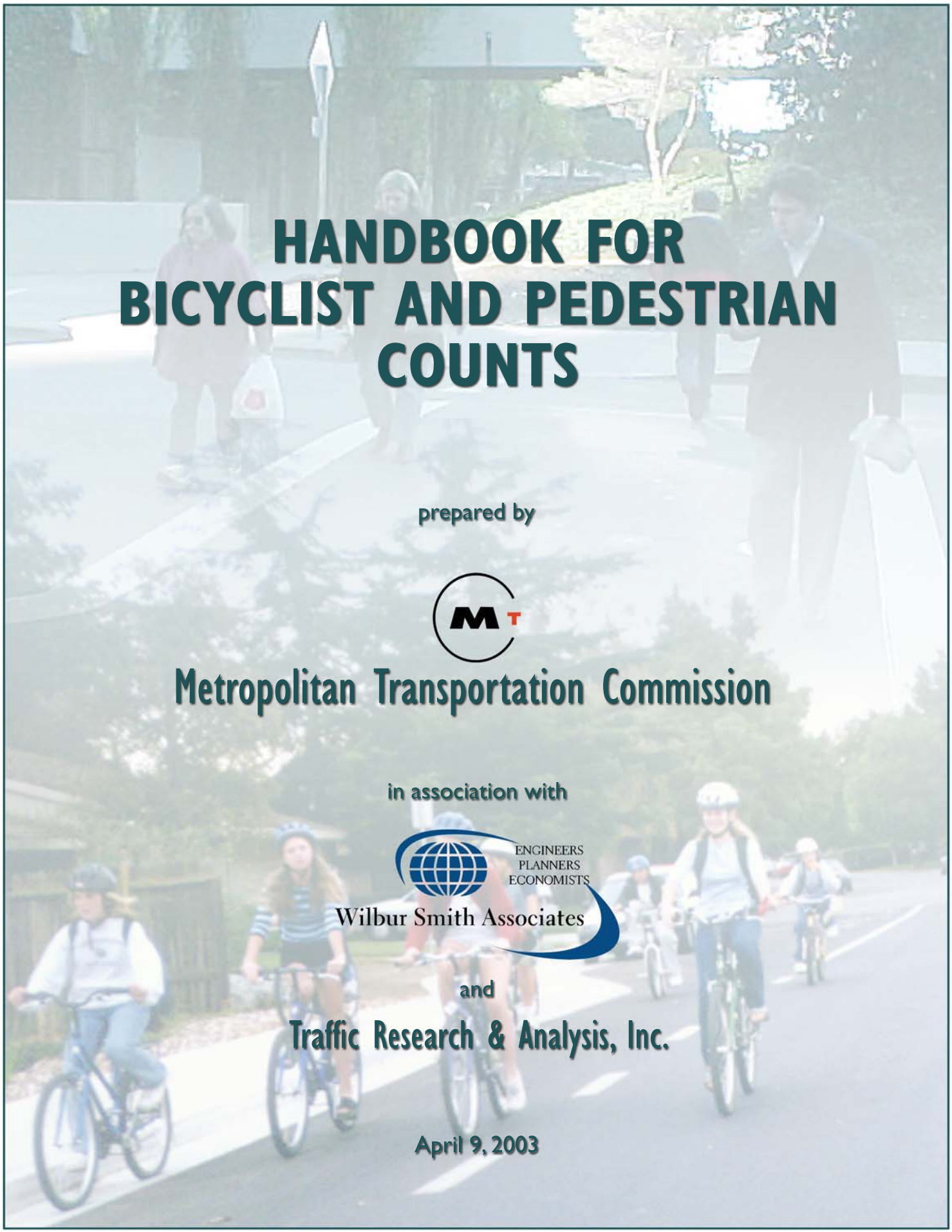

HANDBOOK FOR BICYCLIST AND PEDESTRIAN COUNTS

prepared by

Metropolitan Transportation Commission

in association with

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April 9, 2003

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INTRODUCTION

This Handbook For Bicyclist and Pedestrian Counts presents the methodology used to conduct bicyclist and pedestrian counts for the *Bicyclist and Pedestrian Data Collection and Analysis Project* for the Metropolitan Transportation Commission (MTC). This methodology represents standard guidelines typically used when conducting counts of bicycle and pedestrian activity. Using the procedures outlined in this Handbook would ensure consistent results in future MTC counting efforts, and would ensure that counting efforts conducted by other jurisdictions could be incorporated into the database developed for the project.

It should be noted that bicyclist and pedestrian information is often used as input into design and traffic engineering efforts. The procedures outlined in the Handbook can be applied to other bicyclist and pedestrian counting efforts. Since the Handbook was developed for a specific project, some of the guidelines may not be applicable. However, the general approaches and methodologies would be consistent.

The purpose of the study to be conducted will dictate the methodologies to be used in the data collection effort, such as the amount of data needed, the days of the week and the time periods to be counted, and how the data should be summarized. In addition to bicycle and pedestrian counts, additional information may also be required, such as bicycle turning movements, pedestrian walking speeds, and other physical features at the count locations. Since the procedures and forms to collect this information are not included in this Handbook, they would need to be developed separately. To expand the information available to MTC and other jurisdictions, these new procedures and forms should be added to future versions of the Handbook.

The Handbook is organized into five sections:

- **Section 1** presents the development of the count calendar.
- **Second 2** discusses the staffing, stationing of staff, the equipment and the forms for the counting effort.
- **Section 3** includes the schedule of activities, including the steps during the week and day of the counts.
- **Section 4** discusses how the data should be summarized.
- **Section 5** presents the procedures for conducting a survey of bicyclists and pedestrians.

In addition, samples of the data collection forms can be found in Appendix A, and a sample count database can be found in Appendix B.

1 – DEVELOPMENT OF THE COUNT CALENDAR

This section presents the development of the count calendar, including when the counts should be conducted, a discussion of the outside factors that may influence the counts, and the creation of a master count schedule.

1.1 – TIME ELEMENTS

The scheduling for the counting effort includes the months, days and hours when the counts can be conducted.

Months of the Year: The bicyclist and pedestrian counts can be conducted during three different times of the year: fall, spring and summer. In general, the winter months should be avoided due to poor weather conditions and extended holiday-related vacations. To capture bicycle and pedestrian activity near schools, counts in the fall should start after Labor Day and end before the end of daylight savings time (at the end of October), whereas counts in the spring should start after the beginning of daylight saving time (at the beginning of April) and end before Memorial Day. School districts and/or institutions within each county should be contacted to verify when schools will be in session, to avoid spring and winter breaks and special school events. Counts at locations that are not near schools can be accurately conducted during the summer months. However, the summer months often have somewhat lower peak period volumes due to the increased number of vacations and tourists/recreational activity. It should be noted that the counting period should be as condensed as possible to ensure the most consistent conditions.

Days of Week: The counts should be conducted on Tuesdays, Wednesdays or Thursdays during non-holiday weeks. If counts must be conducted during holiday weeks, the actual holiday day should be avoided, and the Tuesday after Monday holidays and the Thursday before Friday holidays should be avoided.

Hours of the Day: The counts should be conducted during the two-hour peak period in the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM).

Extended Counts: The evening period can be expanded at specific locations (from 2:00 to 4:00 PM) to capture the additional bicycle and pedestrian activity associated with schools. The selection of school count locations should focus on middle schools, high schools or junior colleges located near the count locations (in general, elementary schools are typically smaller and do not generate substantial bicycle and pedestrian traffic and colleges have classes throughout the day and do not have the same peaking of student activity in the afternoon).

