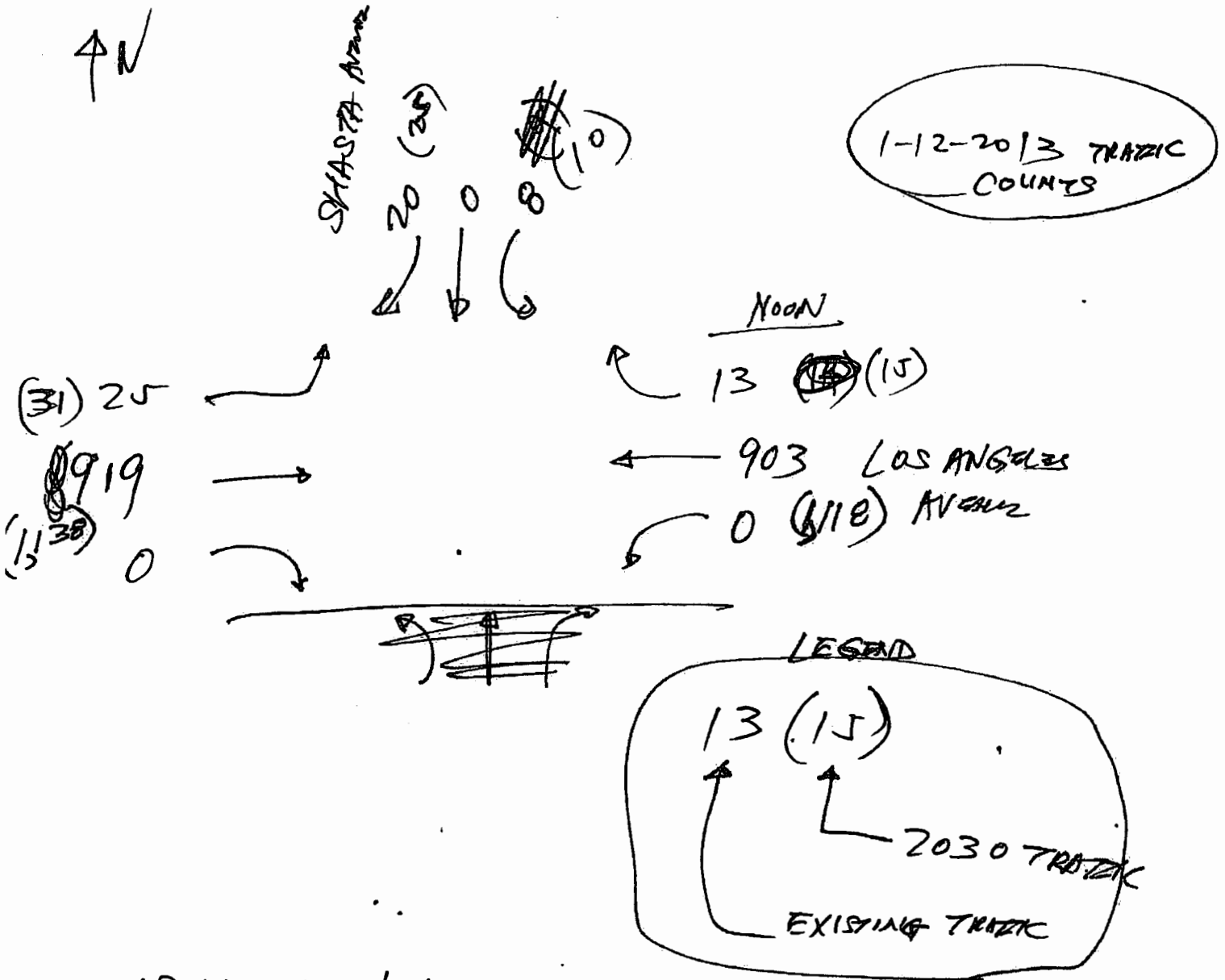
~~Peach Hill Road~~



ARROYO VISTA COMMUNITY PARK

ACCESS ROAD.

1

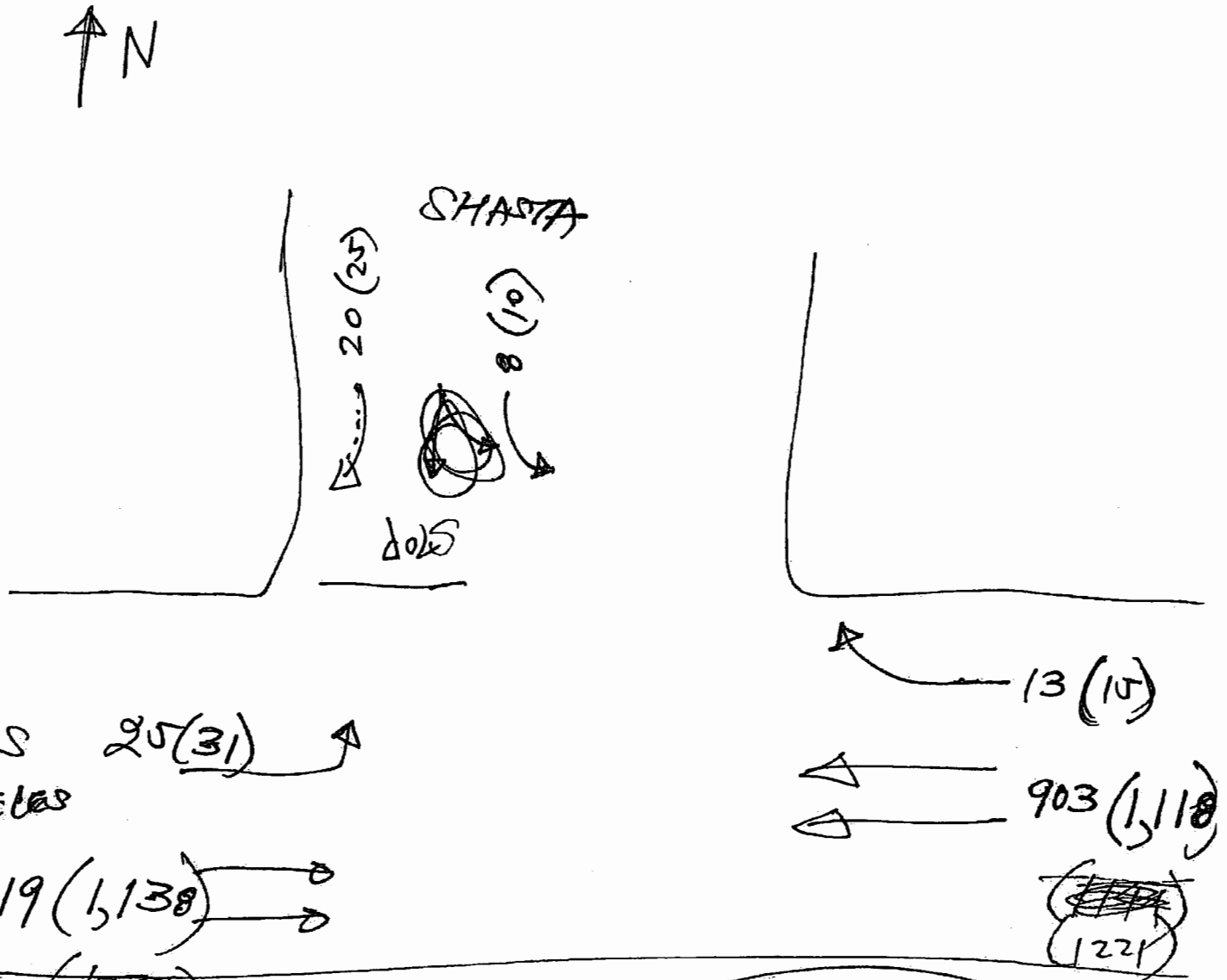


17 YEARS at 1.4% ANNUAL TRAFFIC GROWTH RATE =

23.8% INCREASE OF TRAFFIC IN YEAR 2030

YEAR 2030 VOLUME = EXISTING VOLUME X 1.238

1



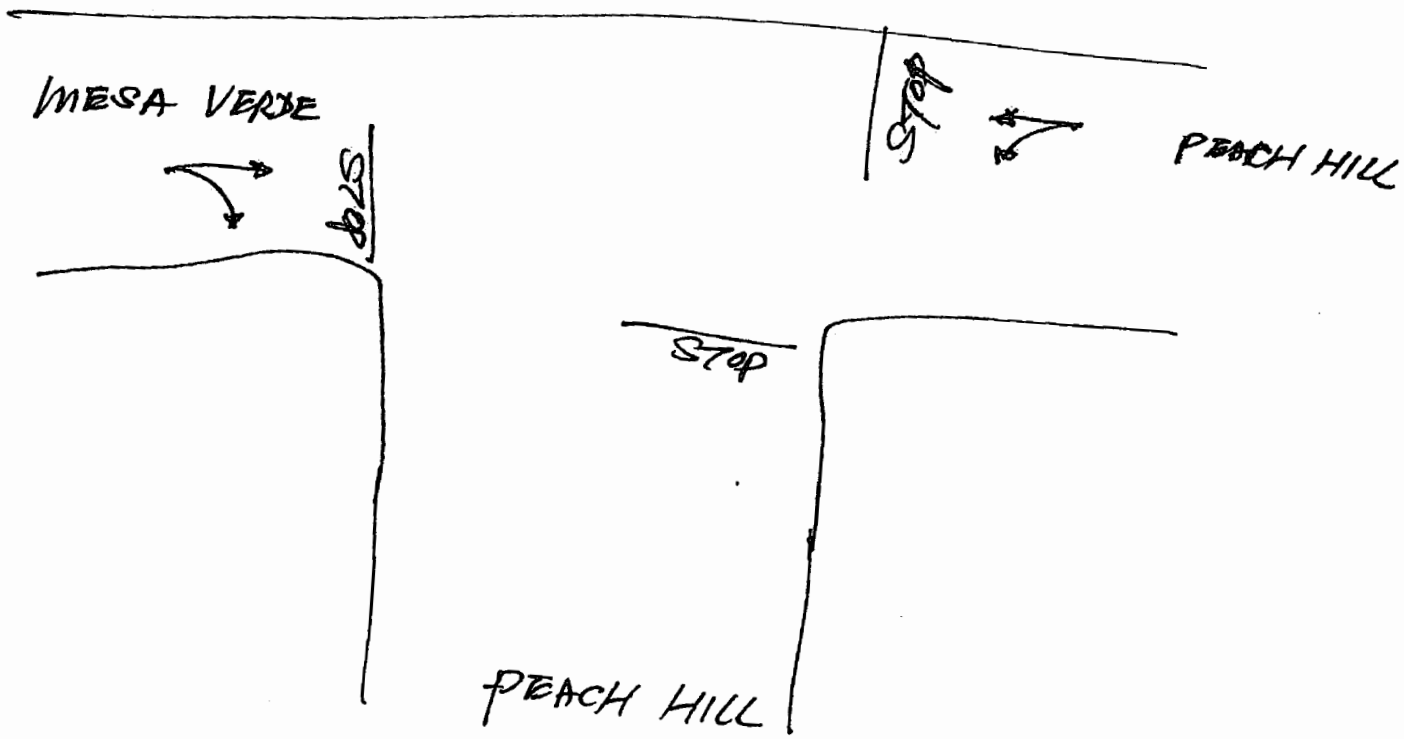
YEAR 2030 + PROJECT TRIPS

Use HCM

HUI, CALCULATE PROJECT TRIPS + 2030 TRIPS FOR THIS INTERSECTION ONLY.