Other Counts: Depending on the purpose of the study, it may be appropriate to conduct bicyclists and pedestrian counts during other time periods. For instance, counts can be conducted during the weekday midday or weekend midday periods (usually 1:00 AM to 1:00 PM or 1:00 to 3:00 PM), to capture recreational or other non-commute activity.

1.2 – OTHER FACTORS

Other factors, including weather conditions, traffic and transit conditions, events and construction/detours can influence the results of the counts. These factors need to be taken into consideration when scheduling the counts.

Weather Conditions: Since bicycle and pedestrian activity can be influenced by weather conditions, the weather forecasts for each week should be examined for the locations scheduled to be counted that week. The counts should be canceled for any day that inclement weather (e.g., rain or high winds) is forecasted to occur (even if it doesn't occur). In addition, the weather forecasts should be reconfirmed at the start of each day.

Traffic/Transit Conditions: Traffic and transit conditions can also influence bicyclist and pedestrian volumes. For example, a serious incident on the San Francisco-Oakland Bay Bridge may cause more commuters to use transit, which may increase the bicycle and pedestrian counts in the vicinity of transit stops. Daily traffic reports should be reviewed to ensure that any major traffic or transit incidents do not affect the scheduled count locations. If an incident does occur during the count duration, the count results should be discarded.

Events: Bicycle and pedestrian activity may also be influenced by large events. For example, a major event, such as a county fair or a baseball game at Pacific Bell Park, may result in unusual activity levels in the nearby vicinity. As such, event calendars for each week should be examined for the locations scheduled to be counted.

Construction/Detours: The partial or full closure of roads due to construction, or the detouring of other nearby roads, can affect the travel patterns of bicyclists and pedestrians. The conditions of the adjacent roadways should be checked prior to the counts, either during the preliminary site inspection or through direct contact with the local jurisdiction.

Based on weather, event and road construction/closure information, it may be necessary to reschedule the counting efforts for the affected locations. In addition, if it is determined that poor weather or traffic/transit incidents occurred while a count was being conducted, the count should be postponed and rescheduled.

1.3 – MASTER COUNT SCHEDULE

Based on the anticipated months and weeks of the count effort, and taking into consideration any known events and roadway construction/detours, a master count schedule should be developed. This schedule is helpful with implementing the count effort and informing the staff of their specific locations and responsibilities. The schedule should list the count locations that are to be conducted on each day and the staffing necessary to conduct the counts (see Section 2). In addition, the schedule should be updated weekly to account for any postponed and rescheduled counts. Figure 1 presents a sample of the count schedule.

October 2002

Count Calendar

October 2002

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

November 2002

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Monday	Tuesday	Wednesday	Thursday	Friday
	October 1	2	3	4
	#1 AM/PM -2 #2 AM/PM -1 #3 AM/PM -1	#4 AM/PM -1 #5 AM/PM -1 #6 AM -1 #7 AM -1	#6 PM -1 #7 PM -1 #8 AM/PM -1	
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	
				Key: Count Location Time Periods # of Technicians

2 – STAFFING, EQUIPMENT AND FORMS

This section presents the staffing, equipment and forms that should be used to conduct the counts.

2.1 – STAFFING

The data collection effort has two positions: **count supervisor** and **count technician**.

Count supervisors are responsible for overseeing the count technicians and for setting up the counts within their jurisdiction. Supervisors are required to conduct the following tasks:

- Perform preliminary site inspections at each location to observe intersection operations
- Record the intersection profiles (as described below)
- Determine the number of count technicians required to conduct the counts
- Determine the preferred location for the count technician(s) to be stationed
- Develop the count schedule
- Provide the necessary count recording forms and equipment (as described below)
- Check the weather, traffic and event conditions each day
- Ensure that the counts are conducted correctly

The count supervisors need to be available to answer questions and solve problems throughout the day, and can either be positioned at one central location, or can travel between count locations. It is preferable for the supervisors to travel between the count locations to verify the technicians' location, answer questions, provide additional forms or equipment, and monitor accuracy. In addition, the supervisor should pick up the completed *Count Recording Forms* after both the morning and evening counts. If it is not possible for the supervisors to travel between the count locations (e.g., the count locations are too spread out geographically), the supervisors should be stationed at a specific location, and the count technicians should bring the completed forms to the supervisors.

The number of supervisors is dependent upon the geographic area to be counted each day. With closely spaced counts, each supervisor can typically oversee about 10 count locations at one time. However, if the counts cover a larger area, each supervisor may be only able to oversee four or five count locations at one time.

Count technicians are responsible for conducting the bicyclist and pedestrian counts at each location. Count technicians are required to perform the following tasks:

- Count the number of bicyclists and/or pedestrians at each intersection approach
- Record counts onto the appropriate forms (as described below)
- Observe general operations to check if any local incidents or change in conditions occur that may affect bicycle and pedestrian activity

As noted above, the count supervisors will determine the number of count technicians needed at each location. At locations with low to moderate activity levels, each count technician should be able to accurately count both bicyclists and pedestrians at the same time. However, at locations with high levels of bicycle and pedestrian activity (such as those within downtown areas), two count technicians may be required to conduct the counts.[1] In addition, it may be necessary to have additional count technicians if the intersection is wide, has more than four approaches, or has limited visibility.

The count technicians should be stationed at each intersection based on the locations identified during the count supervisor's preliminary site inspection. All locations should not interfere with passing pedestrians or block access to nearby business establishments. If one count technician is stationed at the intersection, they should be positioned to have a clear view of the entire intersection so that all bicyclist and pedestrian activity can be observed. Typically, the count technician is located at one corner of the intersection. If two count technicians are stationed at the intersection, they can be positioned at the same location or diagonally across the intersection.

The count technicians should be provided with a standard statement to explain the purpose of the project, either verbal or on a postcard, if they are asked questions by the public. In addition, the count technicians should wear some form of identification, such as an orange safety vest.

2.2 – EQUIPMENT

Both bicyclists and pedestrians should be counted with a count recording device. These can be either manual (mechanical) or electric. Although electric count recording devices are not necessary, they have the capability of downloading the data directly to a computer spreadsheet. The count recording devices should have at least eight data records, to allow bicyclist and pedestrian volumes to be counted separately.

In addition, each count technician should have a timepiece (such as a watch or stopwatch) so that the 15-minute intervals can be accurately monitored, and the counts can be accurately recorded.

Although it may be possible to record bicyclists and pedestrians using other technologies, such as hose counts or videotaping, they are not recommended. In general, hose counts are best used for motorized traffic counts, since they may not be sensitive enough to record bicycles or differentiate between bicycles and motorized vehicles. In addition, video recorders need to be monitors and require substantial data reduction efforts.

2.3 – FORMS

Two forms should be completed for the counting effort: the ***Intersection Profile Form*** and the ***Count Recording Form***.

The ***Intersection Profile Form*** is a visual representation of the intersection being counted, including the intersection geometry and operation. Figure 2 presents a sample of the *Intersection Profile Form* (a blank copy of the form is included in Appendix A.)

[1] At each count location, the count supervisor could perform a 5- to 15-minute sample count to determine the number of count technicians needed to accurately complete the bicyclist and pedestrian counts.

BICYCLE-PEDESTRIAN COUNT INTERSECTION PROFILE

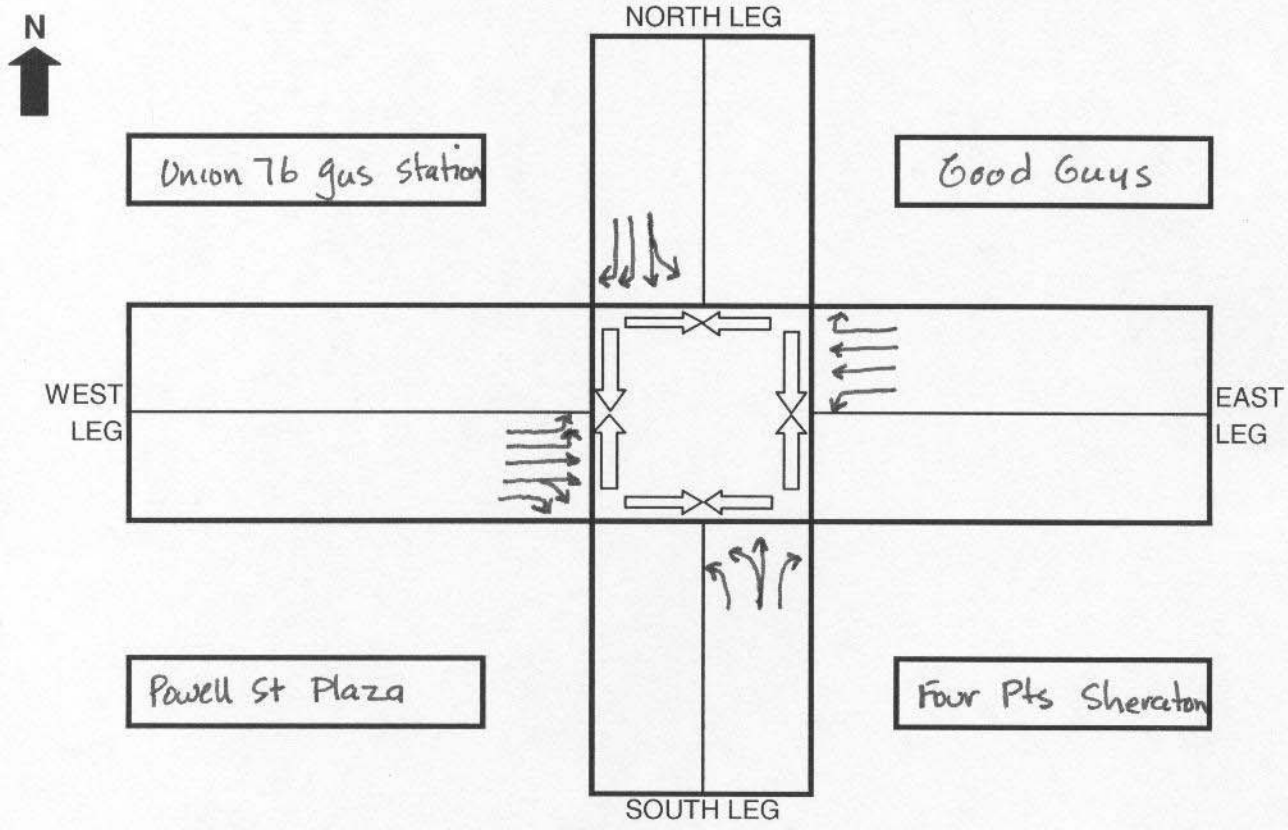
DATE: 9/24/02 **NAME:** A. Maehler

INT #: ALO5

N/S STREET: Christie Ave

E/W STREET: Powell St

CITY: Emeryville **COUNTY:** Alameda



NOTE: Include names of residential or commercial buildings or land uses in boxes

PAGE TWO - INTERSECTION PROFILE

INT #: AL05

	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
PHYSICAL FEATURES	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
SIDEWALKS		X	X			X	X	
CROSSWALKS		X	X			X	X	
BIKE LANES		X		X		X		X
RAISED MEDIAN		X	X		X		X	
RAISED MEDIAN-WHEELCHAIR RAMP		X		X		X		X
PAINTED MEDIAN		X		X		X		X
CURB CUTS		X	X			X	X	
INTERSECTION CONTROLS	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
STOP SIGNS		X		X		X		X
SIGNALS	X		X		X		X	
LANE CONFIGURATION-PHASING	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
DEDICATED LEFT TURN LANE		X	1		1		2	
PROTECTED LEFT TURN SIGNAL	X		X		X		X	
DEDICATED RIGHT TURN LANE	2		1		1		1	
PROTECTED RIGHT TURN SIGNAL	X			X		X	X	
SHARED LANES (T-L, T-R OR L-T-R)	TL-1		TL-1			X	TR-1	
# OF EXCLUSIVE THRU LANES		X		X	2		1	
TOTAL NUMBER OF LANES	3		3		4		5	
PEDESTRIAN/BICYCLE SIGNALS	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
WALK/DON'T WALK		X		X		X		X
PEDESTRIAN SYMBOLS		X	X			X	X	
PEDESTRIAN SCRAMBLE		X		X		X		X
PEDESTRIAN COUNTDOWN		X	X			X	X	
AUDIBLE SIGNAL (NON COUNTDOWN		X	X			X		X
ADA PUSH BUTTON (LARGER)		X	X			X	X	
NON ADA PUSH BUTTON		X		X		X		X
BICYCLE PUSH BUTTON		X		X		X		X

The first page of the form includes the date of the count, the name of the person filling out the form and a diagram of the intersection. The diagram should be filled in as follows:

- Street names should be shown at the end of each leg in the appropriate directional orientation
- Directional lane arrows should be drawn to illustrate the number of lanes and turning movements allowed for each lane (through, left, right or shared)
- The names and/or types of buildings (i.e., residential or commercial) located at the intersection should be noted for each corner, and recorded in the boxes at each corner of the intersection diagram. If possible, major nearby attractions should also be noted (including distance from the intersection).

The second page of the form identifies the intersection features on each of the four legs of the intersection. The features that should be noted include:

- Physical Features (presence of sidewalks, crosswalks, bicycle lanes and medians)
- Intersection Controls (stop signs or signal control, protected left-turn or right-turn phases)
- Pedestrian and Bicycle Signals (presence of pedestrian signal heads, type of pedestrian control, pedestrian/bicycle push buttons and ADA compliance)

This form should be filled out by the count supervisors during their preliminary site inspection.

The ***Count Recording Form*** is used to record the number of bicyclists and/or pedestrians. Figure 3 presents a sample of the *Count Recording Form* (a blank copy of the form is included in Appendix A.) The form includes the location and date of the count, plus the name of the counter conducting the count. The forms include separate sections for the morning and evening periods, with divisions for each 15-minute interval and each intersection leg.

Both bicyclist and pedestrians should be counted by intersection leg. Bicyclists should be recorded as they approach the intersection and counted for the leg on which they approach the intersection (e.g., a bicyclist traveling southbound towards the intersection should be recorded on the north leg), including bicyclists on the street and on the sidewalk. For the *Bicyclist and Pedestrian Data Collection and Analysis Project*, bicycle turning movements are not recorded; however, they could be added for other studies. Pedestrians should be counted as they cross the intersection and recorded for the leg which they crossed (e.g., a pedestrian crossing the street on the north side should be recorded on the north leg). For the *Bicyclist and Pedestrian Data Collection and Analysis Project*, the direction of travel of the pedestrians are not recorded, but could be added for other studies.

For each leg, the number of bicyclists and/or pedestrians should be recorded at 15-minute intervals. The numbers recorded on the form can either be for each 15-minute interval or the cumulative total (the approach uses should be noted). At the end of the two-hour period, the total number of bicyclists and/or pedestrians should be entered at the bottom of the form.