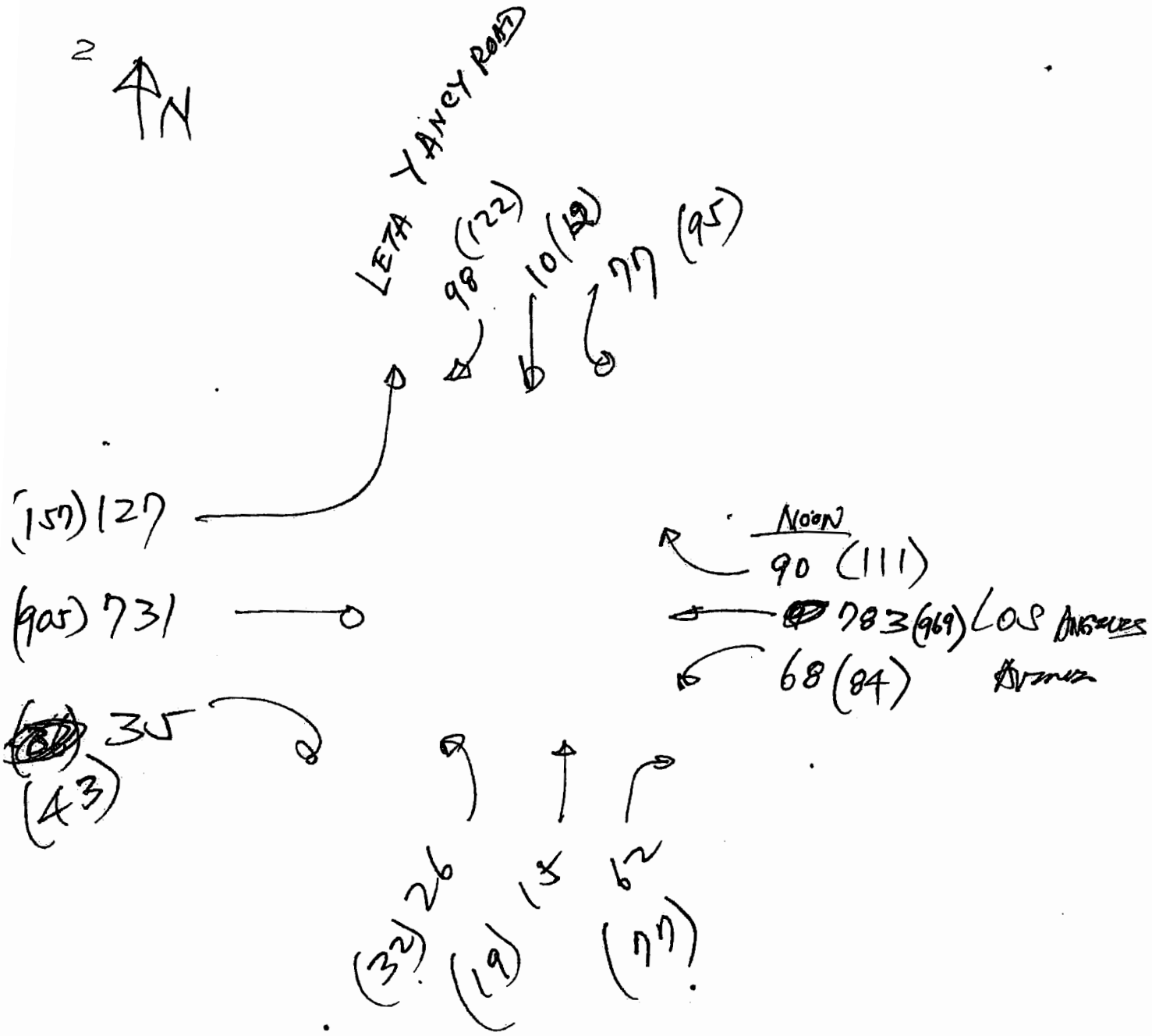
The others HAVE NO PROJECT TRIPS

3 N



Use HCM FOR CAPACITY CALCULATIONS

"0" for project trips.


2
N
LETA YANCY ROAD
98 (122)
10 (12)
77 (95)
(157) 127
(905) 731
(43) 35
NOON
90 (111)
783 (969) LOS ANGELES
68 (84)
(32) 26
(19) 15
(77) 62

2

Peak Traffic Hour (Worst Condition)

Intersection Capacity Utilization (ICU)

For

LOS ANGELES AND LETA YANCY

NOON Peak

Movement	Traffic Lane Capacity: No. of Lanes	Traffic Lane Capacity: Total Lane Capacity	Traffic Volumes: Existing Traffic	Traffic Volumes: Year 2030 Traffic	Traffic Volumes: Year 2030 Traffic + Project Traffic	Volume-to-Capacity Ratio: Existing Traffic	Volume-to-Capacity Ratio: Year 2030 Traffic	Volume-to-Capacity Ratio: Year 2030 Traffic + Project Traffic
NL	1	1600	26	32	32	0.016	0.020	0.020
NT	1	1600	15	19	19	0.009*	0.012*	0.012*
NR	1	1600	62	77	77	0.039	0.059	0.059
SL	1	1600	77	95	95	0.048*	0.059*	0.059*
ST	1	1600	10	12	12	0.006	0.008	0.008
SR	1	1600	98	122	122	0.061	0.076	0.076
EL	1	1600	127	157	157	0.079	0.098	0.098
ET	2	3200	731	905	1004	0.228*	0.283*	0.314*
ER	1	1600	35	43	43	0.022	0.027	0.027
WL	1	1600	68	84	84	0.043*	0.053*	0.053*
~~WT~~	~~2~~	~~3200~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~
WTR	3	4800	873	1080	1108	0.182	0.225	0.231
				Yellow Clearance		0.100*	0.100*	0.100*
				Intersection ICU		0.428	0.507	0.538
				Level of Service		A	A	A

* [illegible] critical volume to capacity ratio utilized to determine intersection ICU

A
B 70
C 80
D 90
E 00
F

3

Peak Traffic Hour (Worst Condition)

Intersection Capacity Utilization (ICU)