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BICYCLE-PEDESTRIAN COUNT SUMMARY

DATE: 10/8/2002 **NAME:** G. Thomas **INT #:** SC08 **N/S STREET:** University

COUNTY: Santa Clara **CITY:** Palo Alto **E/W STREET:** Emerson

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PED.	BICYCLE	PED.	BICYCLE	PED.	BICYCLE	PED.	BICYCLE
7:00	4	4	15	0	4	1	6	1
7:15	9	2	10	1	10	3	5	6
7:30	7	2	8	4	11	6	10	4
7:45	15	2	4	3	20	2	5	5
8:00	5	3	10	5	16	6	3	4
8:15	10	1	14	0	13	2	15	3
8:30	5	5	8	1	13	0	9	1
8:45	5	1	13	0	8	0	5	2
A/M TOTAL	60	20	82	14	95	20	58	26
4:00	14	0	19	0	13	1	18	0
4:15	18	2	23	2	14	3	13	1
4:30	12	0	16	2	15	1	20	2
4:45	18	2	12	0	20	2	19	1
5:00	25	3	16	1	18	4	16	1
5:15	19	2	19	0	19	0	16	3
5:30	15	1	12	1	13	1	20	2
5:45	23	0	20	0	24	3	18	1
P/M TOTAL	144	10	137	6	136	15	140	11
2:00	20	2	25	3	29	3	20	4
2:15	13	1	20	1	15	4	20	3
2:30	14	2	9	3	13	2	17	1
2:45	12	1	16	5	14	3	20	2
3:00	20	1	14	3	11	2	19	1
3:15	14	2	12	4	17	6	13	4
3:30	18	0	10	0	18	0	9	0
3:45	19	0	19	0	21	0	18	0
MID TOTAL	130	9	125	19	138	20	136	15

3 – SCHEDULE OF ACTIVITIES

This section presents the activities and procedures that should be scheduled prior to and on the day of the counts.

3.1 – PRELIMINARY SITE INSPECTION

After the selection of the count locations, the supervisors should perform site inspections at each location. Tasks during the site inspections include:

- Complete the *Intersection Profile Form*
- Determine the number of count technicians required to conduct the counts
- Determine the best position for the count technician(s) to be stationed (see Section 2)
- Record any nearby road closures or detours
- Record any nearby land uses that may affect the counts

3.2 – AT THE BEGINNING OF THE WEEK

At the beginning of the week, the supervisors should meet with the count technicians and:

- Assign the scheduled locations for each day
- Indicate where the count technicians should be stationed at each intersection
- Provide *Count Recording Forms* and counting equipment
- Review the count procedures
- Provide the count technicians with the supervisor's contact information

In addition, the supervisors should check the weekly weather forecasts, events calendar and the roadway conditions (as described in Section 1).

3.3 – ON THE DAY OF THE COUNTS

On the day of the counts, the count technicians can either be transported to their locations, or can be made responsible for their own travel. However, the count technicians should arrive at the count locations at least 15 minutes prior to the start of the counts to ensure sufficient set-up time.

The supervisors should check the daily weather forecasts and monitor the traffic and transit conditions (as described in Section 1) throughout the day. If any weather or traffic/transit problems are reported which may affect the results of the counts, the supervisor should determine if the counts should be postponed. The supervisors are responsible for informing the count technicians of any changes to the count schedule.

Throughout both the morning and evening periods, the supervisors should monitor the count technicians and the counting effort, by ensuring that the count technicians are in the correct location and the counts are being conducted properly, and by collecting the completed *Count Recording Forms*.

4 – SUMMARIZING THE DATA

This section presents the methodology for summarizing the count data.

4.1 – COUNT DATABASE

The information from the *Intersection Profile Forms* and the *Count Recording Forms* should be entered into a relational database program. In such programs, like Microsoft Access, separate records are developed for each count location. Therefore, summaries can easily be created by peak hour, location, county, region or intersection characteristic. The data can also be readily accessed for other purposes, such as for input into traffic modeling software. If a relational database program is not possible, then a computer spreadsheet model can be used.

Copies of the database developed for the *Bicyclist and Pedestrian Data Collection and Analysis Project* are included in Appendix B. The database includes a separate record for each count location (which present the information from the *Intersection Profile Form*, the day and date the counts were performed and the 15-minute and total period counts), the bicycle/pedestrian count summaries by county, and the bicycle/pedestrian count summaries for the entire nine-county region. In addition, the extended school-related counts have been entered separately. The database was designed to be expandable. If additional counts are conducted, the results can be entered into the database, and these results will be included in the county and region summaries. This would allow for historic bicyclist and pedestrian volume trends to be tracked.

5 – USER SURVEY PROCEDURES

This section presents the procedures that should be used to conduct surveys of bicyclists and pedestrians (if applicable).

5.1 – ADMINISTRATION/DISTRIBUTION

In addition to the bicyclist/pedestrian counts, a survey of bicyclists and pedestrians was conducted for the *Bicyclist and Pedestrian Data Collection and Analysis Project*,. The following survey procedures were developed for the administration of a pre-paid mail-back survey, which is handed out to passing bicyclists and pedestrians. If a different form of survey is to be administered, such as an intercept survey, new procedures would need to be developed.

For each location where surveys are to be distributed, an additional **survey technician** should be assigned. The survey technicians are responsible for handing out surveys to passing bicyclists and pedestrians, and for providing a brief explanation of the project to potential respondents.

The survey technicians should be involved in the weekly supervisor meetings in order to be instructed on the survey administration procedures and their station at the intersection. In addition, the supervisors should provide the survey technicians with a brief explanation of the project and the goal of the survey effort to discuss with potential survey respondents.

As part of the preliminary site inspection, the supervisors should note the count locations with the highest perceived activity levels. To increase the efficiency of the survey effort, surveys should be distributed at the highest activity locations within each county.

At the beginning of each day, the survey technicians should be provided with a specific number of surveys to distribute (based on the observed activity levels at their specific location). Although the number of surveys to be distributed at each location can vary, a minimum and maximum amount should be established to allow for a relatively equal geographic representation of potential respondents.

Approximately half of the surveys should be distributed in the morning period and the other half should be distributed in the evening. At the end of the day, any unused surveys should be returned to the supervisors, and the total number surveys handed out should be recorded.

The survey technicians should be stationed at the busiest corner of the intersection and should ask passing bicyclists and pedestrians if they would be interested in filling out a brief survey for the agency/project. Only those bicyclists and pedestrians who are interested in filling out the survey should be handed a copy of the survey. In addition, the survey technicians should walk around the intersection if the survey location is not very active, in order to capture more bicyclists and pedestrians.

5.2 – RESULTS AND ANALYSIS

The data from the completed survey forms should also be entered into a computer database for analysis and reference. The results of each question should be summarized by question. In addition, to determine if there is any correlation among the survey responses, cross-tabulations should be performed. For instance, cross-tabulations can be developed between the respondent demographics (i.e., gender, age and income) and other survey questions (i.e., trip purpose, frequency of bicycling or walking, bicycle trip length, or use of a helmet).

APPENDIX A:

SAMPLE FORMS

BICYCLE-PEDESTRIAN COUNT INTERSECTION PROFILE

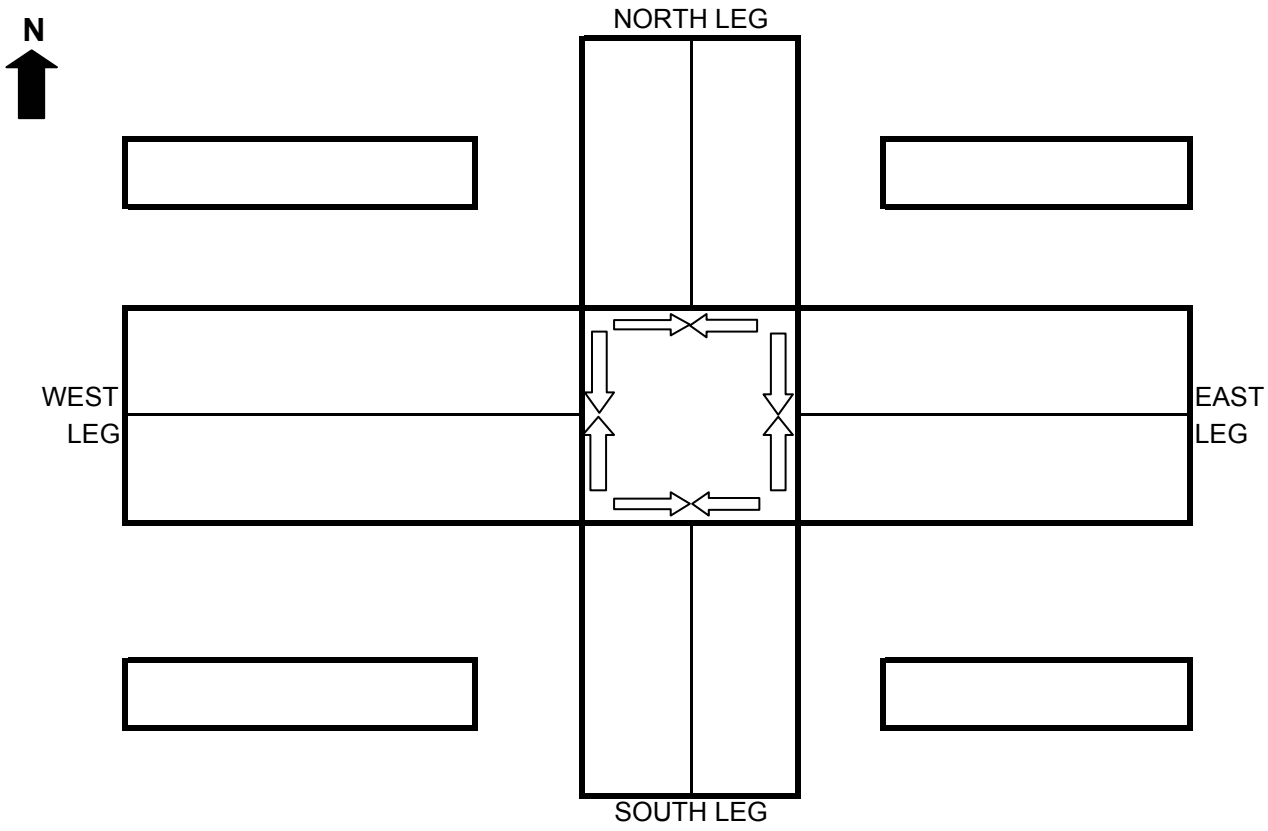
DATE: _____ **NAME:** _____

INT #: _____

N/S STREET: _____

E/W STREET: _____

CITY: _____ **COUNTY:** _____



NOTE: Include names of residential or commercial buildings or land uses in boxes

PAGE TWO - INTERSECTION PROFILE

INT #: _____

	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
PHYSICAL FEATURES	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
SIDEWALKS								
CROSSWALKS								
BIKE LANES								
RAISED MEDIAN								
RAISED MEDIAN-WHEELCHAIR RAMP								
PAINTED MEDIAN								
CURB CUTS								
INTERSECTION CONTROLS	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
STOP SIGNS								
SIGNALS								
LANE CONFIGURATION-PHASING	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
DEDICATED LEFT TURN LANE								
PROTECTED LEFT TURN SIGNAL								
DEDICATED RIGHT TURN LANE								
PROTECTED RIGHT TURN SIGNAL								
SHARED LANES (T-L, T-R OR L-T-R)								
# OF EXCLUSIVE THRU LANES								
TOTAL NUMBER OF LANES								
PEDESTRIAN/BICYCLE SIGNALS	YES-#	NO	YES-#	NO	YES #	NO	YES-#	NO
WALK/DON'T WALK								
PEDESTRIAN SYMBOLS								
PEDESTRIAN SCRAMBLE								
PEDESTRIAN COUNTDOWN								
AUDIBLE SIGNAL (NON COUNTDOWN								
ADA PUSH BUTTON (LARGER)								
NON ADA PUSH BUTTON								
BICYCLE PUSH BUTTON								

TRAFFIC RESEARCH & ANALYSIS, INC.

BICYCLE-PEDESTRIAN COUNT SUMMARY

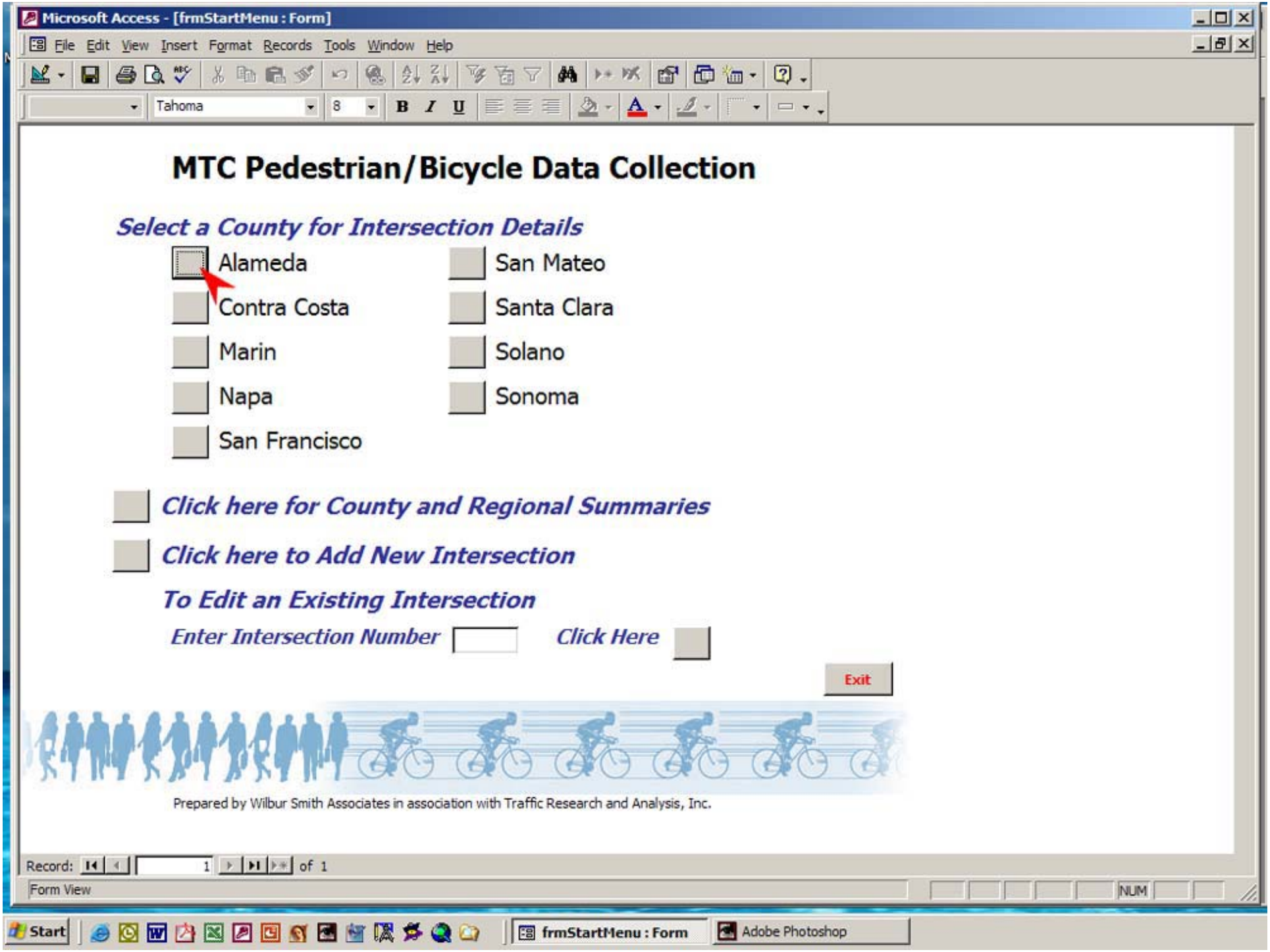
DATE: **NAME:** **INT #:** **N/S STREET:**