For

PEACH HILL & SPRING

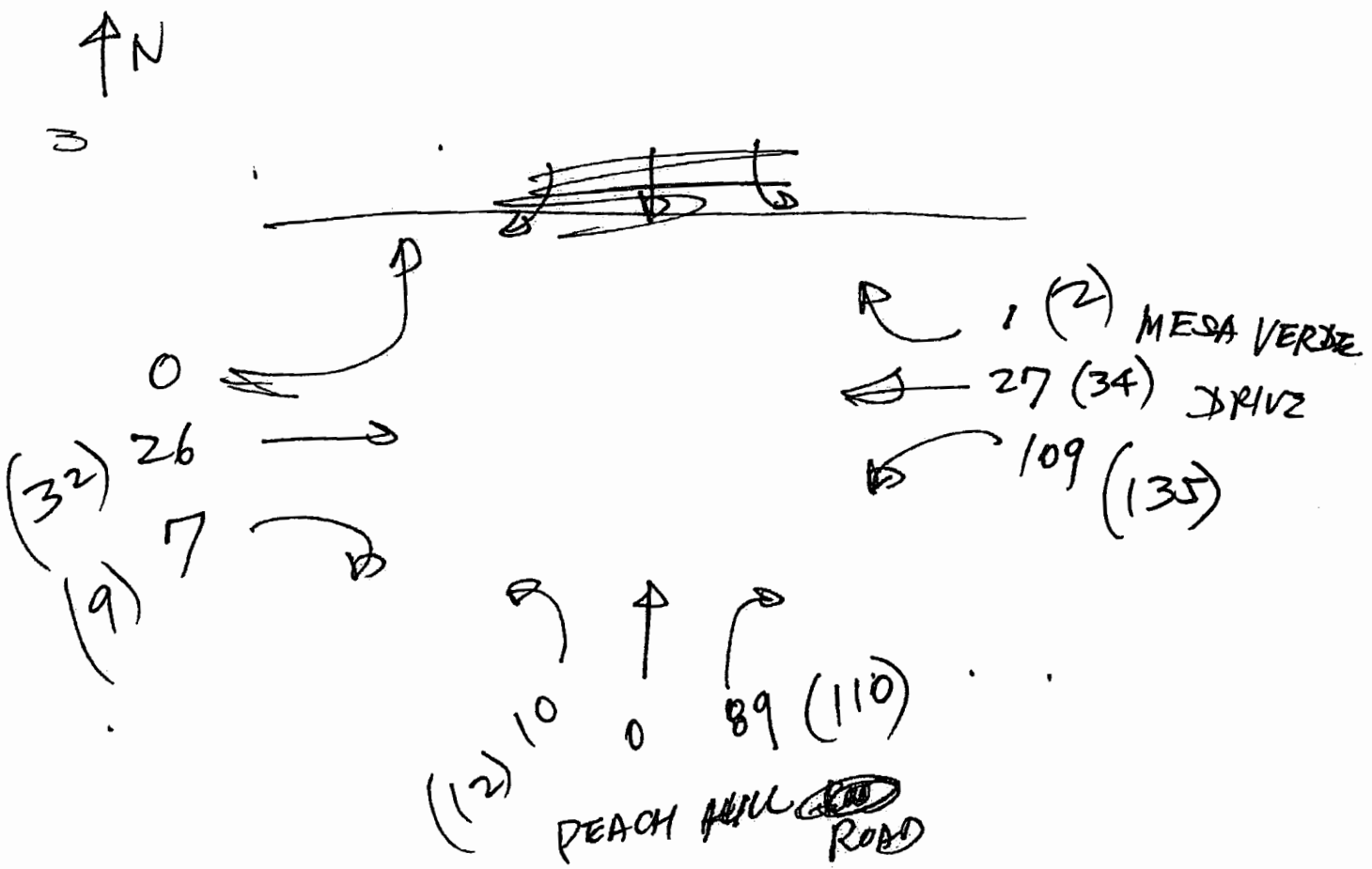
Peak

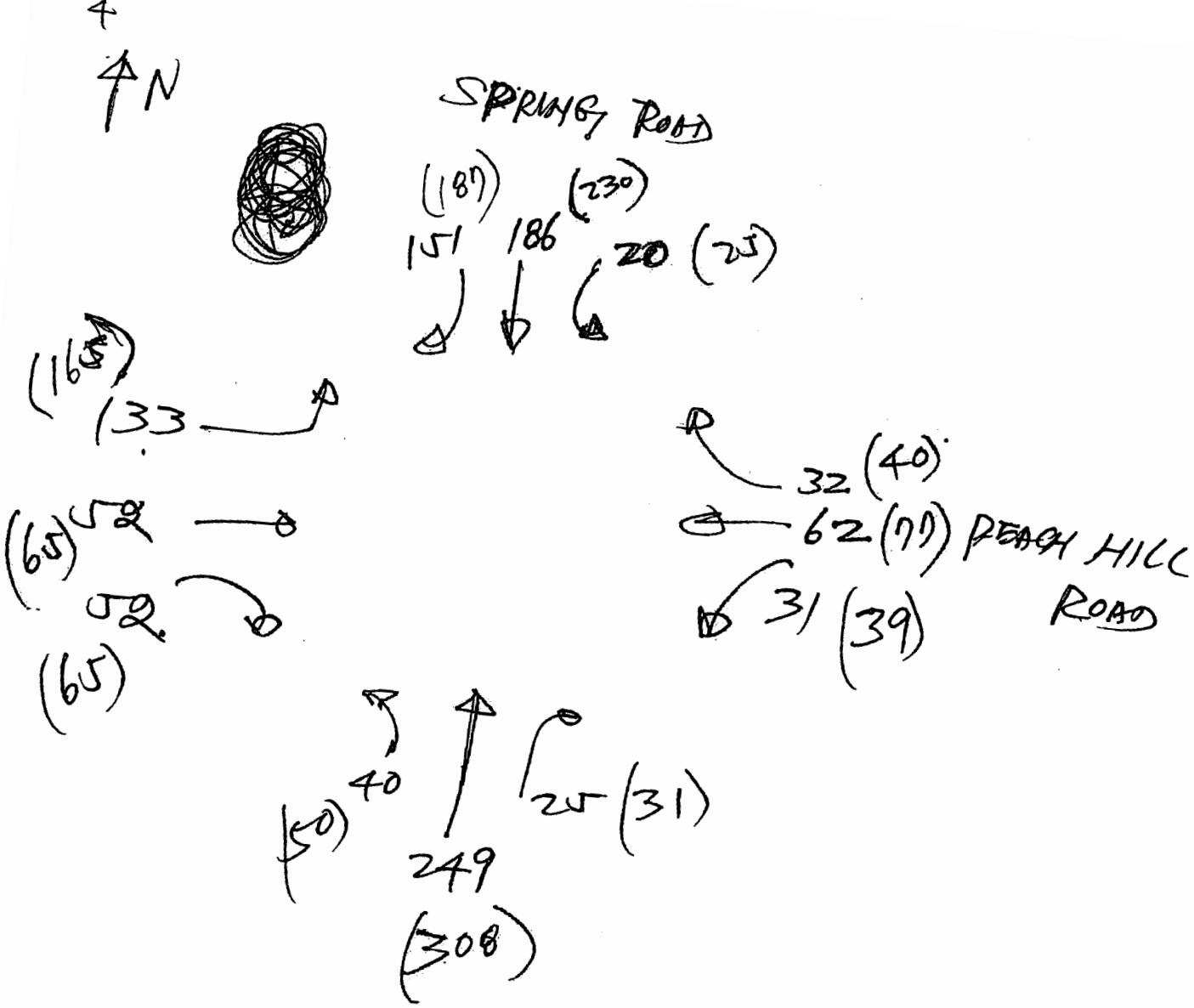
NOON

Mi	Traffic Lane Capacity: No. of Lanes	Total Lane Capacity	Traffic Volumes: Existing Traffic	Year 2030 Traffic	Year 2030 Traffic + Project Traffic	Volume-to-Capacity Ratio: Existing Traffic	Year 2030 Traffic	Year 2030 Traffic + Project Traffic
NL	1	1600	40	50	50	0.025	0.031	0.031
NT	1	1600	249	308	313	0.156*	0.193*	0.196*
NR	1	1600	25	31	31	0.016	0.019	0.019
SL	1	1600	20	25	41	0.013*	0.016*	0.026*
ST	1	1600	186	230	247	0.116	0.144	0.15
SR	1	1600	151	187	187	0.094	0.117	0.117
EL	1	1600	133	165	165	0.083*	0.103*	0.103*
ET	1	1600	52	65	65	0.033	0.041	0.041
ER	1	1600	52	65	65	0.033	0.041	0.041
WL	1	1600	31	39	39	0.019	0.024	0.024
WTR	1	1600	94	117	121	0.059*	0.073*	0.076*
				Yellow Clearance		0.100*	0.100*	0.100*
				Intersection ICU		0.411	0.495	0.501
				Level of Service		A	A	A

* ...tical volume to capacity ratio utilized to determine intersection ICU

A ...
B ...
C ...
D ...
E ...
F ...


N
0
(32) 26
(9) 7
1 (2) MESA VERDE
27 (34) DRIVE
109 (135)
(12) 10
0
89 (110)
PEACH HILL ROAD


N
SPRING ROAD
(187)
151
186
(230)
20
(25)
(165)
133
32
(40)
(65)
52
62
(77)
PEACH HILL ROAD
52
(65)
31
(39)
(50)
40
25
(31)
249
(308)

24-Hour Roadway Segment Counts (Classification)

Prepared by Pacific Traffic Data Services

Date: Saturday, June 07, 2008
Job #: CA08-0523-6
City: Moorpark
Location: Los Angeles Ave (SR-118) east of Moorpark Ave

Direction: Westbound

AM Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Total	PM Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Total
12:00 AM	41	5	0	1	0	0	47	12:00 PM	152	51	3	3	1	0	210
12:15 AM	36	4	1	0	0	0	41	12:15 PM	153	40	4	4	0	1	202
12:30 AM	18	3	0	0	0	0	21	12:30 PM	147	32	4	6	0	0	189
12:45 AM	15	1	0	2	0	0	18	12:45 PM	146	26	4	6	0	0	182
1:00 AM	20	5	0	0	0	0	25	1:00 PM	132	23	6	7	0	0	168
1:15 AM	21	5	0	2	0	0	28	1:15 PM	119	15	4	5	0	0	143
1:30 AM	17	2	0	0	0	0	19	1:30 PM	108	31	3	3	0	0	145
1:45 AM	16	2	0	2	0	0	20	1:45 PM	99	12	4	2	0	0	117
2:00 AM	15	2	0	1	0	0	18	2:00 PM	92	23	2	4	0	0	121
2:15 AM	16	7	1	1	0	0	25	2:15 PM	99	21	4	3	0	0	127
2:30 AM	12	2	0	1	0	0	15	2:30 PM	82	18	2	2	1	0	105
2:45 AM	13	1	3	3	0	0	20	2:45 PM	72	20	2	2	0	0	96
3:00 AM	11	1	1	1	0	0	14	3:00 PM	76	19	2	1	0	0	98
3:15 AM	12	2	1	1	0	0	16	3:15 PM	83	13	4	3	0	1	104
3:30 AM	15	1	1	1	0	0	18	3:30 PM	85	15	2	2	0	0	104
3:45 AM	18	2	1	0	0	0	21	3:45 PM	91	16	1	1	0	0	109
4:00 AM	8	3	1	3	0	0	15	4:00 PM	131	22	5	3	0	0	161
4:15 AM	15	6	0	2	0	0	23	4:15 PM	135	26	5	7	0	0	173
4:30 AM	18	2	1	2	0	0	23	4:30 PM	145	25	6	5	0	0	181
4:45 AM	19	3	2	3	0	0	27	4:45 PM	148	29	2	7	0	1	187
5:00 AM	30	7	0	1	0	0	38	5:00 PM	153	32	4	6	0	0	195
5:15 AM	31	5	1	2	0	0	39	5:15 PM	159	33	6	5	0	0	203
5:30 AM	37	5	0	1	0	0	43	5:30 PM	175	32	8	7	0	1	223
5:45 AM	38	9	2	0	0	0	49	5:45 PM	190	40	7	6	0	0	243
6:00 AM	57	15	4	0	1	0	77	6:00 PM	196	39	12	7	0	2	256
6:15 AM	62	24	3	5	0	0	94	6:15 PM	215	47	8	9	1	2	282
6:30 AM	59	24	3	7	0	1	94	6:30 PM	198	46	6	5	1	1	257
6:45 AM	42	16	3	2	0	0	63	6:45 PM	178	25	3	3	0	1	210
7:00 AM	108	24	1	2	0	0	135	7:00 PM	165	33	9	4	0	0	211
7:15 AM	112	31	3	5	0	0	151	7:15 PM	125	20	2	7	0	0	154
7:30 AM	104	22	4	2	0	0	132	7:30 PM	121	20	3	5	0	1	150
7:45 AM	105	21	2	2	0	0	130	7:45 PM	111	20	1	3	0	0	135
8:00 AM	111	33	5	9	0	0	158	8:00 PM	98	14	4	2	0	0	118
8:15 AM	118	42	3	11	0	0	174	8:15 PM	86	13	1	1	0	0	101
8:30 AM	118	35	4	3	0	0	160	8:30 PM	73	15	2	2	0	0	92
8:45 AM	105	24	4	6	0	0	139	8:45 PM	70	12	2	2	0	0	86
9:00 AM	108	29	3	1	0	0	141	9:00 PM	68	12	2	3	1	0	86
9:15 AM	133	28	5	7	0	0	173	9:15 PM	55	11	3	3	1	0	73
9:30 AM	129	24	3	4	0	0	160	9:30 PM	60	9	1	1	0	0	71
9:45 AM	171	28	8	10	0	0	215	9:45 PM	39	9	2	1	0	0	51
10:00 AM	131	24	4	2	0	0	161	10:00 PM	38	16	1	2	0	0	57
10:15 AM	152	29	5	7	0	0	193	10:15 PM	28	7	1	1	0	0	37
10:30 AM	146	30	6	6	0	1	191	10:30 PM	27	5	0	1	0	0	33
10:45 AM	168	30	5	5	0	0	208	10:45 PM	26	5	1	2	0	0	34
11:00 AM	179	42	7	8	1	0	237	11:00 PM	30	3	2	1	0	0	36
11:15 AM	185	43	7	7	0	0	242	11:15 PM	29	5	0	0	0	0	34
11:30 AM	145	41	10	5	0	1	202	11:30 PM	26	4	0	0	0	0	30
11:45 AM	159	51	5	7	0	1	223	11:45 PM	18	4	0	1	0	0	23
AM Total	3,399	793	123	155	2	4	4,476	PM Total	5,052	1,008	160	166	6	11	6,403
AM Peak Hr	10:30 AM	11:15 AM	11:00 AM	8:00 AM	11:45 AM	11:30 AM	11:00 AM	PM Peak Hr	5:45 PM	5:45 PM	5:30 PM	5:30 PM	9:00 PM	6:00 PM	5:45 PM
AM Peak Vol	678	186	29	29	1	3	904	PM Peak Vol	799	172	35	29	2	6	1,038