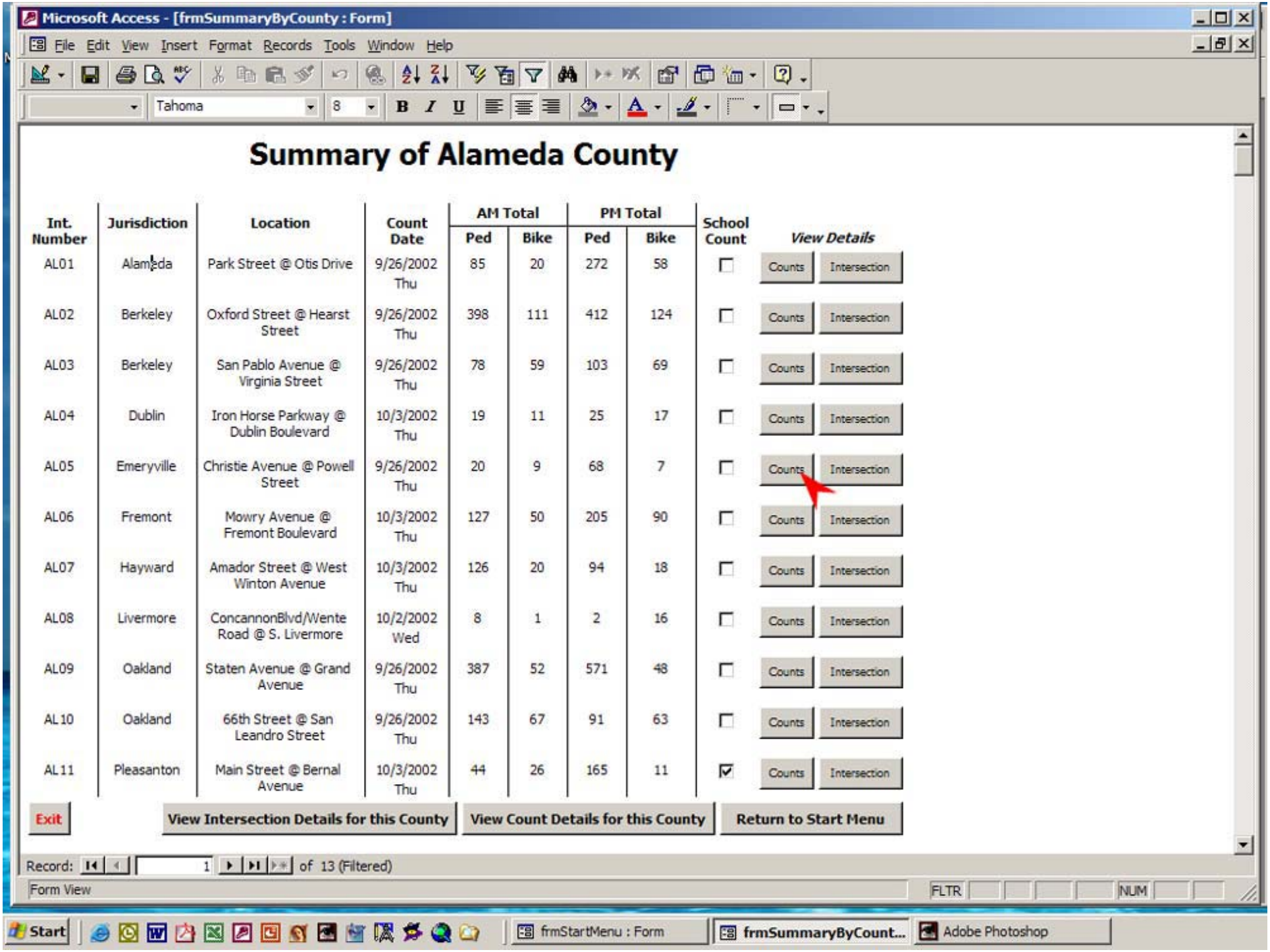
COUNTY: **CITY:** **E/W STREET:**

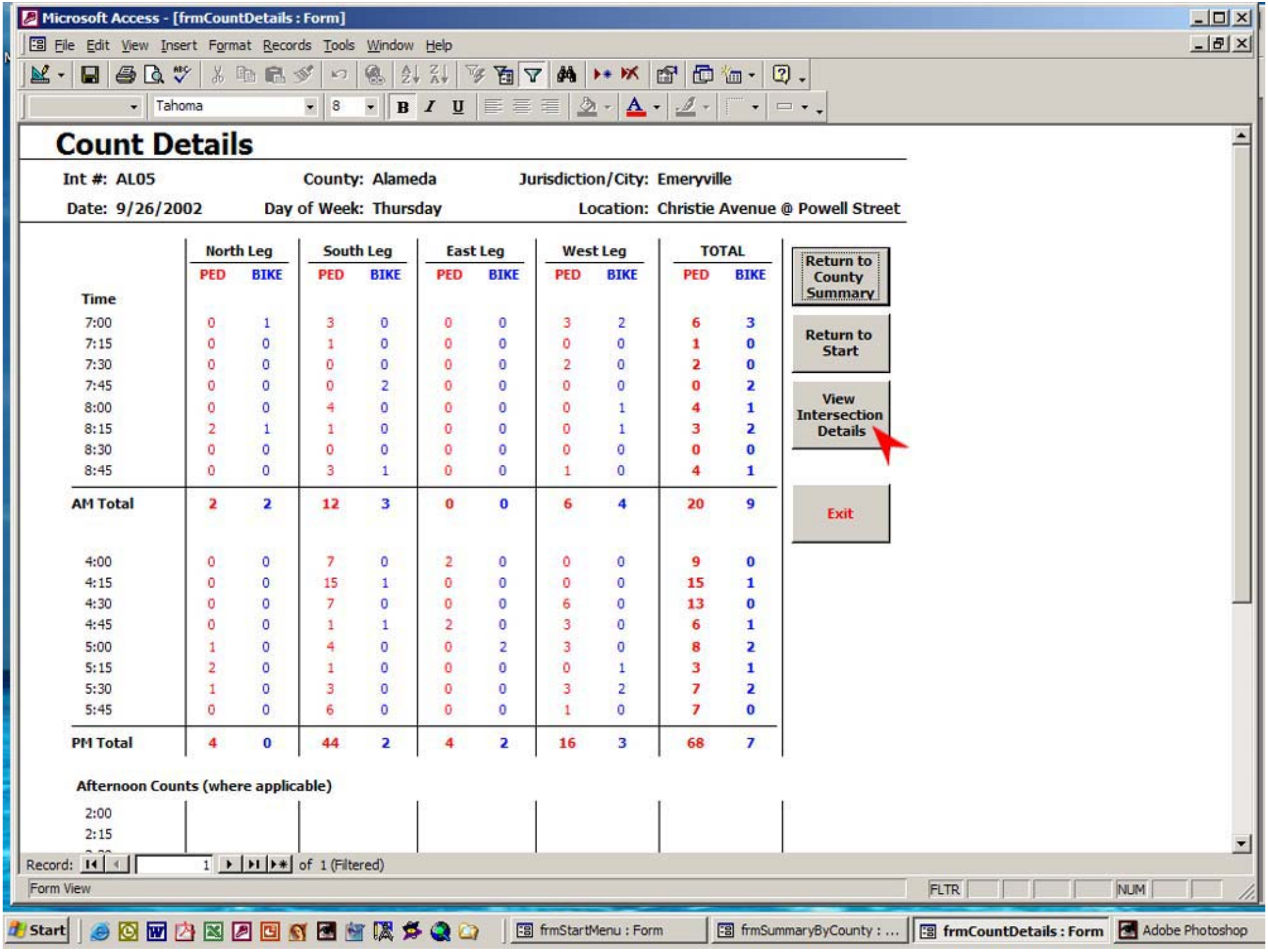
TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	PED.	BICYCLE	PED.	BICYCLE	PED.	BICYCLE	PED.	BICYCLE
7:00								
7:15								
7:30								
7:45								
8:00								
8:15								
8:30								
8:45								
A/M TOTAL								
4:00								
4:15								
4:30								
4:45								
5:00								
5:15								
5:30								
5:45								
P/M TOTAL								
2:00								
2:15								
2:30								
2:45								
3:00								
3:15								
3:30								
3:45								
MID TOTAL								

APPENDIX B:

SAMPLE COUNT DATABASE


Microsoft Access - [frmStartMenu : Form]
File Edit View Insert Format Records Tools Window Help
Tahoma
8
MTC Pedestrian/Bicycle Data Collection
Select a County for Intersection Details
Alameda
Contra Costa
Marin
Napa
San Francisco
San Mateo
Santa Clara
Solano
Sonoma
Click here for County and Regional Summaries
Click here to Add New Intersection
To Edit an Existing Intersection
Enter Intersection Number
Click Here
Exit
Prepared by Wilbur Smith Associates in association with Traffic Research and Analysis, Inc.
Record: 1 of 1
Form View
NUM
Start
frmStartMenu : Form
Adobe Photoshop


Microsoft Access - [frmSummaryByCounty : Form]
File Edit View Insert Format Records Tools Window Help
Tahoma
8
Summary of Alameda County
Int. Number
Jurisdiction
Location
Count Date
AM Total
Ped
Bike
PM Total
Ped
Bike
School Count
View Details
AL01 Alameda Park Street @ Otis Drive 9/26/2002 Thu 85 20 272 58 Counts Intersection
AL02 Berkeley Oxford Street @ Hearst Street 9/26/2002 Thu 398 111 412 124 Counts Intersection
AL03 Berkeley San Pablo Avenue @ Virginia Street 9/26/2002 Thu 78 59 103 69 Counts Intersection
AL04 Dublin Iron Horse Parkway @ Dublin Boulevard 10/3/2002 Thu 19 11 25 17 Counts Intersection
AL05 Emeryville Christie Avenue @ Powell Street 9/26/2002 Thu 20 9 68 7 Counts Intersection
AL06 Fremont Mowry Avenue @ Fremont Boulevard 10/3/2002 Thu 127 50 205 90 Counts Intersection
AL07 Hayward Amador Street @ West Winton Avenue 10/3/2002 Thu 126 20 94 18 Counts Intersection
AL08 Livermore ConcannonBlvd/Wente Road @ S. Livermore 10/2/2002 Wed 8 1 2 16 Counts Intersection
AL09 Oakland Staten Avenue @ Grand Avenue 9/26/2002 Thu 387 52 571 48 Counts Intersection
AL10 Oakland 66th Street @ San Leandro Street 9/26/2002 Thu 143 67 91 63 Counts Intersection
AL11 Pleasanton Main Street @ Bernal Avenue 10/3/2002 Thu 44 26 165 11 Counts Intersection
Exit
View Intersection Details for this County
View Count Details for this County
Return to Start Menu
Record: 1 of 13 (Filtered)
Form View
FLTR
NUM
Start
frmStartMenu : Form
frmSummaryByCount...
Adobe Photoshop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File Edit View Insert Format Records Tools Window Help
Tahoma
8
Count Details
Int #: AL05
County: Alameda
Jurisdiction/City: Emeryville
Date: 9/26/2002
Day of Week: Thursday
Location: Christie Avenue @ Powell Street
Time
North Leg PED BIKE
South Leg PED BIKE
East Leg PED BIKE
West Leg PED BIKE
TOTAL PED BIKE
7:00 0 1 3 0 0 0 3 2 6 3
7:15 0 0 1 0 0 0 0 0 1 0
7:30 0 0 0 0 0 0 2 0 2 0
7:45 0 0 0 2 0 0 0 0 0 2
8:00 0 0 4 0 0 0 0 1 4 1
8:15 2 1 1 0 0 0 0 1 3 2
8:30 0 0 0 0 0 0 0 0 0 0
8:45 0 0 3 1 0 0 1 0 4 1
AM Total 2 2 12 3 0 0 6 4 20 9
4:00 0 0 7 0 2 0 0 0 9 0
4:15 0 0 15 1 0 0 0 0 15 1
4:30 0 0 7 0 0 0 6 0 13 0
4:45 0 0 1 1 2 0 3 0 6 1
5:00 1 0 4 0 0 2 3 0 8 2
5:15 2 0 1 0 0 0 0 1 3 1
5:30 1 0 3 0 0 0 3 2 7 2
5:45 0 0 6 0 0 0 1 0 7 0
PM Total 4 0 44 2 4 2 16 3 68 7
Afternoon Counts (where applicable)
2:00
2:15
Return to County Summary
Return to Start
View Intersection Details
Exit
Record: 1 of 1 (Filtered)
Form View
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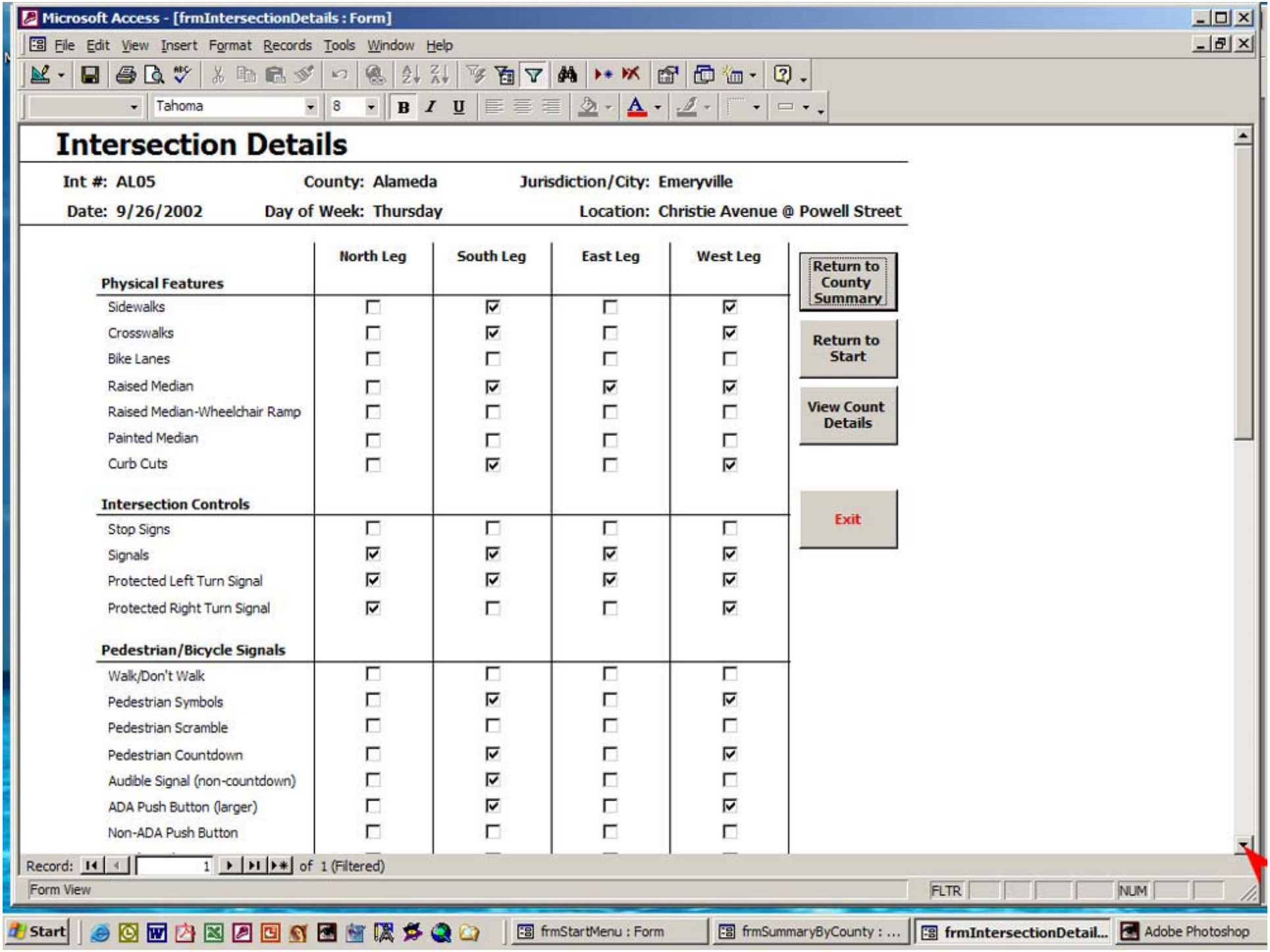
NUM
Start
frmStartMenu : Form
frmSummaryByCounty : ...
frmCountDetails : Form
Adobe Photoshop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File Edit View Insert Format Records Tools Window Help
Tahoma
8
Intersection Details
Int #: AL05
County: Alameda
Jurisdiction/City: Emeryville
Date: 9/26/2002
Day of Week: Thursday
Location: Christie Avenue @ Powell Street
Physical Features
North Leg
South Leg
East Leg
West Leg
Sidewalks
Crosswalks
Bike Lanes
Raised Median
Raised Median-Wheelchair Ramp
Painted Median
Curb Cuts
Intersection Controls
Stop Signs
Signals
Protected Left Turn Signal
Protected Right Turn Signal
Pedestrian/Bicycle Signals
Walk/Don't Walk
Pedestrian Symbols
Pedestrian Scramble
Pedestrian Countdown
Audible Signal (non-countdown)
ADA Push Button (larger)
Non-ADA Push Button
Return to County Summary
Return to Start
View Count Details
Exit
Record: 1 of 1 (Filtered)
Form View
FLTR
NUM
Start
frmStartMenu : Form
frmSummaryByCounty : ...
frmIntersectionDetail...
Adobe Photoshop