Hourly Volume	Westbound
8:00 AM	631
8:15 AM	614
8:30 AM	613
8:45 AM	613
9:00 AM	689
9:15 AM	709
9:30 AM	729
9:45 AM	760
10:00 AM	753
10:15 AM	829
10:30 AM	878
10:45 AM	889
11:00 AM	904
11:15 AM	877
11:30 AM	837
11:45 AM	824
12:00 PM	783
12:15 PM	741
12:30 PM	682
12:45 PM	638
1:00 PM	573
1:15 PM	[illegible]
1:30 PM	
1:45 PM	[illegible]
2:00 PM	449

Class 1	Passenger Vehicles	8,451	77.7%
Class 2	2-Axle Trucks	1,801	16.6%
Class 3	3-Axle Trucks	283	2.6%
Class 4	4 or more axle trucks	321	3.0%
Class 5	Recreational Vehicles	8	0.1%
6	Busses	15	0.1%
		10,879	100.0%

Los Angeles Ave (SR-118) east of Tierra Rejada Road
Saturday, June 07, 2008

Hour	Hourly Traffic Volume			
	Eastbound	Westbound	Total	
8:00 AM	615	607	1,222	
8:15 AM	706	577	1,283	
8:30 AM	747	571	1,318	
8:45 AM	743	575	1,318	
9:00 AM	693	647	1,340	
9:15 AM	616	663	1,279	
9:30 AM	542	661	1,203	
9:45 AM	477	676	1,153	
10:00 AM	434	672	1,106	
10:15 AM	433	745	1,178	
10:30 AM	460	780	1,240	
10:45 AM	452	781	1,233	
11:00 AM	451	790	1,241	
11:15 AM	449	758	1,207	
11:30 AM	473	752	1,225	
11:45 AM	548	775	1,323	
12:00 PM	628	740	1,368	
12:15 PM	692	720	1,412	*
12:30 PM	723	658	1,381	
12:45 PM	722	586	1,308	
1:00 PM	703	512	1,215	
1:15 PM	739	466	1,205	
1:30 PM	746	460	1,206	
1:45 PM	732	428	1,160	
2:00 PM	730	415	1,145	

* Peak hour of traffic

Los Angeles Ave (SR-118) east of Moorpark Ave
Saturday, June 07, 2008

Hour	Hourly Traffic Volume		
	Eastbound	Westbound	Total
8:00 AM	671	631	1,302
8:15 AM	762	614	1,376
8:30 AM	808	613	1,421
8:45 AM	823	613	1,436
9:00 AM	778	689	1,467
9:15 AM	699	709	1,408
9:30 AM	647	729	1,376
9:45 AM	573	760	1,333
10:00 AM	528	753	1,281
10:15 AM	521	829	1,350
10:30 AM	517	878	1,395
10:45 AM	497	889	1,386
11:00 AM	486	904	1,390
11:15 AM	494	877	1,371
11:30 AM	534	837	1,371
11:45 AM	620	824	1,444
12:00 PM	710	783	1,493
12:15 PM	772	741	1,513 *
12:30 PM	815	682	1,497
12:45 PM	822	638	1,460
1:00 PM	836	573	1,409
1:15 PM	884	526	1,410
1:30 PM	885	510	1,395
1:45 PM	857	470	1,327
2:00 PM	817	449	1,266

* Peak hour of traffic

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5017_001 **Day:** SATURDAY

City: City of Moorpark **Date:** 1/12/2013

NOON

NS/EW Streets: [redacted]

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	1	1	0	1	1	0	
12:00 PM	8	110	43	17	73	20	22	0	13	37	1	25	369
12:15 PM	13	88	59	37	76	22	21	0	13	14	1	13	357
12:30 PM	10	76	44	26	74	24	27	3	11	17	1	14	327
12:45 PM	13	81	35	28	76	20	21	2	13	90	3	53	435
1:00 PM	18	72	42	26	75	12	17	3	18	119	4	46	452
1:15 PM	15	96	41	21	86	10	14	2	20	33	0	21	359
1:30 PM	19	96	68	26	75	15	12	0	13	16	0	10	350
1:45 PM	14	78	46	28	81	23	17	1	11	26	2	14	341
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	110	697	378	209	616	146	151	11	112	352	12	196	2990
APPROACH %'s :	9.28%	58.82%	31.90%	21.52%	63.44%	15.04%	55.11%	4.01%	40.88%	62.86%	2.14%	35.00%	

[redacted]

CONTROL :

ITM Peak Hour Summary

Prepared by:

NDS

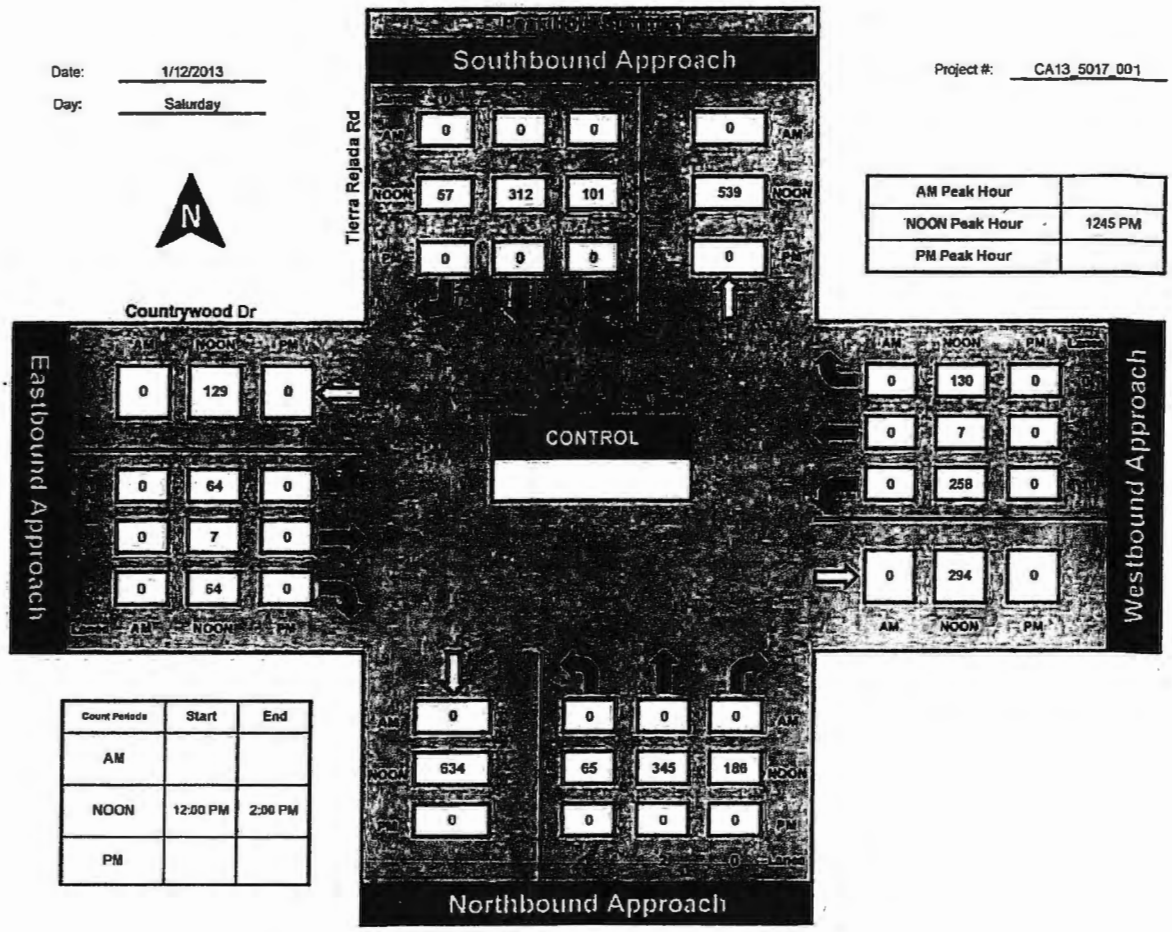
National Data & Surveying Services

Tierra Rejada Rd and Countrywood Dr , City of Moorpark

Date: 1/12/2013

Day: Saturday

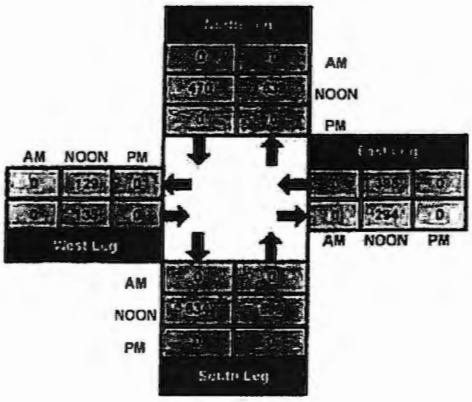
Project #: CA13_5017_001



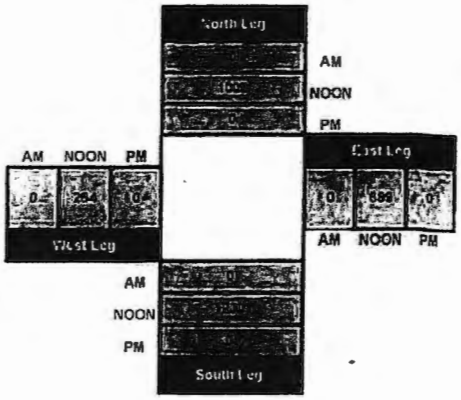
AM Peak Hour	
NOON Peak Hour	1245 PM
PM Peak Hour	

Count Periods	Start	End
AM		
NOON	12:00 PM	2:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5017_002 **Day:** SATURDAY

City: City of Moorpark **Date:** 1/12/2013

NOON

NS/EW Streets: [redacted]

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	1	0	1	2	0	0	2	0	
12:00 PM				2		3	5	250			216	3	479
12:15 PM				3		4	7	197			233	3	447
12:30 PM				2		3	5	241			240	4	495
12:45 PM				1		10	8	231			214	3	467
1:00 PM				2		1	4	224			207	2	440
1:15 PM				0		1	2	210			218	7	438
1:30 PM				3		4	2	229			278	4	520
1:45 PM				1		4	5	215			197	2	424
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	14	0	30	38	1797	0	0	1803	28	3710
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	31.82%	0.00%	68.18%	2.07%	97.93%	0.00%	0.00%	98.47%	1.53%	

[redacted]

CONTROL :

ITM Peak Hour Summary

Prepared by:

NDS

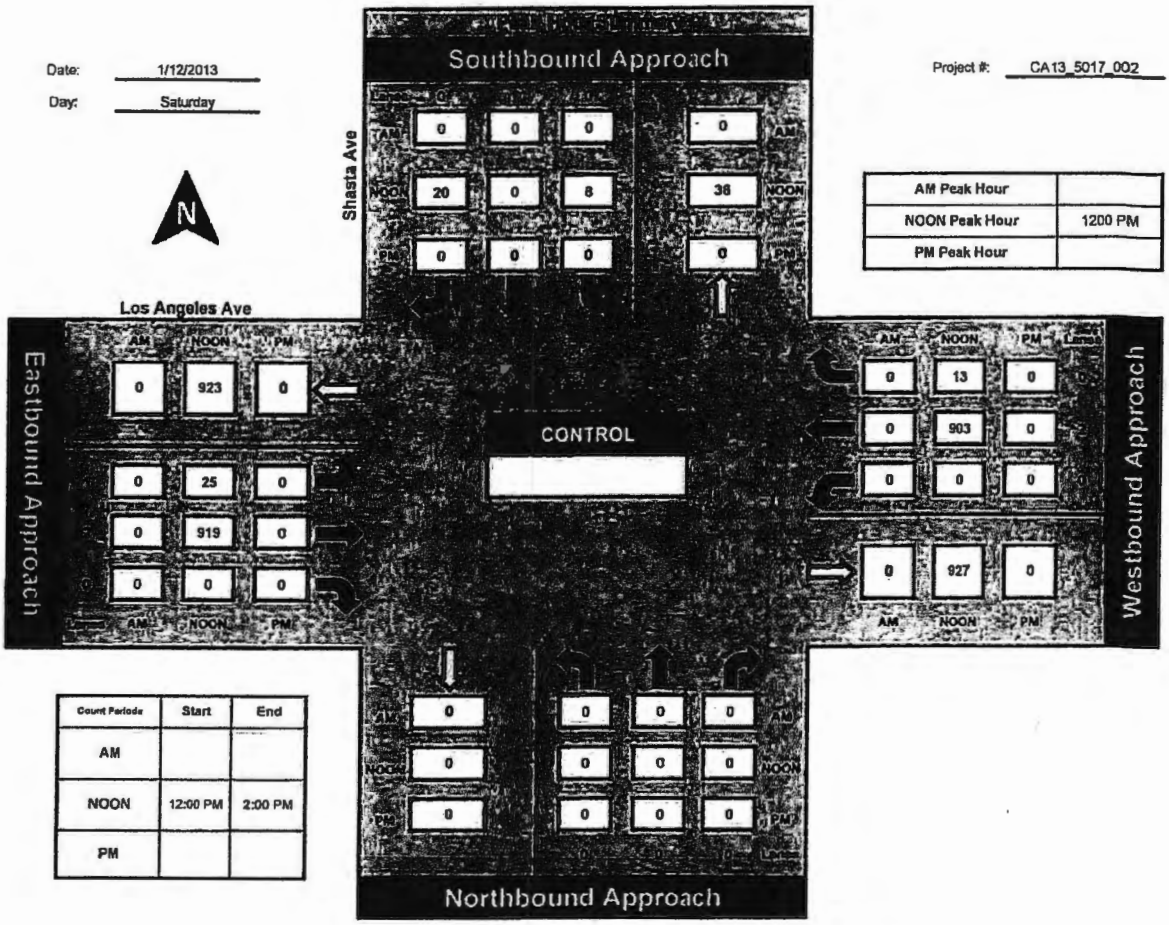
National Data & Surveying Services

Shasta Ave and Los Angeles Ave , City of Moorpark

Date: 1/12/2013

Day: Saturday

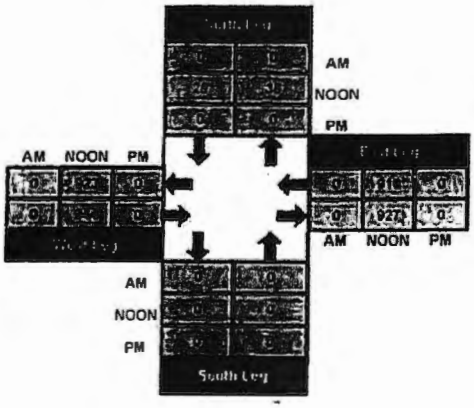
Project #: CA13_5017_002



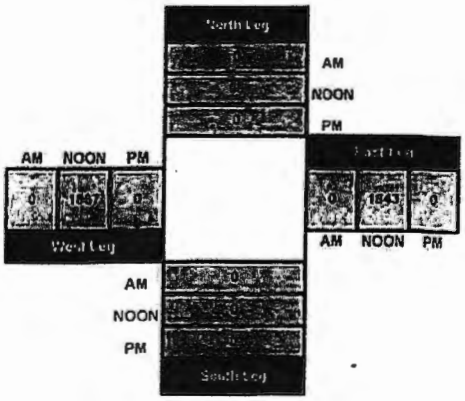
AM Peak Hour	
NOON Peak Hour	1200 PM
PM Peak Hour	

Count Periods	Start	End
AM		
NOON	12:00 PM	2:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5017_003 **Day:** SATURDAY

City: City of Moorpark **Date:** 1/12/2013

NOON

NS/EW Streets: [redacted]

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	1	1	1	2	1	1	2	1	
12:00 PM	3	3	14	12	1	23	32	204	6	14	183	24	519
12:15 PM	7	4	18	20	3	25	19	160	17	23	206	22	524
12:30 PM	6	4	15	17	2	24	34	186	5	19	209	33	554
12:45 PM	10	4	15	28	4	26	42	181	7	12	185	11	525
1:00 PM	6	6	12	16	5	23	27	180	3	11	190	19	498
1:15 PM	4	4	15	12	5	28	23	173	4	11	190	17	486
1:30 PM	10	4	15	18	3	26	25	188	10	20	247	14	580
1:45 PM	9	3	15	13	4	30	36	173	5	12	165	11	476
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	55	32	119	136	27	205	238	1445	57	122	1575	151	4162
APPROACH %'s :	26.70%	15.53%	57.77%	36.96%	7.34%	55.71%	13.68%	83.05%	3.28%	6.60%	85.23%	8.17%	

[redacted]

CONTROL :

ITM Peak Hour Summary

Prepared by:

NDS

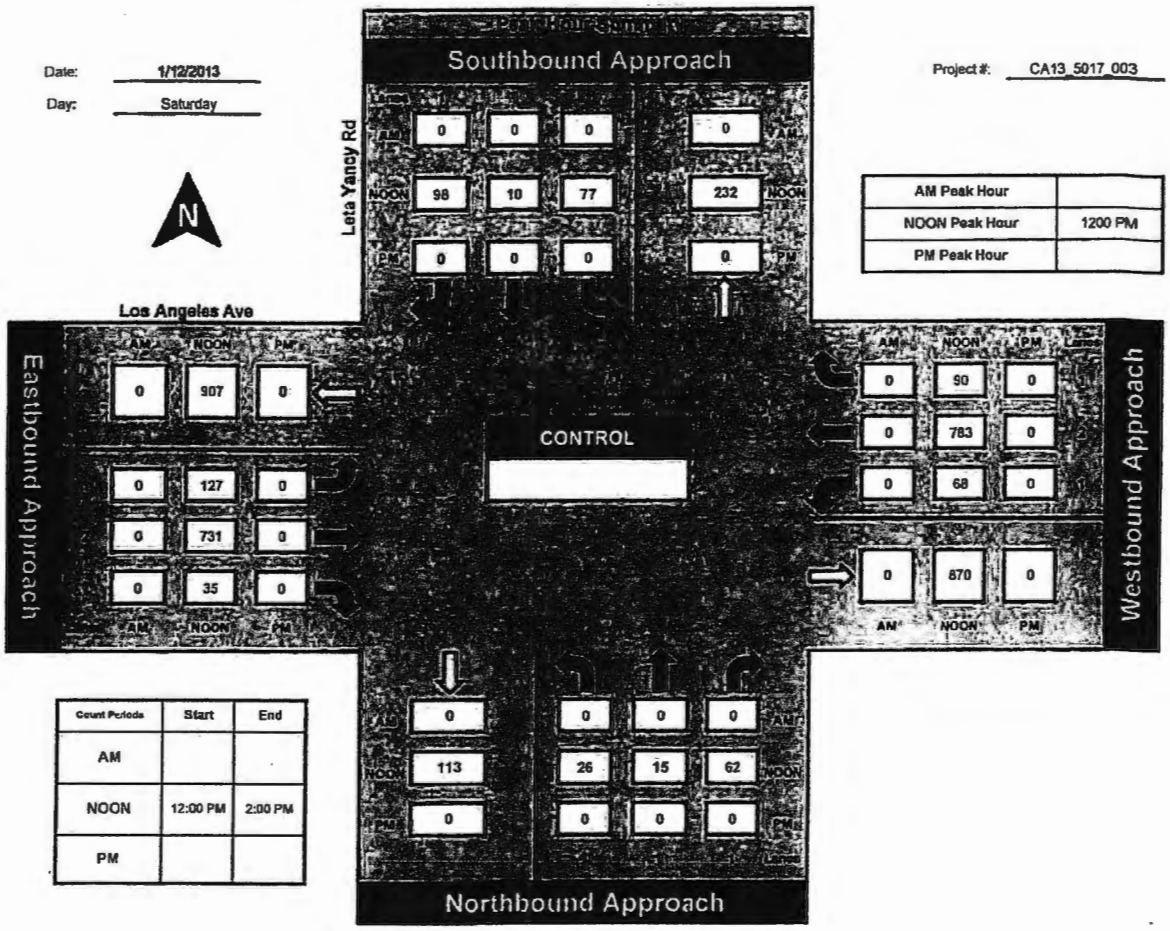
National Data & Surveying Services

Leta Yancy Rd and Los Angeles Ave , City of Moorpark

Date: 1/12/2013

Day: Saturday

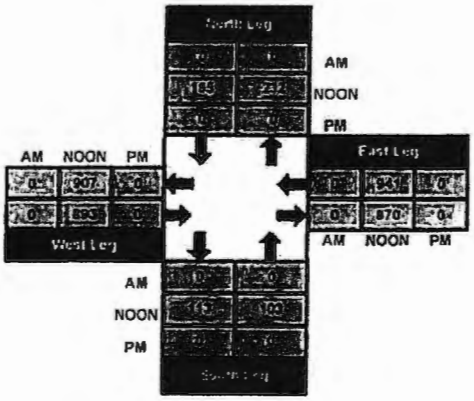
Project #: CA13_5017_003



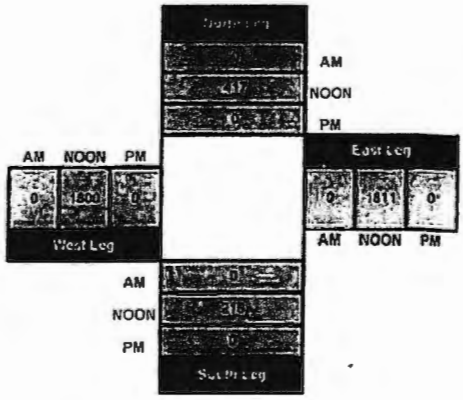
AM Peak Hour	
NOON Peak Hour	1200 PM
PM Peak Hour	

Count Periods	Start	End
AM		
NOON	12:00 PM	2:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5017_004 **Day:** SATURDAY