Microsoft Access - [frmIntersectionDetails : Form]

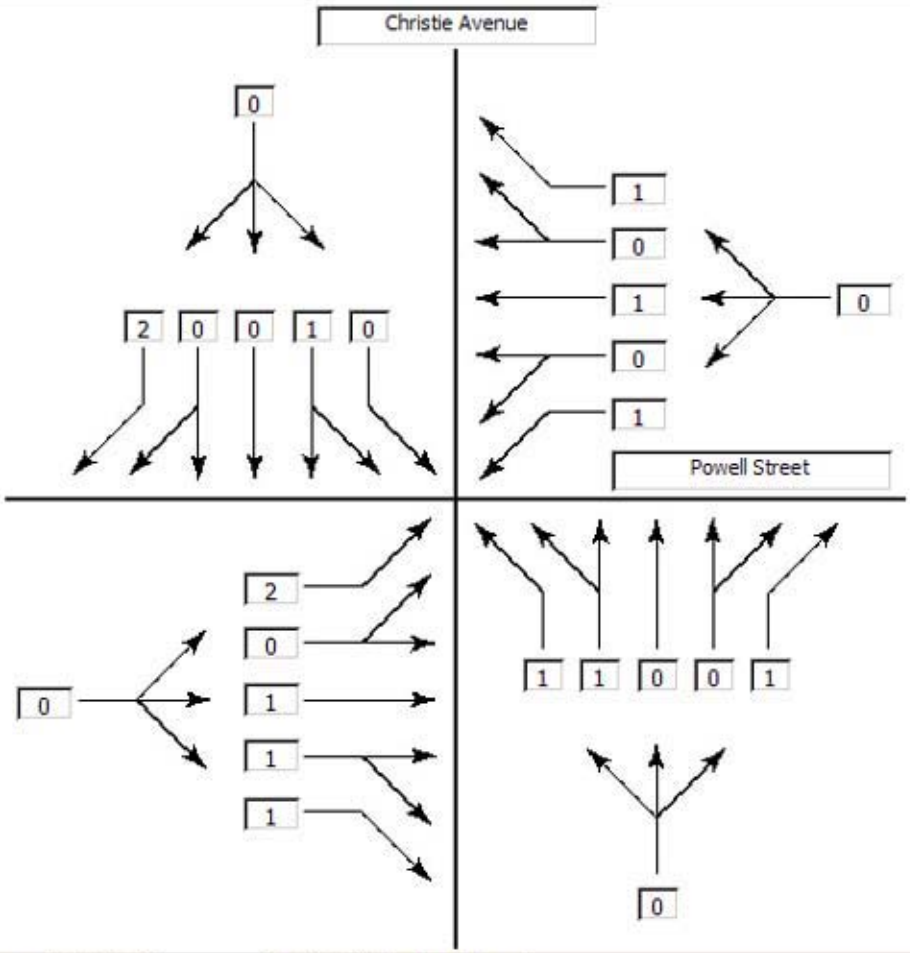
File Edit View Insert Format Records Tools Window Help

Tahoma 8 B I U

Intersection Details

Int #: AL05 **County: Alameda** **Jurisdiction/City: Emeryville**

Date: 9/26/2002 **Day of Week: Thursday** **Location: Christie Avenue @ Powell Street**



5th Leg ☐

5th Leg Right	
5th Leg Thru/Right	
5th Leg Thru	
5th Leg Thru/Left	
5th Leg Left	
5th Leg Thru/Right/Left	
North Leg to 5th Leg	
East Leg to 5th Leg	
South Leg to 5th Leg	
West Leg to 5th Leg	

Corner Activities

NE Corner	Good Guys
SE Corner	Four Points Sheraton Hotel
NW Corner	76 Union Gas Station
SW Corner	Powell Street Plaza

Record: 1 of 1 (Filtered)

Form View FLTR NUM

Start | frmStartMenu : Form | frmSummaryByCounty : ... | frmIntersectionDetail... | Adobe Photoshop