City: City of Moorpark **Date:** 1/12/2013

NOON

NS/EW Streets: [redacted]

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
12:00 PM	7		21					7	0	27	2	0	64
12:15 PM	0		26					8	3	10	9	0	56
12:30 PM	0		14					9	2	23	7	0	55
12:45 PM	3		25					7	2	28	9	0	74
1:00 PM	2		17					3	0	25	7	0	54
1:15 PM	2		29					9	3	23	8	0	74
1:30 PM	3		18					7	2	33	3	1	67
1:45 PM	6		19					12	5	19	7	0	68
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	23	0	169	0	0	0	0	62	17	188	52	1	512
APPROACH %'s :	11.98%	0.00%	88.02%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	78.48%	21.52%	78.01%	21.58%	0.41%	

[redacted]

CONTROL :

ITM Peak Hour Summary

Prepared by:

NDS

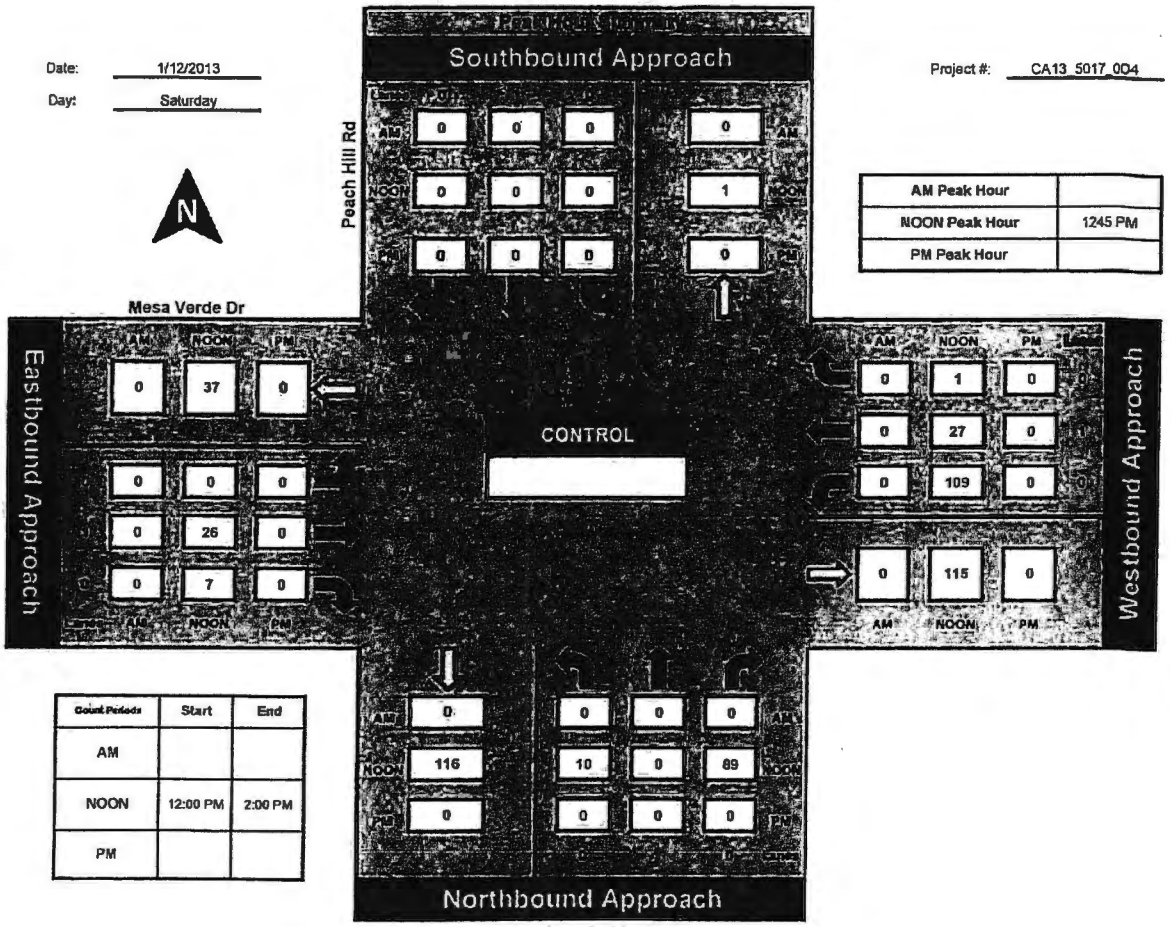
National Data & Surveying Services

Peach Hill Rd and Mesa Verde Dr , City of Moorpark

Date: 1/12/2013

Day: Saturday

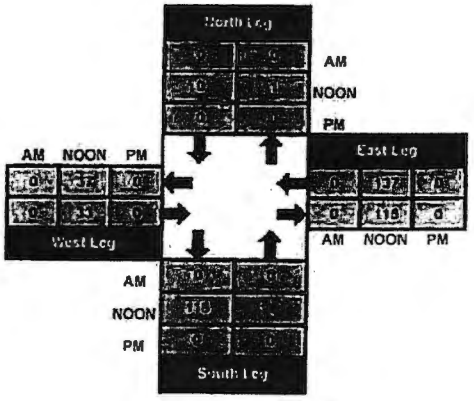
Project #: CA13_5017_004



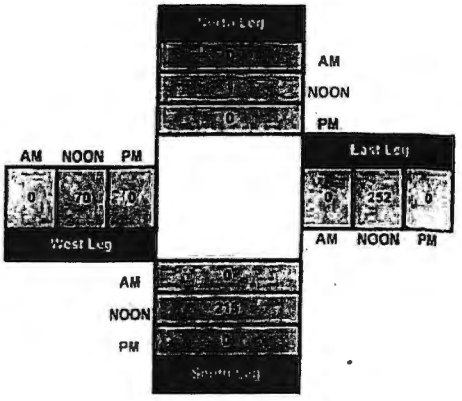
AM Peak Hour	
NOON Peak Hour	1245 PM
PM Peak Hour	

Count Periods	Start	End
AM		
NOON	12:00 PM	2:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5017_005 **Day:** SATURDAY

City: City of Moorpark **Date:** 1/12/2013

NOON

NS/EW Streets: [redacted]

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	1	1		1	1	1	1	0	
12:00 PM	13	61	7	6	38	23	38	15	7	11	16	11	246
12:15 PM	12	79	5	5	46	27	35	16	11	3	11	13	263
12:30 PM	11	57	10	4	48	26	28	14	17	12	17	5	249
12:45 PM	5	66	5	5	43	48	46	7	11	7	17	7	267
1:00 PM	12	47	5	6	49	50	24	15	13	9	17	7	254
1:15 PM	13	63	9	4	47	23	36	11	16	5	20	5	252
1:30 PM	10	43	6	6	34	34	36	12	13	3	17	5	219
1:45 PM	12	61	11	8	54	36	33	11	16	7	14	7	270
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	88	477	58	44	359	267	276	101	104	57	129	60	2020
APPROACH %'s :	14.13%	76.57%	9.31%	6.57%	53.58%	39.85%	57.38%	21.00%	21.62%	23.17%	52.44%	24.39%	

[redacted]

CONTROL :

ITM Peak Hour Summary

Prepared by:

NDS

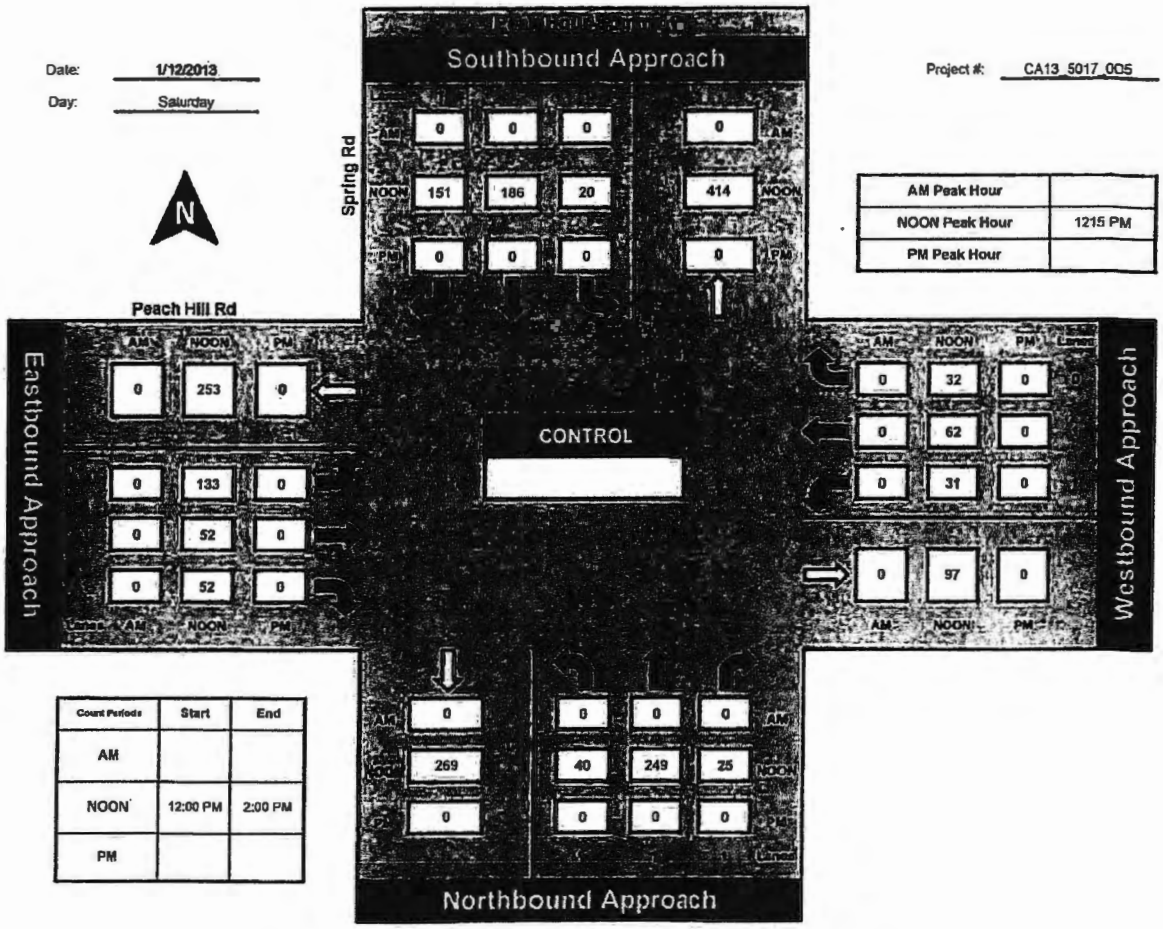
National Data & Surveying Services

Spring Rd and Peach Hill Rd , City of Moorpark

Date: 1/12/2013

Day: Saturday

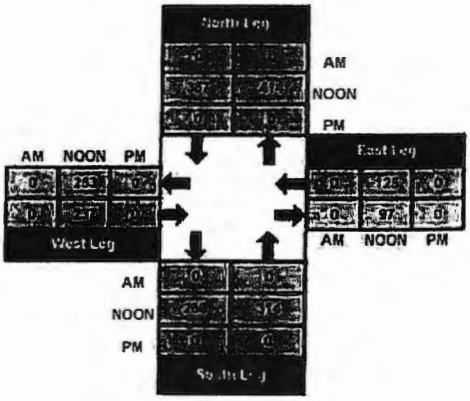
Project #: CA13_5017_005



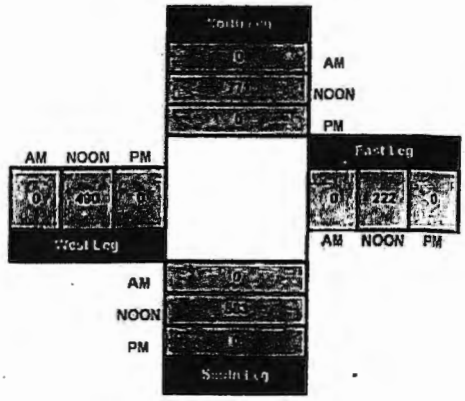
AM Peak Hour	
NOON Peak Hour	1215 PM
PM Peak Hour	

Count Periods	Start	End
AM		
NOON	12:00 PM	2:00 PM
PM		

Total Ins & Outs



Total Volume Per Leg



Prepared by NDS/ATD

VOLUME

Leta Yancy Rd N/o Unidos Ave

Day: Saturday
Date: 1/12/2013

City: Moorpark
Project #: CA13_5016_001

DAILY TOTALS	NB	SB	EB	WB	Total
	329	424	0	0	753

AM Period	NB		SB		EB	WB	TOTAL	PM Period	NB		SB		EB	WB	TOTAL
00:00	1		0					12:00	4		7				
00:15	0		2					12:15	9		15				
00:30	2		1					12:30	8		16				
00:45	0	3	2	5				12:45	7	28	8	46			
01:00	0		0					13:00	5		9				
01:15	2		0					13:15	3		9				
01:30	0		0					13:30	8		9				
01:45	0	2	1	1				13:45	4	20	5	32			
02:00	2		0					14:00	6		8				
02:15	0		1					14:15	4		5				
02:30	1		1					14:30	12		7				
02:45	2	5	1	3				14:45	8	30	4	24			
03:00	0		0					15:00	9		9				
03:15	0		0					15:15	9		9				
03:30	0		0					15:30	2		9				
03:45	0		0					15:45	6	26	5	32			
04:00	0		0					16:00	3		5				
04:15	0		0					16:15	7		8				
04:30	0		0					16:30	2		10				
04:45	3	3	0					16:45	4	16	12	35			
05:00	0		0					17:00	6		13				
05:15	0		0					17:15	8		3				
05:30	2		1					17:30	10		4				
05:45	2	4	0	1				17:45	1	25	7	27			
06:00	2		1					18:00	5		6				
06:15	1		0					18:15	3		5				
06:30	6		3					18:30	3		5				
06:45	0	9	2	6				18:45	4	15	6	22			
07:00	1		0					19:00	1		5				
07:15	3		1					19:15	1		5				
07:30	4		1					19:30	0		3				
07:45	4	12	4	6				19:45	2	4	7	20			
08:00	4		1					20:00	1		8				
08:15	1		0					20:15	2		5				
08:30	3		7					20:30	5		6				
08:45	8	16	9	17				20:45	3	11	12	31			
09:00	5		5					21:00	3		3				
09:15	5		4					21:15	2		2				
09:30	6		8					21:30	4		2				
09:45	8	24	5	22				21:45	2	11	3	10			
10:00	5		9					22:00	1		2				
10:15	3		8					22:15	2		3				
10:30	5		8					22:30	0		3				
10:45	7	20	7	32				22:45	5	8	2	10			
11:00	6		10					23:00	2		1				
11:15	6		6					23:15	0		6				
11:30	9		6					23:30	3		0				
11:45	9	30	10	32				23:45	2	7	3	10			

DAILY TOTALS	NB	SB	EB	WB	Total
	329	424	0	0	753

Prepared by NDS/ATD

VOLUME

Mesa Verde Dr between Ashtree St & Peach Hill Rd

Day: Saturday
Date: 1/12/2013

City: Moorpark
Project #: CA13_5016_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	472	486	958

AM Period	NB	SB	EB		WB		TOTAL	PM Period	NB	SB	EB		WB		TOTAL
00:00			0		2			12:00			6		7		
00:15			1		3			12:15			9		7		
00:30			1		1			12:30			11		7		
00:45			2	4	1	7		12:45			6	32	12	33	
01:00			0		0			13:00			2		5		
01:15			0		0			13:15			11		9		
01:30			2		2			13:30			7		5		
01:45			1	3	1	3		13:45			14	34	9	28	
02:00			2		2			14:00			7		12		
02:15			0		1			14:15			4		12		
02:30			1		0			14:30			4		7		
02:45			0	3	0	3		14:45			8	23	9	40	
03:00			0		0			15:00			6		14		
03:15			0		1			15:15			9		12		
03:30			2		0			15:30			9		8		
03:45			1	3	0	1		15:45			11	35	4	38	
04:00			0		0			16:00			9		13		
04:15			0		2			16:15			8		11		
04:30			2		0			16:30			6		10		
04:45			2	4	0	2		16:45			8	31	12	46	
05:00			2		0			17:00			10		13		
05:15			1		0			17:15			6		6		
05:30			3		0			17:30			12		9		
05:45			2	8	1	1		17:45			10	38	16	44	
06:00			3		0			18:00			8		13		
06:15			1		0			18:15			3		10		
06:30			0		0			18:30			11		13		
06:45			2	6	0			18:45			8	30	9	45	
07:00			4		3			19:00			9		12		
07:15			6		5			19:15			6		11		
07:30			3		3			19:30			5		7		
07:45			7	20	0	11		19:45			4	24	7	37	
08:00			4		1			20:00			3		3		
08:15			8		3			20:15			6		8		
08:30			6		0			20:30			6		6		
08:45			10	28	3	7		20:45			5	20	3	20	
09:00			5		1			21:00			4		5		
09:15			11		6			21:15			5		4		
09:30			8		5			21:30			1		7		
09:45			6	30	4	16		21:45			1	11	2	18	
10:00			9		7			22:00			2		4		
10:15			13		8			22:15			0		4		
10:30			6		11			22:30			1		3		
10:45			13	41	4	30		22:45			0	3	1	12	
11:00			8		8			23:00			2		2		
11:15			7		7			23:15			1		3		
11:30			15		10			23:30			1		3		
11:45			3	33	5	30		23:45			4	8	6	14	
TOTALS								TOTALS							

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	472	486	958

Prepared by NDS/ATD

VOLUME

Peach Hill Rd W/o Spring Rd

Day: Saturday
Date: 1/12/2013

City: Moorpark
Project #: CA13_5016_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,194	3,305	6,499

AM Period	NB	SB	EB		WB		TOTAL	PM Period	NB	SB	EB		WB		TOTAL
00:00			7		11			12:00			63		56		
00:15			3		6			12:15			65		49		
00:30			7		5			12:30			56		54		
00:45			4	21	9	31		12:45			61	245	74	233	
01:00			5		9			13:00			54		72		
01:15			0		3			13:15			66		58		
01:30			3		6			13:30			63		62		
01:45			5	13	3	21		13:45			55	238	60	252	
02:00			1		3			14:00			47		69		
02:15			2		1			14:15			51		61		
02:30			2		1			14:30			52		52		
02:45			2	7	4	9		14:45			45	195	66	248	
03:00			0		1			15:00			50		60		
03:15			2		1			15:15			42		58		
03:30			6		0			15:30			56		73		
03:45			1	9	2	4		15:45			59	207	71	262	
04:00			4		1			16:00			56		58		
04:15			2		1			16:15			49		77		
04:30			5		2			16:30			56		55		
04:45			9	20	1	5		16:45			72	233	84	274	
05:00			7		2			17:00			69		71		
05:15			11		1			17:15			37		77		
05:30			13		4			17:30			52		62		
05:45			12	43	5	12		17:45			62	220	68	278	
06:00			14		2			18:00			63		85		
06:15			14		5			18:15			49		72		
06:30			10		2			18:30			56		66		
06:45			17	55	4	13		18:45			38	206	51	274	
07:00			29		7			19:00			49		76		
07:15			24		16			19:15			33		44		
07:30			33		13			19:30			28		32		
07:45			47	133	15	51		19:45			36	146	60	212	
08:00			57		30			20:00			24		35		
08:15			45		28			20:15			25		47		
08:30			71		15			20:30			15		34		
08:45			56	229	33	106		20:45			19	83	34	150	
09:00			45		39			21:00			14		24		
09:15			56		33			21:15			19		23		
09:30			83		46			21:30			21		33		
09:45			62	246	36	154		21:45			12	66	25	105	
10:00			55		56			22:00			17		32		
10:15			57		60			22:15			14		28		
10:30			59		68			22:30			10		31		
10:45			68	239	56	240		22:45			5	46	15	106	
11:00			64		40			23:00			11		14		
11:15			60		60			23:15			10		10		
11:30			74		53			23:30			5		13		
11:45			63	261	60	213		23:45			7	33	15	52	

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,194	3,305	6,499

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	3/9/2015
Analysis Time Period	PM PEAK
Highway	Peach Hill Road
From/To	CHRISTIA BARRETT DRIVE
Jurisdiction	
Analysis Year	
Description	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.0	mi	% Recreational vehicles	1	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	5	/mi
Up/down		%			

Two-way hourly volume, V	294	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	298	pc/h
Highest directional split proportion (note-2)	149	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	49.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.3	mi/h
Free-flow speed, FFS	47.8	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	45.4	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	295	pc/h
Highest directional split proportion (note-2)	148	
Base percent time-spent-following, BPTSF	22.8	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	22.8	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

Two-Way Two-Lane Highway Segment Analysis

Analyst	
Agency/Co.	
Date Performed	3/9/2015
Analysis Time Period	PM PEAK
Highway	Peach Hill Road
From/To	CHRISTIA BARRETT DRIVE
Jurisdiction	
Analysis Year	
Description	

Input Data

Highway class Class 1					
Shoulder width	6.0	ft	Peak-hour factor, PHF	1.00	
Lane width	12.0	ft	% Trucks and buses	2	%
Segment length	0.0	mi	% Recreational vehicles	1	%
Terrain type	Level		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	5	/mi
Up/down		%			

Two-way hourly volume, V	294	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.7	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor,	0.986	
Two-way flow rate,(note-1) vp	298	pc/h
Highest directional split proportion (note-2)	149	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	49.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.3	mi/h
Free-flow speed, FFS	47.8	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	45.4	mi/h

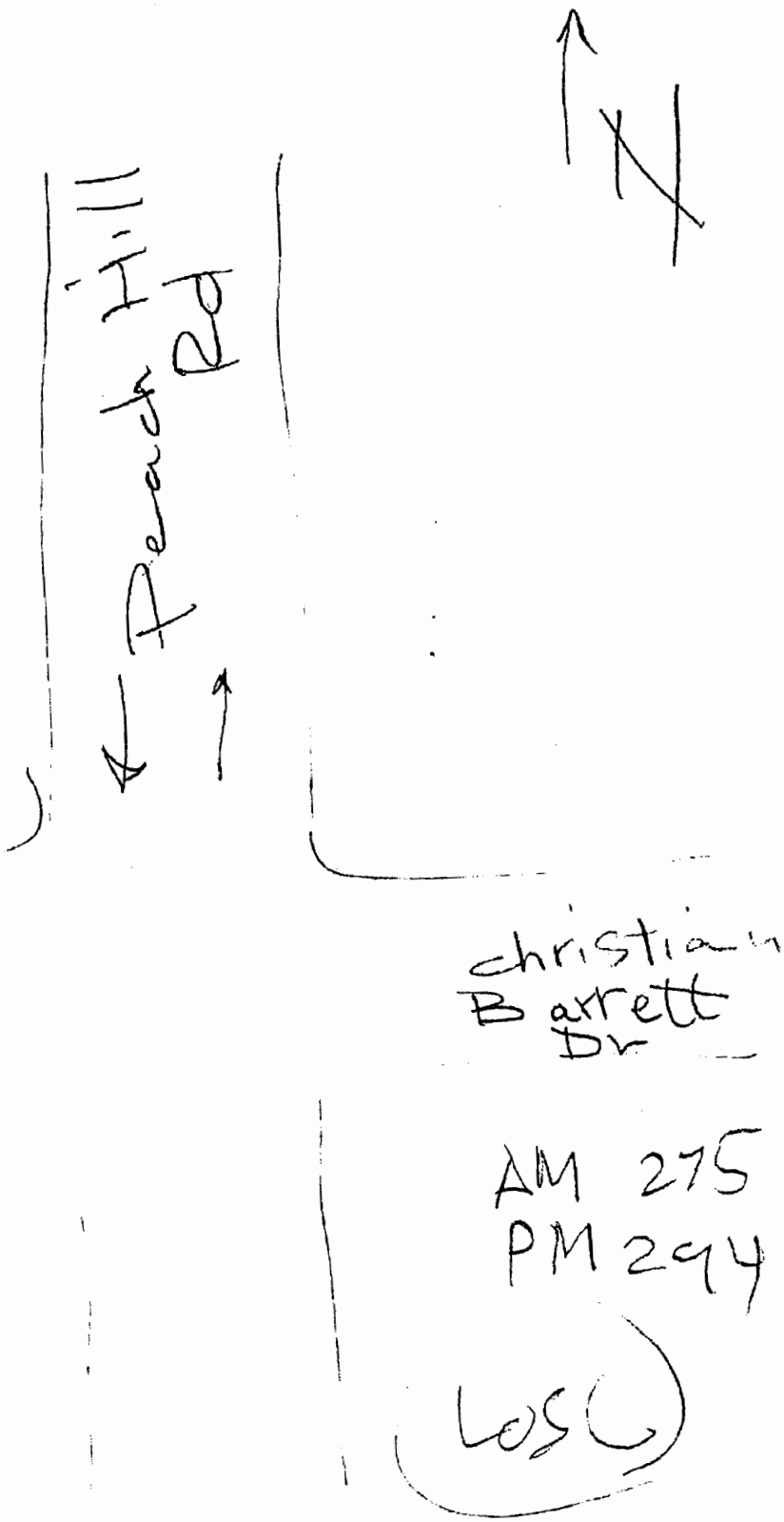
Percent Time-Spent-Following

Grade adjustment factor, fG	1.00	
PCE for trucks, ET	1.1	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.998	
Two-way flow rate,(note-1) vp	295	pc/h
Highest directional split proportion (note-2)	148	
Base percent time-spent-following, BPTSF	22.8	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	22.8	%

Level of Service and Other Performance Measures

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:
1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.


N
Peach Hill Rd
christian
Barrett
Dr
AM 275
PM 294
LOS C

5)

Prepared by NDS/ATD

VOLUME

Peach Hill Rd N/o Tierra Rejada Rd

Christian Barnett Dr.

Day: Saturday
Date: 1/12/2013

City: Moorpark
Project #: CA13_5016_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,810	1,970	0	0	3,780

AM Period	NB		SB		EB		WB		TOTAL
00:00	10		6						16
00:15	7		5						12
00:30	7		2						9
00:45	6	30	2	15					8 45
01:00	5		4						9
01:15	2		1						3
01:30	2		3						5
01:45	5	14	3	11					8 25
02:00	2		5						7
02:15	1		1						2
02:30	2		2						4
02:45	3	8	0	8					3 16
03:00	1		1						2
03:15	2		1						3
03:30	1		4						5
03:45	0	4	0	6					0 10
04:00	0		2						2
04:15	3		1						4
04:30	1		3						4
04:45	0	4	2	8					2 12
05:00	0		2						2
05:15	2		5						7
05:30	0		3						3
05:45	1	3	6	16					7 19
06:00	1		5						6
06:15	3		7						10
06:30	3		11						14
06:45	3	10	13	36					16 46
07:00	4		9						13
07:15	8		17						25
07:30	10		30						40
07:45	11	33	22	78					33 111
08:00	23		24						47
08:15	14		33						47
08:30	8		29						37
08:45	8	53	38	124					46 177
09:00	17		46						63
09:15	30		36						66
09:30	29		56						85
09:45	17	93	39	177					56 270
10:00	29		36						65
10:15	23		35						58
10:30	36		34						70
10:45	28	116	45	150					73 266
11:00	32		36						68
11:15	29		35						64
11:30	28		40						68
11:45	33	122	39	150					72 272
TOTALS	490		779						1269
SPLIT %	38.6%		61.4%						33.6%

PM Period	NB		SB		EB		WB		TOTAL
12:00	27		32						59
12:15	25		37						62
12:30	37		38						75
12:45	42	131	37	144					79 275
13:00	26		38						64
13:15	35		29						64
13:30	32		48						80
13:45	38	131	32	147					70 278
14:00	38		31						69
14:15	37		30						67
14:30	31		32						63
14:45	32	138	41	134					73 272
15:00	38		30						68
15:15	39		38						77
15:30	45		23						68
15:45	41	163	27	118					68 281
16:00	45		36						81
16:15	37		28						65
16:30	39		33						72
16:45	35	156	38	135					73 291
17:00	40		30						70
17:15	38		37						75
17:30	32		23						55
17:45	49	159	38	128					87 287
18:00	36		37						73
18:15	24		25						49
18:30	33		31						64
18:45	28	121	24	117					52 238
19:00	20		23						43
19:15	24		21						45
19:30	17		19						36
19:45	19	80	10	73					29 153
20:00	19		13						32
20:15	13		11						24
20:30	19		18						37
20:45	18	69	16	58					34 127
21:00	21		17						38
21:15	16		10						26
21:30	14		11						25
21:45	11	62	6	44					17 106
22:00	21		16						37
22:15	15		11						26
22:30	23		18						41
22:45	7	66	16	61					23 127
23:00	9		9						18
23:15	13		8						21
23:30	11		7						18
23:45	11	44	8	32					19 76
TOTALS	1320		1191						2511
SPLIT %	52.6%		47.4%						66.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,810	1,970	0	0	3,780

AM Peak Hour	10:30		09:00						10:30
AM Pk Volume	125		177						275
Pk Hr Factor	0.868		0.950						0.943
7:- 9 Volume	89		202						288
7:- 9 Peak Hour	07:30		08:00						08:00
7:- 9 Pk Volume	59		124						177
Pk Hr Factor	0.690		0.816						0.941

PM Peak Hour	15:15		12:45						15:15
PM Pk Volume	170		152						294
Pk Hr Factor	0.944		0.792						0.907
4:- 6 Volume	316		262						578
4:- 6 Peak Hour	17:00		16:30						16:00
4:- 6 Pk Volume	159		138						291
Pk Hr Factor	0.811		0.908						0.898

Prepared by NDS/ATD

VOLUME

ArroyoVistaCommunityParkInternalRdway connectstotheCountrywoodDr/TierraRejadaRd

Day: Saturday
Date: 1/12/2013

City: Moorpark
Project #: CA13_5016_005

DAILY TOTALS	NB	SB	EB	WB	Total
	2,390	2,388	0	0	4,778

AM Period	NB		SB		EB		WB		TOTAL	PM Period	NB		SB		EB		WB		TOTAL
00:00	0		0							12:00	57		72						
00:15	0		0							12:15	82		29						
00:30	0		0							12:30	84		33						
00:45	0		0							12:45	63	286	129	263					
01:00	0		0							13:00	71		162						
01:15	0		0							13:15	63		71						
01:30	0		0							13:30	83		29						
01:45	0		0							13:45	79	296	29	291					
02:00	0		0							14:00	46		170						
02:15	0		0							14:15	34		133						
02:30	0		0							14:30	26		81						
02:45	0		0							14:45	22	128	31	415					
03:00	0		0							15:00	15		37						
03:15	0		0							15:15	11		155						
03:30	0		0							15:30	3		88						
03:45	0		0							15:45	4	33	96	376					
04:00	0		0							16:00	7		44						
04:15	0		0							16:15	3		7						
04:30	0		0							16:30	4		5						
04:45	0		0							16:45	1	15	9	65					
05:00	0		0							17:00	1		8						
05:15	0		0							17:15	1		1						
05:30	0		0							17:30	1		3						
05:45	0		0							17:45	2	5	4	16					
06:00	6		0							18:00	1		3						
06:15	4		0							18:15	1		0						
06:30	5		4							18:30	0		0						
06:45	9	24	2	6						18:45	0	2	0	3					
07:00	59		2							19:00	2		0						
07:15	107		10							19:15	0		1						
07:30	85		10							19:30	0		0						
07:45	46	297	9	31						19:45	1	3	1	2					
08:00	53		2							20:00	1		1						
08:15	80		6							20:15	0		0						
08:30	110		7							20:30	0		0						
08:45	121	364	14	29						20:45	0	1	0	1					
09:00	68		96							21:00	0		0						
09:15	64		106							21:15	0		0						
09:30	85		30							21:30	0		0						
09:45	125	342	57	289						21:45	1	1	0						
10:00	81		40							22:00	0		1						
10:15	95		108							22:15	0		0						
10:30	64		79							22:30	0		0						
10:45	91	331	43	270						22:45	0		0	1					
11:00	77		66							23:00	1		0						
11:15	65		46							23:15	0		0						
11:30	64		134							23:30	0		0						
11:45	55	261	84	330						23:45	0	1	0						
TOTAL										TOTAL									

DAILY TOTALS	NB	SB	EB	WB	Total
	2,390	2,388	0	0	4,778